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EDITORIAL

Dear Friends,

Through this Editorial , kindly allow me to convey my heartfelt thanks and gratitude to all the associates, specially the paper contributors and the well established academic giants from various Institutes of learning patronising us by acting as Reviewers, who have helped us in publication of this professional research Journal. This is the third volume, being published annually in consecutive years.

On behalf of all the members of the Editorial Board I assured our readers in the past volumes that it would be our continuous endeavour to enrich the quality of the Journal and I am sure that the readers will appreciate our move reflected in this volume.

This volume of the Journal contains nine well thought papers covering various issues of contemporary nature in multidisciplinary areas in Commerce of which two have been selected and published in the Students' Section and the rest are placed in General Section. All the papers except the invitees were subject to blind review by experts. A few of the papers these from like, 'Teaching Accounting in India and in the US' contributed by Prof. B. Banerjee, 'Emerging Future Markets in India' by Dr. T.P. Ghosh; 'Population Pressure and the Problems of Environment in Calcutta' by Dr. D.N. Konar; 'Agricultural Taxation in India' by Prof. P.S. Das deserve special mention. One of the most widely discussed themes in contemporary issues is the social control in Gram Panchayats' activities. This has been discussed and analysed by Sri U.K. Utthasani. Role of Insurance Sector in India is subject to debate in recent times. This has been highlighted by the joint authors, Sri A.K. Chattopadhyay and Sri S. Sarkar. Controversial points on Companies Bill have been raised by Sri S. Ghosh. 'Application of Linear Programming in Capital Rationing' written by our existing P.G. students is definitely appreciable. Similarly, Sri Santimoy Patra, one of our ex-students has written on 'Depreciation Accounting'.

The contributors are all extremely knowledgeable and active in their respective areas under study. The papers published in this volume analyse problems and in many cases supported by rich empirical data and theoretical bases. However, the opinions and views expressed by the authors are of the contributors themselves and should not be misconstrued as those of the Editorial Board.

This volume also contains a short resume of the speeches on 'Recent Trends in Capital Market in India,' given by Prof. Amit Mallik of the University of Burdwan and on ' International Financial Management' by Prof. Bhabatosh Banerjee of the Calcutta University in a recently held semi-

nar . Many other learned colleagues also presented papers on the topics. The seminar was sponsored by our University and organised by the Department of Commerce with Farm Management of this University. Sri Arup Kumar Chattopadhyay and Sri Arindam Gupta kindly acted as Rapporteurs.

To my mind, the professionals, working executives, researchers and students, specially from Commerce and Management arena, may find this Journal quite relevant and useful for significantly improving their knowledge and skill. If you wish to comment on any views expressed by any of our contributors, please feel free to communicate the same to the Executive Editor. Your active help and constructive suggestions will certainly help us in enriching the quality of this professional Journal further.

However, for the publication of future issues of this Journal, the Editorial Board may think of including a gist of some recent research work done by stalwarts of different Universities and Institutes of higher learning in the field of Commerce and allied areas. The Board may also think of rewarding the contributor, judging the best article published in the volume. The publication may also include review reports of some outstanding books, referred to our Editorial Board.

Any kind of suggestion will be sincerely appreciated.

March, 1998

Sd/ Prof. D. P. Pande
Editor-in-Chief

EMERGING FUTURES MARKET IN INDIA : EXPLAINING PRICING MECHANISM

Dr. T.P.Ghosh*

Meaning of Futures Contract

Futures are the oldest actively traded derivative instruments. They were originally developed for transactions in agricultural commodities. For example, a sugar cane grower encounters price uncertainty - he doesn't know in which way the price will move in the harvesting season. Thus he may prefer to sell his standing crop future, i.e., he may sell an agreed quantity at an agreed rate to be delivered at a future date. On the other hand, a miller also faces uncertainty about the procurement of sugar cane during the harvesting season. So he may be willing to enter into an agreement to buy futures. Both the miller and the farmer have less risk than before. The farmer has hedged the risk by selling future, which is called short hedge; and the miller has taken a long hedge.

In futures contract, one party agrees to buy something in the future from a second party, the second party agrees to sell it. The buyer has the obligation to buy the specified goods in a future date. The seller has the obligation to sell the goods in a specified future date. The contract specifies both the quantity and quality of the goods, the price, the delivery date and the delivery location.

The Price which is ruling currently in the cash market is spot price. Future price and spot price may vary widely. However, as the futures approach to maturity, the difference between the future price and spot price is narrowed down.

Futures contracts are bought and sold in the organised futures exchanges. In the given example of the commodity futures, there are speculators other than the farmer and the miller who want to take advantage of the futures price. If there is more short seller than long buyer, futures price will fall, which encourages the speculators to operate as long buyers. This pushes up the futures price. On the contrary, if there is

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more long buyer than seller, the futures price will increase. This will encourage the speculators to operate as short seller which pulls down the futures price.

Thus futures contracts are standardised agreement between a buyer and a seller, specifying a trade in an underlying cash asset for a given quantity at a specific time. The quality, size, pricing, and other terms of the contracts are known as contracts specifications or characteristics. The futures are tradable in futures exchange.

Margin and Price Limit

Futures Exchange demands margin from both the buyer and seller to guarantee that each will abide by the terms of the contract. The initial margin is the amount of funds placed in the account of the trader or hedger as good faith deposit against adverse price changes that create losses. This is to reduce the default risk. In addition, in futures contract maintenance margin (marking to market) is also required. As futures price fluctuate over time, the customer's profits or losses in the futures account also change. This necessitates marking to market rules. It is an adjustment in the customer's account balance to reflect change in value of the futures contract on a daily basis.

Spreading is a low risk strategy whereby a trader buys one (stock index) futures and sells another. Or, he can buy one futures of one expiration, and sell futures of different expiration. Spreading margin is very small which facilitates leveraging.

Given below in Table 1 margins and price limit for stock index futures practised in the USA.

Price limit indicates the maximum amount a future index can change in a day. No trading can occur outside the daily price limit. Also there is a system of circuit breaker.

Reasons for Futures

Futures market exists for several reasons. Dr. L.C. Gupta Committee appointed by SEBI has indicated the following reasons :

1. Institutional and other large equity holders think in terms of portfolio hedging mainly.
2. Index futures are the most cost-efficient hedging device. Hedging through individual stock futures is costlier.
3. Stock index cannot be easily manipulated whereas individual stock price is manipulated easily, more so in India. This is partly because an individual stock has a limited supply which can be cornered. Even large companies in India, like Reliance Industries Limited and State Bank of India, have complained about their share prices being manipulated by

certain interested parties. The supply of stock index contracts is unlimited and rules out any possibility of cornering. Of course, manipulation of stock index can be attempted by influencing the cash prices of its component securities but the possibility of such manipulation is not high and is minimised by designing the index carefully.

4. Stock index futures are more liquid and more popular than individual stock futures. The responses to the Committee's questionnaire points to the same.

5. Stock index, being an average, is much less volatile than individual stock price. This implies much lower capital adequacy and margin requirements in the case of index futures than in the case of individual stock futures. Since there has to be clearing house guarantee, the risk of the clearing house going bankrupt is extremely remote in case of index futures trading.

6. Futures on individual stock can be used as a vehicle for manipulating their prices in the cash market.

7. In the case of individual stocks, the positions which remain outstanding on expiration date have to be settled by physical delivery. This is an accepted principle everywhere. It is necessary for ensuring that futures and the cash market prices remain firmly tied to each other. In the case of index futures, physical delivery is impractical. Index futures are cash settled all over the world on the premise that the index value is derived independently from cash market and can be safely accepted as the settlement price.

8. Regulatory complexity, is likely to be less in the case of stock index futures than for other kinds of equity derivatives.

While recognising the great merit of stock index futures, the Committee is of the view that since the Indian cash market in equities is not a purely delivery-based cash market but a mixture of cash and forward trading, this affects the validity of the cash market as a basis for a futures market and may compound the existing problems unless the cash market is reformed. The cash market often behaves erratically for the above reason. In developed markets, much attempt has been made to enhance the influence of fundamental factors by providing plethora of economic information on demand, supply etc., relating to the particular commodity or asset.

The important question is how to ensure that fundamental factors adequately enter into the price discovery process in the cash market and through it in the futures market. The stock price index alone will not be able to tell whether the stock market's overall price level is unreasonably high or low. This can be known only by relating stock prices to earnings (i.e. by price-earnings ratio). For this reason, the Committee feels that the average P/E ratio of the companies comprising the stock index can provide a useful

indication.

The Committee, therefore, recommends that for the stock index used for futures trading, there must be a requirement that average P/E ratio of the index should be made available on daily basis as essential market information.

Strategic Uses of Index Futures by Institutions

It was represented to the Dr. L.C. Gupta Committee by mutual funds and other financial institutions that they were handicapped in their investment strategy because of the non-availability of portfolio hedging facility in India. They need derivatives not for generating speculative profits but for strategic purposes of controlling risk or restructuring portfolios. Given below are some practical examples from a presentation made before the Committee by some institutional representatives :

i) Reducing the equity exposure in a mutual fund scheme : Suppose that the UTI decides to reduce its equity exposure in the US-64 scheme from, say, 40% to 30% of the corpus. Presently, this can be achieved only by, actual selling of equity holdings. Such selling entails three problems : first, it is likely to depress equity prices to the disadvantage of the UTI and the whole market; second, it cannot be achieved speedily and may take some months; and third , it is costly procedure because of brokerage, etc. The same objective can be achieved through index futures at once, at much less cost and without disturbing the cash market. The UTI may immediately sell index futures, thus-leaving the cash market undisturbed. The actual sale of equity holdings may be done gradually depending on market conditions in order to realise the best possible prices. As unloading of holdings progresses, the index futures transaction may unwind by an opposite transaction to the same event.

ii) Investing the funds raised by new schemes : When a new scheme is floated, the money raised does not get fully invested for considerable time. Suitable securities at reasonable prices may not be immediately available in sufficient quantity. Rushing to invest the whole money is likely to drive up prices to the disadvantages to the scheme. Timing is important in the case of equity schemes. If the scheme is launched to take advantage of low equity prices, such advantage may be lost due to delay in acquiring suitable securities as the market situation may change. The availability of stock index futures can take care of this entire problem.

iii) Partial liquidation of portfolio in case of open-ended fund : In the case of an open-ended scheme, repurchases may sometimes necessitate liquidation of a part of the portfolio but there are problems in executing such liquidation. Selling each holding in proportion to its weight in the portfolio is often impracticable. Some of the holdings may be relatively illiquid. Rushing to the cash market to liquidate would drive down prices. The

price actually realised may be different from the price used in NAV computation for repurchase. The timing of liquidation may not be right because of market depression. Stock Index Futures can help to overcome these problems to the advantage of Unit-holders.

iv) Preserving the value of the portfolio during times of market stress: There are times when the main worry is the possibility that the value of the entire equity portfolio may fall substantially if, say, event "X" occurs. Sale of Stock Index Futures can be used to insure against the risk. Such insurance is specially important if the accounts closing date is nearby because the yearly results will get affected if the risk materialises. Stock Index Futures can neutralise such risk.

v) International investors : The buying and selling operations of FIIs presently cause disproportionate price-effect on the Indian equities market because all transactions are through the cash market only. This is an important factor making the Indian equities market highly volatile from day to day. The FIIs' buying /selling is aimed at either market. In other words, what the FIIs buy/sell is a "piece" of the whole Indian equities market. If Stock Index Futures are available, this can be carried out with greater speed and less cost and without adding to volatility. The FII flows show sudden changes from time to time. While trying to maximise the net inflow of FII portfolio investment, its disturbing effects on the cash market for Indian equities will be minimised by making available Stock Index Futures. The availability of such a hedging device is likely to increase the international investors' appetite for Indian equities.

Mutual funds in India are presently restrained by the regulations from using derivatives even for hedging purposes. The regulations need to be changed appropriately . While prohibition on the use of derivatives by mutual funds should be withdrawn, the Committee feels that it is necessary to ensure that derivatives are not used by mutual funds purely for speculation. The Trustees of each mutual fund should be required to lay down a formal policy and detailed rules about what, how and within what limits, derivative products may be used for purposes of any scheme and the authorisation procedure. In the case of mutual funds, the use of derivatives should be for risk reduction or for strategic portfolio restructuring . Of course, there have to be disclosure requirements in the offer document of the scheme concerned.

Futures Index

Stock Index Futures are the traded form of futures. In the United States Stock Index Futures began trading on February 24, 1982, when the Kansas City Board of Trade introduced futures on the Value Line Index. The S&P 500 and NYSE Index contracts began trading in 1982. The major market index began in 1984. Some important Stock Index Futures are S & P 500

Index which trades on Chicago Mercantile Exchange (CMEX), MMI which trades on Chicago Board of Trade, and NYSE Composite Future Index which trades on the New York Futures Exchange (NYFE).

S & P 500 Index : The underlying cash value of the contract is determined by multiplying the index by 500 . The minimum change in the index is 0.05, which is worth \$ 25 . A change of one index point (1.00) is worth \$500-that is, 500 x1.00. It has four expiration months trading period of which first two expirations have much trading activities. The futures stop trading on Thursday before the third Friday of the expiration month.

MMI : The MMI (Major Market Index) includes 20 major companies, with 17 of these companies being part of the Dow Jones Industrial Index ; it is comparable to Dow Jones Industrial Index in terms of volatility. The cash MMI is determined adding the prices of the 20 stocks and dividing by the appropriate divisor. At one stage the MMI divisor was 2.00822 ; the division changes with stock dividends and substitution of stock in the index. The total underlying cash value of the MMI futures is that derived by multiplying the index by 500. The minimum changes in the index is .05, which is worth \$ 25. One Index point is worth \$500. Expirations exist for the current and next two calendar months, as well as for the financial cycle; however, typically only the first two contract expiration months are most active. The futures stop trading on the third Friday of the expiration month. The settlement is in cash.

NYSE Index : The NYSE Composite Futures Index trades on the New York Futures Exchange (NYFE). The Index is equivalent to the cash NYSE Index of all stocks traded on the NYSE. The underlying cash value of the Index is 500 times the Index, the minimum change is .05, and the value of this change is \$25. Thus one Index point is worth \$500. Maturates follow on the financial cycle, with the first two expirations being most active. The settlement is in cash. The futures stop trading on the third Friday of the expiration month.

Pricing Theory

The basic future pricing theory is given by cost of carry model :

$$F = S + CC - CR$$

Future Price = Spot Price + Carry cost - Carry return.

Let us take an example to explain the concept. If someone wants to buy 10,000 shares of company X , he may buy it in the cash market at the spot price. By this he has to pay current market price of Rs. 100 per share, i.e. Rs.10,00,000 . In case he buys long, he has to pay at a later date. By this he

saves/earns interest, but loses dividend, right, bonus, etc. This explains the relationship between future price and spot price. If the time to maturity is 2 months, interest rate is 12% p.a., saving in interest per share works out to be Rs. 2. If the sacrifice of dividend is Rs. 4 per share, the future price would be

Spot price	Rs. 100.00
+ Interest	Rs. 2.00
-Dividend	Rs. 4.00
	<u>Rs. 98.00</u>

Example of Stock Index Future Pricing :

Let us assume that a Stock Index has five stocks, market price of these stocks, shares outstanding, market capitalisation of these five stocks are given below in Table 1 :

TABLE 1

Stock	Price Rs.	Shares Outstanding No. in lac	Market Cap. Rs. in lac	Weight
1	120	2300	276000	0.12
2	130	2900	377000	0.17
3	55	3500	192500	0.09
4	80	4600	368000	0.16
5	190	5500	1045000	0.46
			<u>2258500</u>	<u>1.00</u>

The spot index is 3200 and the multiplier of the index is 500. Therefore, the worth of stock index is (3200 X 500)Rs. 1600 lac. Break-up of various stock would be as in Table 2 :

TABLE 2

Stock	Weight	Share in Stock Index Value (Rs. in lac.)
1	0.12	195.53
2	0.17	267.08
3	0.09	136.37
4	0.16	260.70
5	0.46	740.31
		<u>1600.00</u>

Given these values, we can compute the number of shares of each stock that must be purchased to replicate the index as shown in Table 3 :

TABLE 3

Stock	Price Rs.	Share in Stock Index Value Rs. in lac	No. of shares
1	120	195.53	1.63
2	130	267.08	2.05
3	55	136.37	2.48
4	80	260.70	3.26
5	190	740.31	3.90

Stock 1, Stock 2 and Stock 3 will be ex-dividend Rs. 10/share 14 days from today. The Stock 4 and Stock 5 will be ex-dividend Rs. 8/ share 55 days from today. Future will mature after 76 days. Assume that the dividends will be paid on the ex-dates. The riskless interest rate is 9 per cent p.a. Unannualised interest cost for 76 days will be as follows :

Interest	$h(0,76) = rT/365$	$= .09 \times 76/365$	$= 0.01874$
Interest	$h(14,76) = rT/365$	$= .09 \times 62/365$	$= 0.015288$
Interest	$h(55,76) = rT/365$	$= .09 \times 21/365$	$= 0.005178$

So theoretical future price would be —

$$F = 1/500 [(3200)(500) + (3200)(500) (0.01874) - (1.63) (10) (1.015288) - (2.05) (10) (1.015288) - (2.48) (10) (1.015288) + (3.26)(8) (1.005178) - (3.90) (8) (1.005178)] = \text{Rs. } 3258.20.$$

If F exceeds Rs. 3258.20, one would do a cash and carry arbitrage by borrowing to buy the shares and selling a futures contract. If F is less than Rs.3258.20, then one would do a reverse cash and carry arbitrage by selling the stock, lending the proceeds, and buying a futures contract.

Many studies in stock index futures pricing have concluded that arbitrage opportunities do frequently exist for short periods of time. If F is too high, arbitrageurs would initiate cash - and -carry arbitrage trades i.e, their buying of the shares in spot would raise share prices and their selling of the futures would lower stock index futures price leading to establishing an equilibrium position.

Since the Indian capital market is getting ready for introducing stock index futures, it would be relevant to refer to studies that indicated that in the early years of trading stock index futures prices were low as compared to their respective theoretical prices. Figlewski (1984) noted that in the first year of trading stock index futures maintained low price which was because of transitory phenomenon caused by unfamiliarity to market, Brener, Bubrahmanyam and Uno (1989) explained that Japanese stock index futures prices were below the theoretical price during first two years of trading and that mispricing declined over the years .

Since BSE 30 is based on a small group of sensitive shares, it is wise to initiate stock index futures based on such a very volatile index. It is available to use either BSE 100 or NSE for this purpose.

Basis and Convergence

Two important concepts in futures trading are basis and convergence. Basis is the difference between spot price and future price :

$$\begin{aligned}\text{Basis} &= \text{Spot price} - \text{Future price} \\ &= S_0 - F_0\end{aligned}$$

In a normal market, basis is negative . In an inverted market, the basis becomes positive. The basis vanishes as the futures contract approaches maturity. The basis should be zero on maturity, i.e.,

$S_I = F_I$, where S_I & F_I are spot price and future price on the maturity date.

Otherwise arbitrage opportunity will exist. If the basis is positive on the delivery date, the arbitrage could buy the futures contract and sell the cash goods received under the terms of the contract for a profit.

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TEACHING ACCOUNTING IN INDIA AND IN THE US : AN ANALYSIS OF DIFFERENCES DUE TO CULTURAL AND OTHER FACTORS

Dr. Bhabatosh Banerjee*

1. Introduction

The author has been teaching various branches of accounting to Indian students at the Calcutta University since 1969. This includes teaching of Cost Accounting and Financial Management to M.Com. students in the Department of Commerce, and Managerial Accounting to M.B.A. students in the Department of Business Management . Calcutta University is one of the oldest and largest universities in India. Commerce Department of Calcutta University was established in 1922. At present, about 840 students are admitted each year in the first year of the two-year M.Com. course. There are seven sections—three in the Day Department and four in the Evening Department — and each section comprises about 120 students. Master of Business Management (MBM) is also a two-year course and only 30 students are admitted from different disciplines based on admission test. Even after independence, Calcutta University has been maintaining its good tradition among the Indian universities and it is considered as one of the leading universities in the country (Banerjee, 1994). Hence, it may be taken as a representative sample for the present study.

The author got a visiting assignment for a number of semesters (1995-97) for teaching in the Rutgers University at New Brunswick, New Jersey, USA. Rutgers is a State University having three campuses located at different places in the State of New Jersey. The Department of Accounting under the School of Business at New Brunswick was established in 1984 for under-graduate accounting programme and has already earned reputation among the accredited schools in the U.S.

Rutgers was chartered in 1766 as Queen's College, making it the eighth oldest institution of higher education in the nation. It became Rutgers College in 1825, honouring Colonel Henry Rutgers, a former trustee and revolutionary war veteran. In 1924 Rutgers College assumed university

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status. By 1956 legislative acts designated all of Rutgers' divisions as the State University of New Jersey. Even though Rutgers is New Jersey's State University, less than half of Rutgers' total budget actually comes from state funding. It is now among the nation's best values in higher education and one of the most efficient universities in the country. In 1995, among national universities, Rutgers-New Brunswick was ranked the nation's 13th best value university (U.S. News & World Report) in the north region. In the overall rankings for national universities (U.S. News & World Report, "America's Best Colleges") Rutgers-New Brunswick ranked in the first quartile.

The author taught Cost Accounting and Managerial Accounting to economics and MBA students at the undergraduate level in Rutgers-New Brunswick. In each section, the number of students varied from 30 and 60. About 10-15 per cent of students come from Asia and Europe while the rest belong to the U.S.

There are differences between the two Universities - Calcutta and Rutgers - with respect to objectives of higher education, infrastructural facilities, economic background of the students and others. Even then a comparison based on the author's teaching experience in two institutions may highlight some of the features of uniformity or diversity in the education systems in two countries which may appear to be of interest to the readers.

In the above backdrop, the objective of this paper is to make a comparison of some aspects of the two education systems including teaching of accounting by the author in two schools and, based on the experience, analyse the differences due to cultural and other factors. Section two gives a brief account of the diversity and/or uniformity. This contains the following : objective of the course and selection of reference/ text books, examination system, evaluation by students, learning style and cultural differences. The last section contains concluding observations.

2. Understanding International Diversity/Uniformity

(a) Objective of the course and selection of reference /text books :

In India, in some cases course objectives are defined while in others it is kept open leaving scope for speculation by the students and others interested in it. In the U.S., objectives of every course are well-defined and students are informed of the same through course outline which is normally circulated by the instructor on the first day of the class. As for example, the objective of Cost Accounting course (No. 010:452) in the Rutgers University was defined by the author as follows :

"To provide students with a conceptual and practical foundation in Cost Accounting and to develop skills for applying this understanding in business situations in order to make informed decisions."

One text book is normally suggested, in most of the cases, for each course and students are required to read it thoroughly and do the assignment

works as suggested by the course instructor. The instructor generally links the topics with lectures/sessions and identifies the assignments under each topic. This makes the course structured and well-defined and the students are required to follow them. Class lectures/discussions are often supplemented by class quizzes to facilitate understanding of the subject.

In India, brief outlines of a course are printed and circulated and a number of texts/reference books for the same are prescribed. This helps more serious and brilliant students to pursue additional reading to satisfy their requirements. An instructor can even refer to recent books and articles published on the subject. Thus, there is scope for continuous updating of the subject, if the instructor so desires. Interested students can pursue additional reading for advancement of their learning. This is one of the brighter sides of our education system. Such flexibility in the U.S. system, particularly at the undergraduate level, is few and far between.

(b) Examination system :

The examination system in the U.S. is decentralised and is left to the instructors. An instructor prepares questions, conducts examinations as scheduled in the course outline, evaluates answer books and gives them back to the students for their information. The students may raise questions regarding evaluation and get clarifications from the instructor. The whole system is open and left to the instructor. Final examination is held as per schedule announced by the School and it is also left entirely to the instructor.

Countries following the British pattern in education, however, maintain strict confidentiality of the examination system. In some institutions, questions are set by the instructors; in others, separate academics are involved in setting and moderating questions, and examination is conducted by a separate department (generally known as the Controller Department). Evaluation of answer papers is kept strictly confidential and students do not have any access to the evaluated answer papers. There are however some exceptions in this respect in the management institutions in our country. Generally, those who are involved in teaching may not be associated with examination work. In the post-graduate course, however, teaching and evaluation may be done by the same group of academics.

There are relative merits and demerits of both the systems. In the open system, students are able to know the reasons for good or bad performance and thus may get a direction for improvement of their results in subsequent examinations. In the closed system, they do not generally know the reasons for variation in results and may have to speculate for the same. From the instructor's point of view, the open system helps him/her to link up class performance with the end-results of a student and this may help him in deriving more satisfaction about the success of his/her student. In the closed system, it is almost impossible to do so for obvious reasons.

There is another distinction between the two systems. In the U.S. system, every course is covered through several examinations - for example, mid-term 1, mid-term 2 and final (cumulative). This reduces the load of the students and gives them opportunity to improve. In the Indian system, presumably because of large number of students and centralisation of the examination system, multiple-examination is almost unheard of. There is only one examination in a subject and fate of the students is determined based on the results of that single examination. In India, failure of the students in one or more subjects may affect adversely the entire results of the examination while in the U.S. each subject may be treated independent of the other subjects and failure in one subject does not affect a student's results in the other. Of course, to get a degree, a student has to qualify in all the subjects - may be over a period of time that suits him/her.

Lastly, there is difference with respect to grading of the students. In India, a 'class' is generally awarded based on percentage of marks, namely, first class for securing 60% and above in the aggregate marks, second class for securing above 45% but below 60%, and so on. In the U.S. system, letter grades are awarded in order of merit - A, A-, B+, B, C+, C,D and F (for failure) - on the basis of aggregate points scored in a subject. This is done by the instructor in accordance with the announced policy of grading contained in the course outline circulated to the students. Normally, grading is done after the final examination at the end of the semester. It gives weightage to all the examinations (mid-term 1, mid-term 2, and final), attendance, quizzes, completed homework assignments and class participation. For example, the author of this paper in the Cost Accounting Course offered to the economics students in Rutgers University declared the following policy regarding grading :

"Course grade is determined upon three examinations, attendance, quizzes, completed homework assignments and class participation. The exams, two mid-terms and final, weigh 20%, 20% and 30% respectively in the determination of the course grade. Quizzes weigh 20% and attendance, homework and class participation weigh 10% of the grade."

Although the examination system is open in the U.S. there are a number of checks and balances like our system. Firstly, the grading system and grades given by the instructor in a course is monitored either by the Chairman or a Course Co-ordinator in order to ensure that the instructor is doing his or her job properly and objectively. Secondly, the students may complain against the instructor and on receipt of each complaint the department will look into it. Under certain circumstances, a student may, on payment of a requisite amount, appeal for improvement of his/her grade and a committee will judge the merit of each case after taking into consideration the representation of the student and the manner in which grade has been awarded by the

instructor concerned. Last but not the least, in an open system, it may not be very hard to make the students convinced about the evaluation because questions are generally of objective and true/false type rather than of descriptive type. However, there are checks and balances in the system as stated in the next section.

(c) Evaluation by students :

Evaluation of instructors by students is one of the uniqueness of the U.S. system. The author did not face similar situation earlier in the Indian education system. Generally, in the last week of each semester prior to final examination, evaluation takes place in the standard evaluation sheet prescribed by the school. The instructor distributes the sheets to the students along with guidelines and then leaves the class room in order to ensure that students perform their job fearlessly and objectively. Sometimes, a graduate student, or an office staff, remains present in the class room during evaluation and collects the sheets from the students, puts them in a big envelope, seals it and submits the same to the Department Secretary or Chairman. Students are required not to disclose their identity while making the evaluation and are required to tick, or mark in the appropriate space, with a number 2 pencil, in a five-point scale (1 representing excellent, 5 representing poor). The Department processes the evaluation sheets of each course to make some statistical analyses, namely, total number of students taking part in the evaluation, maximum score, mean score, standard deviation of the score, etc. The Chairman of the Department or the Dean of the Faculty then examines the summary evaluation results, keeps a record of the same in the Department before sending the evaluation sheets along with the summarised results to the instructor concerned. The entire process takes about two to three months by which time the students of the course get enrolled in other courses or leave the institution with their degrees, as the case may be. So, the system is designed in such a way that an instructor does not get any opportunity to victimise or reward the students based on the results of the evaluation. The Chairman or the Dean decides about the suitability of an instructor for a particular course based on the students' evaluation, among others.

The *format* of an evaluation sheet may vary from school to school. Generally, it covers : (a) teaching effectiveness, (b) overall quality of the course (students are required to mark or tick on a 5-point scale in these two areas) and (c) certain aspects relating to the instructor (comments are invited in this section of the sheet). The first part of the form contains certain information relating to the students (without disclosing their identity) namely, course number, subject, grade expected, earlier course completed, etc.

Determination of *overall quality of the course* may involve the following questions :

1. Was the course well-organised ?
2. Were the course objectives completely met ?
3. Were the assignments useful to the understanding of the course material?
4. Did the text book help to understand the material ?
5. Was the course material up-to-date ?

Similarly, for ascertaining the *quality of the teacher* (teaching effectiveness) answers in a five-point scale to the following questions may be required :

1. Was the instructor knowledgeable about the subject-matter ?
2. Did the instructor do an excellent job in explaining material ?
3. Were the presentations of instructor well-organised ?
4. Did the instructor motivate students' interest in the subject ?
5. Was the grading fair ?
6. Was the instructor very accessible to the students ?

The last section of the evaluation sheet keeps space to write descriptive comments by the students generally on the instructor . Here, the students may be asked to examine the following aspects:

1. What are the major *strengths* of the instructor ?
2. What are the major *weaknesses* of the instructor ?
3. What aspects of this course were most beneficial to you ?
4. What do you suggest to improve this course ?
5. Do you recommend this course to other students ?
6. Was the instructor punctual in attending class ?
7. Comment on the grading procedure and exams.
8. Other comments, if any.

It has to be emphasised that students' evaluation is one of the key factors that are taken into consideration by management in deciding the suitability or otherwise of an instructor for a course. It is expected that the students perform their evaluation objectively. Although there are associations of ethnic groups to look after the interest of students of respective groups (such as Chinese, Indian , Asian, African, African-American, etc.) , such associations do not normally have any political or trade union activities. So there is no possibility of political or trade union interference in the process. When an instructor knows his strengths and weaknesses through evaluation, he/she can develop the strengths further and try to overcome the weaknesses. In many schools, award for best teaching is given annually based on students' evaluation. This kind of recognition in the work place definitely serves as an

incentive to other instructors to emulate best practices. There is thus a possibility of a healthy competition in teaching which may enhance the overall quality of teaching and the reputation of the school.

The next question is : can an instructor 'buy' good evaluation by lenient marking or by other undesirable methods ? While such possibility cannot be entirely ruled out, the departmental control system, as stated earlier, may not permit such a practice. Secondly, influencing the whole class in favour of the instructor may be very difficult and students are generally guided by their own interests rather than extraneous considerations . The author came to know about many interesting experiences of other instructors with respect to evaluation . For example, when an instructor did not at all like the class, the students gave a very good evaluation of the instructor. In another case, when an instructor liked the class very much, the class did not reciprocate in the sense that evaluation was poor. These and many other experiences suggest that evaluation of instructors by the students is important in ensuring teaching effectiveness and in enhancing the quality of a course.

(d) Learning style and cultural differences :

Ballard (1991) describes a continuum of learning style which begins with a conserving, reproductive attitude to knowledge, where the instructor or the text book tells the students the facts. This is common in the lower levels of education in most of the countries in Asia. This continuum moves on to an analytical approach, where students are expected to question, analyse, begin to criticise, and weigh up various interpretations. These two ends of the continuum are called the *what* and the *how* by Ramsden (1992). Asian students generally spend much longer in the conserving, reproductive end rather than analytical and interpretative aspects. The mode of instruction is generally directed toward the infusion of technical and computational skill whereas developing conceptual skills becomes priority in the overseas. While the procedural aspects of dwelling on the question of 'how' should not be lost sight of, a greater emphasis should be placed on the rational aspects of 'why' and 'what' ought to be . This approach to learning develops the skills of the students to meet the changing needs of the society. In India, the teaching style is generally of lecture type and it concentrates on developing computational skills rather than developing conceptual skills. Due to large number of students and other factors, students in general do not involve themselves into interaction with the instructor to satisfy their inquisitiveness. They are usually very shy in asking questions or in challenging the ideas introduced by the instructor in the class.

In the U.S., the teaching style is not of lecture type and has to be geared to developing conceptual skills of the students along with computational skills. Use of transparency is very common and class room arrangements are conducive to take help of advanced technology, such as video, computer, etc., in

teaching by the instructors . Xerox copies of additional study materials and assignment problems, practice quizzes etc. are regularly distributed to the students as part of teaching materials. Students are compelled to learn and practise regularly assignment problems. Individual problems of students can be identified and taken care of because of the small size of the class. Instead of roll numbers, students are identified by names (preferably first names) and this creates a better environment of learning in the class room. In the course outline, an instructor generally mentions about the conduct of the course which requires, among others, that "students would be regularly called upon to participate in class room discussions". In the U.S., even though all students do not always interact with the instructor in the class room, there are quite a large number of students in each class who meet the instructor during "office-hours" to get their questions answered or ideas clarified. This also makes an instructor more concerned about the course and drives him/her to prepare well for the class.

A participating class room environment also helps the instructor to learn from the students. Sometimes, questions from the students may be thought-provoking and innovative that force the instructor to think beyond traditional boundaries of the text/reference books. Secondly, an instructor should be able to constantly evaluate the effect of teaching on the students' learning and modify the teaching strategies in the light of the evidence collected from a visual observation of the classroom. This task of evaluation and modification of teaching methodologies becomes easier in a situation where students frequently interact with the instructor.

Previous research studies (Ballard, 1991; Ballard and Clanchy, 1992) have indicated that there are major differences between continental students in their approaches to learning and that these differences are rooted in the disparities between Western and Asian cultures.

Culture is a social and behavioural phenomenon. While there are many definitions of culture, Hofstede (1980, 1987) defines culture as "the collective programming of the mind which distinguishes one category of people from another." Culture manifests itself at the levels of symbols, heroes, rituals and values . It has many layers—from national culture, to organisational culture, to occupational culture. National culture refers to the values of most members of a country or society, organisational culture refers to the sub-culture of values shared by most members of an organisation and occupational culture refers to the sub-culture of values shared by those with a distinct occupation. The origin of national values can be found in a complex web of environmental factors and historical circumstances . Such values tend to change slowly in response to external factors. Given that culture or values identified at national level may be reflected to some extent in organisational

and occupational sub-cultures, subject to refinements, additions and variations, as the case may be, it may be expected that such values impact on accountants, accounting systems and practices (Gray, 1988) and accounting education system in a country (Pok, 1995).

Let us now see what impact cultures may have on the students and their learning style. Western students come from a culture which is critical, indeed sceptical, of authority, and which puts a high value on being independent and individualistic in behaviour. These values are generally reflected in an educational system where students, at least in a higher education system, are expected to be independent learners, self-directed, analytical, critical and ready to put the stamp of their own minds on their work. In contrast, the Indian students believe in traditional cultural values, an emphasis on politeness, and a respect for the written word. Traditional cultural values emphasise deference to authority, including the authority of teachers. An emphasis on politeness negates, or at least reduces the possibility of, argument or disagreement in public settings such as the class room. A respect for the written word, again, encourages acceptance and learning by rote rather than learning by critical analysis.

3. Concluding Observations

In India, things are changing fast. Western influences are strengthening. The use of technology in teaching is increasing day by day. The pattern of required answers to questions, from descriptive type to short-type answers, to objective and true/false type, is no longer a new phenomenon. Students are increasingly becoming conscious about their rights, privileges and career development.

It is likely that more changes will take place in the near future. As a result, many of the gaps are likely to narrow down although cultural differences are likely to persist. It was fascinating to have a different kind of teaching experience in the overseas. This is being shared with interested colleagues and students. An experience of teaching in the overseas may become fruitful if home country is benefited out of the same.

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AGRICULTURAL TAXATION IN INDIA: PROBLEMS AND PROSPECTS

Purnendu Sekhar Das*

Agriculture plays an important role in the economic development of a country, particularly of the developing countries. In the developing countries agricultural sector accounts for around 40 to 50 per cent of their national incomes and the rest is accounted for by the secondary and tertiary sectors. This being the relative shares of agriculture and other sectors in the total national income, agriculture will be logically expected to pay taxes to the government exchequer since industrial and service sectors pay taxes to the government. Historically, agriculture has played an important role in augmenting resources for investment for economic growth. In the erstwhile Soviet Union the forced collection of grains in the thirties has greatly contributed to the capital formation and the industrial development of the country. In Japan land tax has been used to serve the same purpose. Many developing countries such as Burma, Ghana, Uganda, China, etc. also raise large resources from agriculture.

In India the share of agriculture in the gross domestic product at factor cost was 31.3 per cent in 1994-95 (at 1980-81 prices). An early estimate by K.N. Raj shows that in India the total yield from land revenue and agricultural income tax was about Rs. 137 crores in 1970-71, which formed a bare 0.85 per cent of the net output of the agricultural sector, while income tax collected in the non-agricultural sector in the same year was estimated at Rs. 473 crores which formed 2.6 per cent of the net output in that sector. If corporate tax is added to it, the disparity between the agricultural and non-agricultural sector in respect of income tax will be more glaring. A comparatively recent estimate shows that the sum total of land revenue and agricultural income tax for the states in India was only Rs. 710 crores in 1989-90 while the net receipts from personal income tax and corporation tax were

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Rs.10,150 crores in 1990-91. These figures clearly show how the disparity between these two sectors in respect of income taxes has widened over years.

In India the government has been spending huge amount on the development of agriculture. Agriculture including rural development, special area programmes, irrigation and flood control have been allocated 22.2 per cent of the total plan outlay during the eighth plan, while it was 21.1 per cent of the total plan outlay during the seventh plan. Energy has been allocated 26.6 per cent of the total plan outlay during the eighth plan period. A substantial part of this energy is used by agriculture for irrigation purposes. To encourage the farmers to produce more the government has been offering subsidies to them . The total amount of direct subsidies on fertilizers and food has steadily increased from Rs. 7018 crores in 1989-90 to Rs. 8,600 crores in 1992-93 and Rs. 12,574 crores in 1996-97 with a slight fall to Rs. 6839 crores in 1990-91. In addition to this, subsidies on interest on loans and advances made to the farmers have been substantial during this period. A large part of the benefits from these subsidies has accrued to the big and medium farmers. The payment of huge subsidies to the farmers on irrigation or water charges, electricity charges has been cited as one major factor contributing to the huge loss of power projects, irrigation and multi-purpose projects, and also State Electricity Boards. One estimate shows that in 1988-89 the above projects under the state governments have incurred losses of Rs 77 crores, Rs. 1686 crores and Rs. 2705 crores respectively. In West Bengal, WBSEB made a cumulative loss of Rs. 291.19 crores in 1988-89.

The advances from public sector banks to agriculture have also grown by leaps and bounds. For example, direct finance to agriculture (amount outstanding) aggregated only Rs. 40 crores in June 1969 which was a meager 1.3 per cent of the total bank credit. As at end-March 1995 this has risen to Rs. 18,921 crores accounting for 13.6 per cent of total bank credit. This has enabled farmers to purchase agricultural inputs and adopt new agricultural technology on an increasing scale, expand activities in the non-farm sector in rural areas and also accelerate the pace of private investment in agriculture.

A recent study by Binswanger and others (Jn. of Development Economics, 41(2), 1993) shows that the rapid bank expansion in India increased fertilizer demand by about 23 per cent, investment in pumps by 41 per cent, milk animals by 46 per cent and in draft animals by about 38 per cent.

As a result of use of higher doses of various modern inputs by the farmers the foodgrains production increased about fourfold between 1950-51 and 1994-95, from 50.8 million tons to 191.1 million tons. The production of sugarcane has increased from 57.1 million tons in 1950-51 to 258.4 million tons in 1994-95. The production of cotton has also increased from 3.0 million bales to 12.1 million bales during this period. The yield per hectare of major crops has also increased significantly over this period. For ex-

ample, the yield per hectare of rice has increased from 668 kgs in 1950-51 to 1221 kgs in 1994-95, while that of wheat has gone up from 655 kgs to 2553 kgs during the same period.

In spite of this significant increase in the agricultural production, the farmers have defaulted in the repayment of loans and advances. The overdues in the repayment of loans and advances to agriculture by commercial banks have been increasing alarmingly. For instance, the percentage of recovery to demand has consistently declined from 57.4 in 1985-86 to 51.56 in 1991-92. This percentage was as low as 45 in 1989-90 but has risen to 54.09 in 1990-91 due to the loan waiver scheme of 1990, where the amounts received as government grants were shown as recoveries.

The continuous rise or necessary adjustment in support prices as well as procurement prices have also been responsible for this significant growth in agriculture.

Against this background of direct government help in making the important agricultural inputs available to the farmers at low prices and indirectly helping in the agricultural growth in our country, it is extremely necessary that the farmers who are drawing benefits from government policies must contribute to the government exchequer so that the government can make up the loss in different public utility projects and can set aside more fund for further investment in agriculture. Moreover, by paying taxes the farmers can enjoy the feeling of making contribution to the country's development in an indirect way.

Another argument in favour of taxation in agriculture is that taxation on land or taxation on agricultural income may induce the farmers to work more on their land, use more inputs and in more efficient ways with the urge to produce marketable surplus. The surplus will meet the increasing need of the non-agricultural sectors in the country. Tax may act as an inducement to work more.

In support of agricultural taxation it is worth noting one observation of the Taxation Enquiry Committee (1971) that "agricultural income, which is at present outside the central tax net, offers plenty of scope for camouflaging black money." Many agriculturists have bought or taken on lease agricultural farms, vine yards and orchards with the principal objective of converting black money into white money. A recent estimate by Suraj B. Gupta puts the size of black money at over 50 per cent of G.D.P. (at factor costs) in 1987-88. He has also shown that the annual rate of growth of black money is higher than the annual growth rate of G.D.P. Agriculture's share in the formation and circulation of black money is quite high.

Agricultural taxation may have another positive effect on agricultural productivity. Progressive agricultural taxation may force the absentee land-

lords, who have little or no interest in the growth of agriculture, but still own landed property, to sell off their land to those who take agriculture as main source of their livelihood and, therefore, take special interest in its development.

Agricultural taxation will undoubtedly strengthen the state finances. Land revenues, which constitute a part of agricultural taxation in all states, were only Rs. 535.1 crores in 1988-89 as compared to Rs. 112 crores in 1965-66, and this constituted hardly 2.4 per cent of the states' own tax revenues. Many states have exempted the small farmers from payment of land revenue. In view of this insignificant role of land revenue agricultural income tax can play an important role in raising the level of states' finance. The yield from agricultural income tax has increased considerably in recent years. From Rs. 14 crores in 1973-74, it was estimated to yield Rs. 99.4 crores in 1988-89. The rates of this tax have generally been lower than those applicable to the urban income tax. This tax has always occupied an insignificant role in India - a little more than 1 per cent in 1951-52 and about 0.4 per cent of the states' tax revenues in 1991-92. The direct agricultural taxes as percentage of state tax revenue has rapidly declined since the economic planning started from 18.6% in 1951-52 to 1.9 per cent in 1991-92. This shows the insignificant contribution of the farmers towards the states' exchequer.

Thus, realizing the importance of agricultural taxation in the development of agricultural and in the overall development of the economy as many as 10 states have levied agricultural income tax. These states are, namely, Assam, Bihar, Tamil Nadu, Karnataka, Orissa, West Bengal, Maharashtra, Kerala, Rajasthan and U.P. Though 10 states have levied agricultural income taxes, not more than 7 per cent of agricultural income comes under taxation. There is no obvious economic reason why agricultural incomes above 10-acre limit should not be subjected to the same graduated tax like urban incomes and about 60 per cent of cultivated holdings belongs to this category.

Recommendations of K.N. Raj Committee on taxation of agricultural income and wealth :

The K.N. Raj Committee on Taxation of Agricultural Wealth and Income, appointed by the Indian government in February 1972, made several important recommendations. One of these recommendations was to levy agricultural holding tax (AHT). This proposed tax takes into account the differences in the productivity of land all over the country on the basis of certain objective criteria and uniform procedures. This proposal was made to plug the loopholes in the existing land revenue system. However, the state governments rejected the AHT proposal. Raj made several other recommendations. These are : (1) the partial integration of agricultural and non-agricultural income, (2) integrated taxation of agricultural property through wealth, and (3) integrated taxation of capital gains on agricultural assets through

income tax. Considering the merits and demerits of the recommendations on both economic and political grounds the Union government has accepted the 'partial integration of agricultural and non-agricultural income' by incorporating it in the 1973-74 budget proposals.

The various other committees made suggestion for integration of agricultural income tax with the general income-tax. Bhoothalingam Committee in its report on rationalization of tax structure in the country recommended the integration of these two taxes. The Direct Taxes Enquiry Committee, known as Wanchoo Committee, recommended uniform and progressive taxation of agricultural income. Despite strong recommendations by various committees and experts for progressive taxation on agricultural income, the Chief Ministers of the states have turned down the proposal on the ground that agricultural income tax is a state subject. Therefore, the imposition of such a tax by the Centre needs constitutional amendments.

Problems associated with the imposition of agricultural income tax :

The serious problem in levying the taxes on agricultural income at progressive rate lies in the assessment of agricultural incomes, i.e., in the determination of farm income. There is no easy and comprehensive procedure by which the farmers, most of whom are illiterate, can determine their farm profits. It involves difficult tasks of estimating costs of production, marketing etc. particularly because the farms use various non-marketable inputs in their production such as own human and bullock labour, farmyard manures, own appliances, supervisions etc. for which no direct payments are made. These difficulties along with the problems of wide fluctuations in the output and prices of various crops, different systems of land holdings and different kinds of tenancies in India make the problem of imposition of tax on agricultural income formidable.

These problems will encourage corruption among the tax officials and will provide for routes for evading taxes. The cost of collection of tax from the farmers in the presence of these difficulties in the assessment of taxes will be heavy, particularly since the farmers are widely scattered.

These difficulties are, no doubt, formidable, but not insurmountable. At present not more than 7 per cent of agricultural income comes under taxation. While the Central government and the state governments are suffering from resource crunch, and the governments are trying to spread their tax nets to increase the tax revenues of the governments so as to increase the levels of investible funds, the vast countryside is kept consciously out of this tax net. The reason is not economic; it is political. The landed interests have strong political lobbies in the ministries in the states as well as in the Centre. Neither the states nor the Centre wants to alienate this vast electorate by harming their interests through the imposition of agricultural taxes.

Strong political will inspired by the zeal to accelerate the economic development of the country is the only solution to this problem.

POPULATION PRESSURE AND THE PROBLEM OF ENVIRONMENT IN CALCUTTA

Dr. Dharendra Nath Konar*

Introduction

Calcutta, the Capital city of West Bengal and one of the oldest cities of the world, has now-a-days been suffering from an environmental crisis. The basic reason behind this is the fact that she can no longer bear the burden of staggering population. This city was originally built for a population of about one million in order to earn her the status of a metropolitan city. But our Calcutta had crossed that mark way back in 1911 when her population was 1016445. It is to be noted that Calcutta was one of the eleven metropolises the world had in 1900 together with such modern giants as New York, Berlin, Chicago, Tokyo, London and Paris. Today (according to 1991 census) Calcutta (Calcutta Metropolitan Area, C M A) with a population of 10916272 has become the eleventh largest urban agglomeration of the world (the first being the Mexico city, the Greater Bombay being the Sixth one). The core Calcutta has, however, a population of about 3.3 million. The tremendous pressure of population has been eating into the vitality of Calcutta and has been making her environmentally degraded and polluted.

Trend of Population Growth in Calcutta

The trend of the growth of population in Calcutta from 1872 (when the first census had been taken in India) to 1991, the time of the last census, has been portrayed in Table 1.

The earliest estimate of the population of Calcutta is found in 1716 when 12000 people used to live here. Then in less than 100 years (in 1801) the population of this city increased to 140000. In 1821 the population of this city had grown to 179917 and in 1850 there lived 500000 persons in this city.

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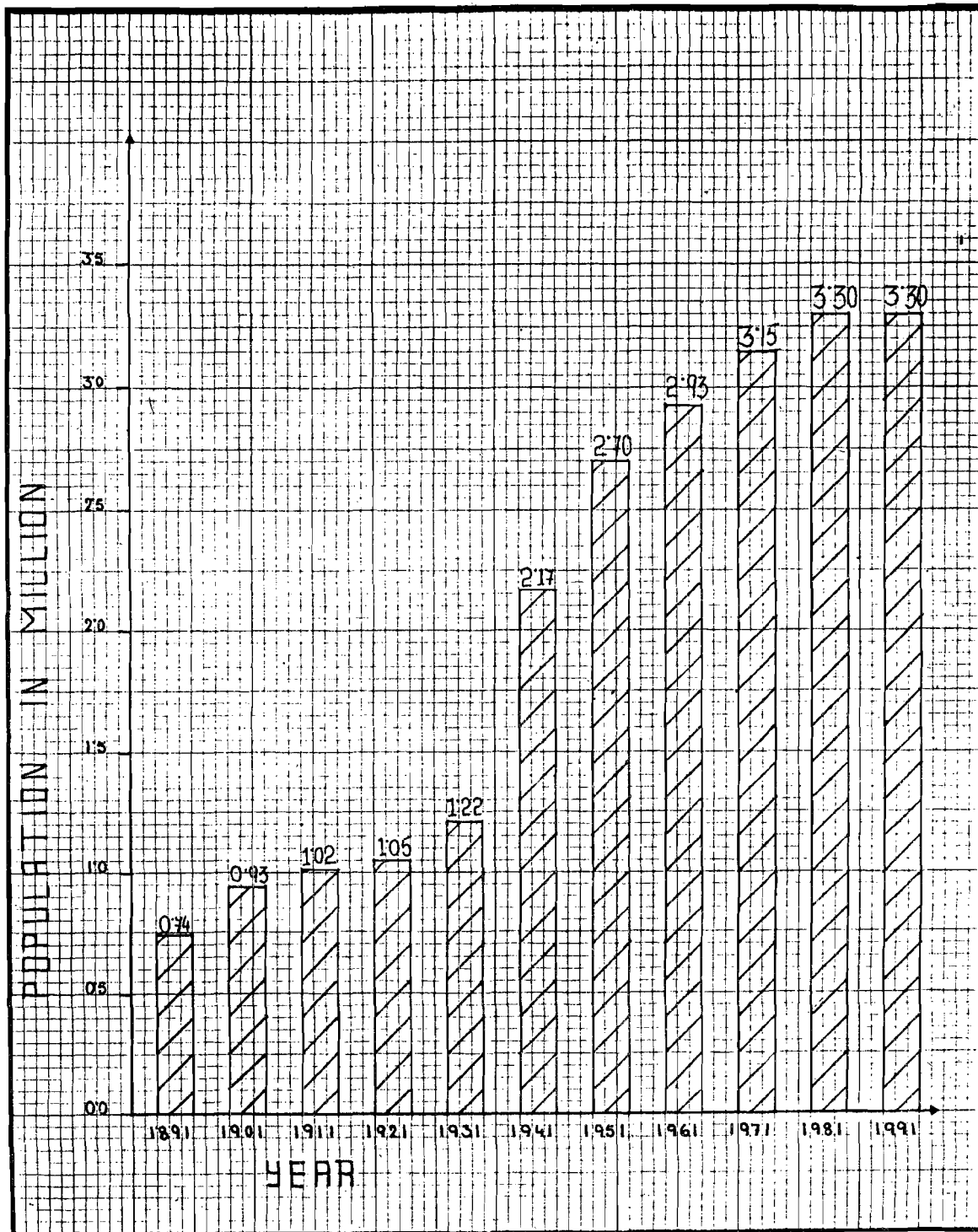
Table 1
Total population and the Annual Compound Growth Rate of
population in percentage (decade-wise) in Calcutta

<u>Year</u>	<u>Total Population</u>	<u>Growth Rate</u>
1872	704750	-
1881	684658	-0.29
1891	741144	0.80
1901	933754	2.34
1911	1016445	0.85
1921	1053334	0.36
1931	1221210	1.47
1941	2167485	5.92
1951	2698494	2.22
1961	2927289	0.82
1971	3148746	0.73
1981	3305006	0.49
1991	4388262*	2.88

(*Total CMC)

Source : Calculated from various censuses.

The growth of population in Calcutta from 1871 to 1991 and the corresponding annual compound growth rate in percentage at each decade from 1881 to 1991 can easily be understood from Table 1. The population of 1991 is the figure of total Calcutta Municipal Corporation (CMC) having an area of 185 Sq. km. while those of the earlier censuses are the figures of core CMC with an area of only 104 Sq. km. The Calcutta Urban Agglomeration (CUA) has an area of 852 Sq.km. and within it live 10916272 people as reported earlier. In 1991 total population living in core Calcutta was, however, 3.3 million. Thus in the two consecutive censuses population living in core Calcutta had remained almost identical. To emphasize the growth of population in core Calcutta within an area of 104 Sq.km. over the last 100 years from 1891 to 1991 we have used the vertical bar diagrams (shown on the next page) measuring years horizontally and the absolute number of population (in million) vertically. The bars themselves signify the gravity of the situation.



It is a relief that since 1961 the growth rate of population in core Calcutta has started falling and between 1981 and 1991 this rate has become zero.

Reasons Behind Explosive Population in Calcutta

The growth of urban population is usually attributed by three factors, namely (a) natural growth of urban population, (b) migration from other states, and (c) migration from rural to urban areas within the state itself. However, behind the rapidity of the growth of population in Calcutta lies the basic fact that Calcutta acts as a job magnet at the national level. Besides, it is the best centre of trade and administration. Naturally, it has drawn job aspirants both from rural areas and from the neighbouring states. That is why job seekers like bureaucrats, office employees, military men, transport workers, mechanics, plumbers, domestic servants, middlemen etc. have thronged here for years together and have still been thronging here.

Besides, living in the countryside has become more difficult for thousands of people who constitute the rural labour force. The small and medium-sized towns of Calcutta's hinterland are hardly in a better position to offer employment to millions of our rural people. The growth of Calcutta's population is thus only partially due to the natural increase in the city's population but mainly due to the influx from outside. It is surprising to note that in this core city with an area of 104 Sq.km. had lived a population of 1.02 million in 1911 and in this very city with the same area lived a population of 3.3 million in 1991. In this context it will be worthwhile to mention that since our villages are very underdeveloped, people are forced to come to Calcutta during the day time to earn their livelihood and the total population during day rises to about 6.5 million in core Calcutta having the same space of 104 sq.km. The city's daytime population is about 10% of West Bengal's total population of 681 million (1991 census). Many of these people swarm the pavements and kerbs through-out the day.

It is a fact that even in these days of soaring prices Calcutta has become a city almost equally preferable to all sorts of people, specially to the poor for whose needs fairly diversified low-priced commodities are available in all parts of the city. In Calcutta one can exist even by begging. Naturally numberless people come to this city mainly from 24-parganas and Midnapore in West Bengal, from Ganjam & Balasore in Orissa, from Muzaffarpur, Bhagalpur and Darbhanaga in Bihar and Ballia in Uttarpradesh, almost in tattered clothes and with empty pockets. There are, in this city, about forty-five thousand handcarts and about thirty-five thousand rickshaws which are drawn mostly by people. Wayside tea stalls, cigarette and betel shops and eating places are run with their labour. Domestic service, cheap and back-breaking, depends basically upon their toil and trouble. It is they who provide the city's sweepers, washermen and most of the milkmen.

Calcutta is the only city in the world where within 104 Sq. km. there are four wards with the population of 175000 and twenty-five wards with more than 80000 per Sq.km. respectively.

Such being the nature of Calcutta's in-migrants, it is but natural that Calcutta is to suffer a lot from the pressure of staggering population.

Social Status of Core Calcutta and CMA Population

Let us now bring out the social status of the people of Calcutta. To do that we should, first of all, display the economic condition of the people in Calcutta Metropolitan Area (CMA) as presented in Table 2.

Table 2
Household income of CMA people per month based on 1984 data

Income range (Rs.)	Percentage of Household
150-350	45
350-600	26
600-1500	24
1500 and above.	5
Total- 100	

Source : Arranged from information published in the Statesman, June 9, 1996.

The modal income of the people obviously falls in the income range of Rs. 150-Rs.350. This being the economic condition of most of the households of the CMA, what they can do with this meagre income or what they can do to supplement their income is anybody's guess. 50% of the people of core Calcutta are to live in slums in sub-human condition - 70% of such people live below the poverty line and, on an average, 10 people sleep in a room of 10' X 10'. In the decade between 1981 and 1991 the annual growth rate of the people of core Calcutta was almost zero but that for the people living in the slums was 9.3% !

In CMA 63% of the children below the age of six are malnourished and in this area 66% of the family live in a one room unit. In core Calcutta 56000 people sleep on the footpath and live on pavements in 3' X 23' X 3' huts made of plastic sheets and bamboo poles. Naturally, they use road-side lanes as their toilets.

Environmental Problems Associated with Population Pressure

The tremendous pressure of population in this city has deteriorated her environment in every possible manner . We have already pointed out that 50% of the people of core Calcutta have been living in slums which are

already overcrowded. In these slums we find innumerable chullahs burning low-grade coal, wood, bamboo, wastes of materials etc. In many of these slums people rear cows, buffaloes, goats, sheep and so on. All these things naturally make the neighbouring areas dirty, smoky, noisy and smelly. The surrounding roads also become impassable. The people living in the slums are absolutely apathetic about the quality of life in their surroundings because their most important concern is how to fill their stomach and thus they have no time to think of anything else.

Side by side the lives of the slum dwellers run the lives of the persons belonging to the upper middle class and that of the richer ones. To make their lives easy and comfortable they ply innumerable vehicles of different types along the narrow streets of the city. With the passage of time the number of vehicles running along the roads and streets of the city has been increasing at an increasing rate but the space of these roads and streets has remained unchanged. We may mention here that Calcutta has the lowest ratio of road area to city area - it is less than 6% . While plying on the streets and roads of the city the ever growing army of motor vehicles disgorge some-where between 650 and 700 tonnes of pollutants into the air, making it trouble- some to breathe.

Again, a big source of city's pollution is more than 200 tonnes of garbage that is dumped on the city's streets every day. People, almost of all walks of life of the city, have been accumulating garbages here and there every day and soon they turn into garbage-hills on which many persons unhesitatingly go on committing nuisance which even oozes in the nearby road. These garbages and the accumulated nuisance remain uncleared for days together. Naturally, the areas surrounding these garbage-hills become adversely affected by the bad smell exuding from there.

Moreover, the high density of population of Calcutta has gradually swallowed up the open space where the public can take some recreation. Calcutta has only 6% of open space compared to 14% in Bombay and 25% in Delhi. This is the fundamental reason why toxicity in Calcutta's air is on the rise.

Beside, thousands of people maintain their livelihood here by establishing small and big factories. Smoke arising from these factories supplements pollution to the air, wastes of most of these factories get accumulated in the nearby garbage hill and sound created by these factories adds to the sound pollution generally created by loud horns blown by lorries, cars, buses and other vehicles plying very often almost discretionarily along the roads.

Because of all the above reasons the air surrounding Calcutta is very much polluted. We may mention here that according to the World Health Organization (W.H.O) out of the seven cities of the World with the worst air

pollution Calcutta (and Delhi) is one. We may also add that according to the United Nations' Report brought out at the end of January, 1994, Calcutta (also Bombay and Delhi) was among the most polluted cities in the world.

It is sad to state that Calcutta's environmental problem had been felt as early as in 1935 when in a report of Calcutta Corporation it was mentioned that to save Calcutta, "its roads need to be widened, no more buildings to be constructed within Calcutta, more greeneries the city needs." The pity is that even after almost 50 years of independence we have not realized the serious consequences towards which the city has been heading. The saddest thing to mention is that every now and then attempts are made to acquire parks and other open spaces for commercial construction.

Remedial Measures

There can be no denying the fact that the environment of our dear city has deteriorated considerably. Our immediate task is, therefore, to save her by hook or by crook. For saving her from further degradation we propose the following :

1. The excess burden of population from this city should, in no time, be released by properly building up satellite towns surrounding Calcutta. These towns should have good roads to connect them. Besides, a good number of offices, business centres, different types of institution should be shifted to these towns so that the pressure of population on Calcutta may be reduced to a great extent. We may point out here that the new township at Salt Lake has taken a great share of population of core Calcutta.
2. The living condition of the villages across Bengal should no longer be neglected. Some essential items, e.g., drinking water, primary education, medical and health services and transport facilities should be made available even in the remotest parts of Bengal.
3. Sufficient job opportunities in rural areas should also be created.
4. More and more emphasis should be put on the development of agriculture, rural industry and rural development.
5. People should be made more cautious about their health. They should also be made aware of their civic sense. Environment damaging activities should forth-with be banned and in this respect help of laws and acts should be taken and necessary amendments to rules, if any, can also be made. The violation of these rules should be heavily penalised.
6. In fine, we may state that "live and let live" should be our attitude and adhering to this principle we should do everything good for the well-being of this city and, of course, for the well-being of ourselves.

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**INSURANCE REFORM IN INDIA —FOR WHOM ?
:: A STUDY WITH SPECIAL REFERENCE
TO GENERAL INSURANCE INDUSTRY**

Arup Chattopadhyay*

And

Saumitra Sarkar**

Keeping the hopes up :

A constant propaganda in support of new economic policy in India has created an atmosphere of common belief that wide-spread pursuance of privatisation and liberalization is the only solution of all the anomalies in our national economy. Indian insurance sector also falls under this purview. The first blitz of privatisation in Indian insurance market came forward through the recommendations of Malhotra Committee on January 7, 1994. In favour of privatisation the committee recommended that - Private sector and foreign insurance companies be permitted to enter insurance industry.

Shares be issued to the public to raise the capital structure of L.I.C., G.I.C. and its four subsidiaries (namely, N.I.C., N.I.A.C., O.I.C. and U.I.I.C.). All insurance companies be treated equally with no special dispensation to public sector insurance firms.

These recommendations were put forward against even the Committee's own findings on the phenomenal growth and performance of the nationalised insurance industries and also against the observation of an independent market survey, conducted by MARG (Market and Research Group Private Ltd.) on the quality of customer service. Naturally, against these unexpected recommendations a great hue and cry arose not only among the opposition political parties and trade unions, but also in the academic circle. And the then Rao Government managed to save its face not by adopting these recommendations but by setting up a panel on this issue in the upper house of the Parliament under the leadership of Sushma Swaraj (of B.J.P.), who expressed strong reservation against privatisation of insurance sector. Ultimately, Manmohan Singh spelt out on the floor of the Parliament, that

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insurance sector would not be privatized.

Interestingly, the same B.J.P. Government, when came to power in the centre for a brief period of 13 days in June, 1996, proclaimed that Indian insurance sector would be reformed in accordance with the recommendations of the Malhotra Committee. The United Front Government was also maintaining the same line of thinking, though wrapping it in different words. Instead of privatisation (i.e. dis-investment of the public sector insurance companies), the Finance Minister, Mr.P. Chidambaram was talking about the opening up of the insurance sector to the Indian private monopoly capital and the foreign insurance companies too. Accordingly, the Finance Minister prepared the 'Insurance Regulatory Authority' (I.R.A.) Bill and tried to get it passed in Parliament on August 7, 1997. But he was compelled to withdraw the 'IRA Bill' after wide-spread opposition, specially from the Left Front Allies. The Finance Minister was, however, quite confident and determined to reintroduce the 'IRA Bill' in the winter session of Parliament, 1997. But the political turmoil at that time in the centre had created a temporary stumbling-block against the proposed reforms in the insurance sector. But the issue is still alive specially in the face of recently held international summit at Geneva on financial sector reforms.

Now some pertinent questions arise. Is there any basic difference between opening up and privatisation of insurance sector? Is there any sufficient ground for insurance reform? Why is the Government (irrespective of its political affiliation) so much interested for insurance reform while the oppositions are opposing it? Who will be the ultimate beneficiary from the insurance reform? This study has been organised to answer these questions taking G.I.C. and its subsidiaries as the sample companies for the case study.

Old Wine In New Bottle :

The word privatisation essentially means turning public property into a private organisation. In the Indian context, it means disinvestment by the Government in the public sector unit. This was what the Malhotra Committee had in mind as far as the insurance sector was concerned and against which there was an all round stiff resistance, compelling the then and next Governments to drop the very word privatisation from their agenda on insurance reform. In its place, opening up of the insurance sector comes ahead. United Front Government in its Common Minimum Programme (CMP) advocated that, ".....There is room for public sector companies and private sector companies to co-exist and compete in the financial sector. We have gained considerable experience in the working of the banking sector. The said experience will be applied to the restructuring of the insurance industry...". In reality, the present experience of the banking sector is not so as

advocated in the CMP. From a report of 'The Statesman' (dated 19.12.96) it was observed that at the 19th Bank Economists' Conference, Dr. Reddy, Deputy Governor of R.B.I. accepted that as the net result of intense competition the Indian banking industry would witness mergers and shakeouts in the years ahead, and to save bank industry he suggested that banks should make an effort to penetrate the profitable insurance market. Will this not happen if insurance sector is opened up ? Then which profitable market will this sector be searching out ?

There is every possibility that the private insurers in order to have a greater share in the market will try to lure away customers from L.I.C. and G.I.C. by promising higher returns and by offering lower premium rates. But once they elbow out LIC & GIC from the market, these benefits will soon vanish in the blue. On the other hand, the nationalised insurance companies will then become sick, after which the Finance Minister can hand over these two industries to the private sector for a song. So not much to be travelled from opening up of the insurance sector to its denationalisation and the ultimate race will be won over by the foreign companies with their enormous financial clout. This is also evident from different media reports. A report in 'The Business Line' (dated 10.8.96) says, "The total break-even period estimated by foreign insurance majors is at least seven years". The chairman of New York Life World-wide Holding, Mr. William Yelverton, has said that the company will not be worried about profits initially. It will wait for several years to strike even, and then automatically, the profits will come (Source: The Economic Times).

Myths Reigning Over Reality :

Whatever may be the form of insurance reform (Privatisation or Opening up), the arguments that are being put forward from time to time in favour of it and against the present system may be enlisted as follows :

- i) The present Indian insurance system is not providing adequate insurance cover. Premium income as a percentage of GDP is low. Products are not diversified. Resource generation is inadequate and servicing inefficient.
- ii) If this crucial industry is opened up, competition will lead to efficiency , effectiveness, economy of operations, profitability , viability and what not. More resource will be mobilised for infrastructure and social development. Customers' satisfaction will be high through the availability of cheaper options and instruments (for this foreign capital and expertise are needed). Consequently, India's insurance premium will boost up from only 1.84 percent of GDP to 10% (as in the developed countries) and so savings rate will jump from current rate of 22 percent to 30 percent [Source : CII Partnership Summit, New Delhi, 11.1.97].

All these arguments are being presented only at the surface level to influence the gullible public in the name of competition, consumer satisfaction and resource mobilisation . In a developing country like India where 37 percent of the population is living below the poverty line, unemployment, under-employment, child labour and inequality are widespread, consumerism (a gift of liberalization and globalization) even among low-income households is rampant getting support from hire-purchase credit - would it not be a myth to catch up the insurance savings rate of the developed countries ?

The mobilization of savings through insurance in India is stagnating at a very low level mainly because of the structure of the economy in which most of the households are 'residual savers' instead of 'target savers'. Under the present economic scenario the performances of the public sector insurance companies in India are phenomenal. After nationalisation the GIC is growing by leaps and bound (which is evident from Table I).

TABLE I
GIC'S PERFORMANCE AT A GLANCE
(Rs. in crores)

Year → Item ↓	1973	1992-93	1993-94	1994-95	1995-96
Gross direct Premium	184.26	4,070	4,766	5,271	6,377
Net Premium	170.36	3,868	4,427	4,879	5,956
Investment Income	20.50	822	1,013	1,207	1,523
Profit before Tax	38.10	779	1,081	502*	831
Profit after Tax	13.85	503	670	376*	551
Paid up capital and free reserve	98.74	2,602	3,363	3,718	4,275

NOTE : * Profit actually declined because of liberalised marine insurance premium rates (a loss of Rs. 100 crores) and also due to posting of underwriting loss (to the amount of Rs. 705 crores) in motor insurance in which ' own damage ' and ' third party ' claims increased disproportionately.

SOURCE : Journal of ' All India Insurance Employees ' Association ', 1997.

In 1994-95, GIC paid to the Government of India an amount of Rs. 194 crores by way of bonus shares and another sum of Rs. 53 crores as

dividend on its initial paid up capital (contributed by the Government at the time of nationalisation) as low as Rs. 21.5 crores. Besides this, as a tax payer in corporate sector, GIC is next only to the LIC. The society also stands benefitted from the invested funds of the GIC (shown in Table II).

TABLE II
G. I. C. 'S INVESTMENTS - SOME HIGHLIGHTS
(Rs. in lacs)

Year → Category ↓	1973	1980	1994-95	1995-96
Central Government securities	4,363	18,929	1,79,322	2,21,411
State Governments and public sector	4,377	8,297	1,02,159	1,06,096
Loan for housing etc.	—	7,373	3,43,993	3,73,006
Market investments	12,115	29,926	3,18,678	4,09,248
Other investments*	14,618	24,298	91,484	1,36,980
T O T A L	35,473	80,823	10,35,636	12,46,740

NOTE : * Other investments represent fixed deposits with non-banking companies, short-term investments, i.e. , participation certificates / bills, immovable properties and deposits with banks.

SOURCE : The Financial Express, 13th January, 1997.

The investments aggregated to Rs. 12,467.4 crores in 1995-96 ; of which more than 56% is invested in Government securities and for social development. The GIC, in 1994-95, settled 74 percent of the claims reported while the international rate is hardly 40 percent. Motor vehicles' premium rates remain underpriced in India ; they are one-third compared to international rates. The yearly premium of the Personal Accident Policy is Rs. 6 (equivalent to 10 cents - lowest in the world) that covers risks upto Rs. 15,000. GIC has near about thousand policies under five broad headings. GIC is not stagnant in this respect. For instance, recently some new policies (Viz., on Stock Brokers, on Test Matches, on Miss World Pageant, on Michael Jackson's show etc.) have been ventured. If total insurance sector (along with LIC) is taken into account, the performance is not only enormous but also unique. It has been estimated that if there is no further improvement, the two corporations (LIC and GIC) can provide a minimum of Rs. 1,00,000 crores in the next plan period.

Now coming to the otherside of the coin, if private and foreign companies are allowed to operate in the Indian insurance market, initially custom-

ers may be benefitted with higher return and lower premium rates. But, as mentioned earlier, that will not last long specially when MNC-controlled monopoly runs over the present insurance structure of the Government-controlled monopoly. After all, private capital looks for quick money giving and least concern to the social and national developments. The less we talk about private investment in infrastructure from the generated surplus of the proposed restructured insurance sector, the better. An investment in infrastructure entails a long gestation period. From the past experience it is observed that bulk of the foreign capital has come in portfolio investment and most of the rest has gone into the non-priority areas. Even if some MNCs show interest to invest in power, telecom etc. in future, we should not forget the deals, like the ones with Enron and Cogentrix.

Experience with Indian private insurance companies prior to nationalisation and experience with foreign companies at present clearly negate the restoration of efficiency and consumer satisfaction via competition. In India, from 1945 to 1955, 25 insurance companies went into liquidation while another 25 ran into so much losses that their business had to be transferred to other companies at a loss to their policy-holders. Moreover, policy holders were frequently deprived through fraudulent means ; for example, National Insurance company, the then third biggest company, did not settle 74 percent of the claims. Records further show that in the insurance companies of the developed countries, litigations are rampant, failed promises, malpractice and misrepresentation leading to fraud and non-transparency are the rule. These are evident from the following few examples : The Prudential Insurance Company (U.S.A.) is facing a punitive fine of around \$ 500 millions; in 1994, Metropolitan paid \$ 20 millions as fine and \$ 76 millions as premium refunds. The Lloyd 's of London hinges on many court cases, filed by 93 of the U.S. investors (names). The other black listed insurance companies included such giants as New York Life, United Baldwin, Equitable Life , First Capital Alliance Life etc. (Source : The Economic Times, 13. 7. 1996). As a result of intense competition, in 1991, the First Executive (one of the top insurance companies in U. S. A.) went into insolvency because of speculative investments and that led to great debacle in the U. S. insurance market. Competition is also not cost effective. From a rough estimate, it is observed that a typical policy with an initial premium of \$ 2500 in U. S. A. incurs \$ 3000 as first year expenses (Source : Yogakshema, June 1996).

Spade Be Called a Spade :

From the foregoing analysis it is evident that the proposed insurance reform in India will not be in the interest of the Indians ; rather it will des-

tabilize the present stable system, gearing the nationalised insurance sector back to the pre-nationalisation era. To plunder this profitable sector, the Indian industrialists, the international financial organisations (controlled by U.S. Administration) and foreign companies and Governments are presenting cock and bull story in favour of insurance reform. The tales of achievements of foreign companies are all lies. If not, why is the foreign insurance market so much restricted ? Restrictions were imposed by New York on foreign re-insurance business with the establishment of New York Insurance Exchange. Japan, Germany, France and Norway prohibited entry of foreign companies in their respective insurance sectors. The traditionally liberal and profitable swiss market has permitted only 3% of premiums to be underwritten by foreign insurance. But for Indian insurance market, the U. S. Commerce Secretary, Mr. William Daley did not even hesitate to interfere openly in India's internal affairs while asking the Indian Government to reintroduce the ' IRA Bill ' in the winter session of the Parliament, 1997 (Source : The Statesman, 1.11.97).

If the foreign companies, along with the Indian private companies are permitted to play in the Indian insurance market - will they provide social insurance at the present subsidised rate ? Will there be the same amount available for mandatory investments in Government securities and in social sectors ? Will the common man's money get present standard of security ? If our wise policy-makers do not want to recognise the facts it would be like the foolish act of ' Killing the goose that lays golden egg '.

[The authors express their gratitude and indebtedness to Mr. Paras Basu, President, All India Insurance Employees ' Association, West Bengal State Committee, for his kind co-operation and help in collecting various data and information that have been used in this study.]

COMPANIES BILL 1997 : IS IT AN UNMIXED BLESSING TO THE CORPORATE SECTOR IN THE LIBERAL ECONOMIC SCENARIO ?

Samir Ghosh*

The basic objective of re-drafting the Companies Bill is to enhance a healthy growth of the Indian Corporate Sector under the liberal, highly competitive economic scenario. The core object of the Companies Bill is to provide effective protection to the right of investors, depositors, creditors and other participants, maintenance of the corporate democracy, maintenance of management's autonomy, etc. While drafting the Companies Bill 1997, an endeavour has been made to recognise the international trend i.e. flexibility or adaptation ability of the corporate bodies with changing scenario, greater self-regulation by companies, more efficient enforcement of law and prompt punishment to those who violate the law. An attempt has been made in this article to examine the new provisions and concepts introduced in the Bill and to what extent the Bill focusses the objective referred to above.

The major changes in the Companies Bill 1997 in comparison with the Companies Act 1956 are as under :

- 1) reducing the number of sections and schedules from 658 to 458 and 15 to 3 respectively ;
- 2) making three fold classification of companies—private companies which are proposed to be mostly self-governing but restrictions imposed on invitation and acceptance of public deposits, unlisted public companies subject to minimum government intervention, listed public companies will be subject to greater regulations including stricter disclosure norms;
- 3) allowing the companies to issue new form of securities, such as hybrids, derivatives, options etc;
- 4) allowing companies to buy-back their own shares subject to certain rules and regulations ;
- 5) giving option to companies for preparation of group accounts and imposing power upon the Central Government to make compulsory preparation of such group accounts ;
- 6) restrictions imposed upon the age for all directors in public companies

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upto seventy five years, with the provision that those who were already appointed as managing directors or whole-time directors may complete their current service period ;

- 7) limiting the number of director in public company to fifteen;
- 8) mentioning the time limit within which various steps of winding up are to be completed;
- 9) empowering the Central Government to appoint a Director General of Inspection and Investigation;
- 10) rationalising depreciation rates of certain assets ;
- 11) the concept of minimum paid up capital of Rs. 1 lakh in the case of a private company and Rs. 5 lakhs in the case of a public company has been introduced ;
- 12) establishment of the Investors Education and Protection Fund ;
- 13) providing for appropriate rules and guidelines to ensure flexibility;
- 14) providing for appointment of a Chief Accounts Officer in every listed company having a paid up capital of Rs.3 crore or more, who shall be head and brain regarding the book keeping functions ;
- 15) empowering the Central Government to direct financial audit or cost audit or secretarial audit;
- 16) permitting an auditor to conduct audit upto 25 companies irrespective of their size;
- 17) empowering the Central Government to appoint professional firms as 'Licensed Registrars';
- 18) entrusting the administration and supervision of work regarding the issue of securities to the Securities and Exchange Board of India ;
- 19) increasing the amount of penalty and punishment for contravention of provisions of law.

Though the objective of the Companies Bill 1997 is to provide a globally-competitive legal framework for the corporate sector, it has, perhaps, not been realised fully. While some of the suggestions are welcome, there are some ambiguity and loose wording. Again in respect of book keeping function, some of the provisions will certainly improve the quality of financial statements, there are some others which violate the basic principle of self- governance. Now some ambiguities and loose words in the Companies Bill 1997 and at the same time violations of self-governance principle in accounting are discussed in the following paragraphs.

a) Buy-Back of Shares :

The Bill, 1997 has recommended buy back of own shares by a company. The concept of buy back is opposed to protect the interests of the ordinary investors because of the following factors :

- i) Fraudulent promoters may manipulate the security prices through

buy back policy.

ii) Since bought back shares can also be sold by the company after two years of the buy-back, there is a scope of insider trading for many times before the sell off by the company.

iii) Buy-back of shares may hamper liquidity in the market and consequently shareholders with balance shares not bought back may not be able to sell-out their shares.

b) Non-voting Shares :

The concept of non-voting shares has been a failure in majority of the developed countries because it may lead to discrimination against holders of shares with voting rights. The voting shareholders may not approve or may reduce payment of higher dividend to holders of non-voting shares at any general meeting.

c) Re-issue of Capital :

The ambiguous areas regarding re-issue of capital are:

i) How shares would be offered at prevailing market prices under the 'Employees stock option scheme' (ESOS)? Would six monthly average market prices be not the criteria ?

ii) What will happen where preference shares are issued to existing preference shareholders at par but such shares are redeemable at a premium? Would a special resolution be required here ?

iii) It is not clear whether the ESOS scheme would apply to un-listed public companies.

iv) Another big flaw is that it has allowed issuance of non-convertible debentures without passing of special resolution.

d) Appointment of Directors :

Schedule II prescribes that a person shall not be entitled to be appointed a managing director or a whole-time director or a manager if he has completed the age of seventy years unless a special resolution is passed by the shareholders approving of the appointment. Section 228 of the Bill on the other hand stated sixty five years as the maximum age for managing director, whole-time director and manager and seventy years for a director. Thus there are some anomalies between schedule II and section 228 which require rectification.

e) Appointment of Sole Selling Agents :

The concept of appointment of Sole Selling Agent is limited since it provides for appointment of one particular person to the exclusion of others. Appointment of sole selling agents results in restrictive competition and

monopolising business. Thus such a concept is bound to affect the prices of commodities and lead to disruption of their supply.

f) Loans to Directors :

This provision gives ample benefits to managing or whole-time directors. Schedule XIII of the Act provides ample benefits to managing or whole-time directors in terms of remuneration upto 10% of the net profits of the company and this more or less includes all types of benefits . In the Companies Bill 1997, managing directors or whole-time directors in view of their position are able to secure loans from leading housing finance companies at market interest rates. Burdening the company with loans would be a burden on its resources.

g) Accounting Standards :

The purpose of creating the national advisory committee is not apparent. Had the diligent and in-depth process involved in formulating the accounting standards been understood well, the proposal to set up a national advisory committee would not have been made in the first place. If a comparison between the composition of the proposed national advisory committee and composition of Accounting Standards Board (ASB) is drawn then one can see that the broad based composition of ASB ensures that views of all parties interested in accounting standards are recognised, but the composition of national advisory committee does not properly reflect the interest of all parties. The scheme proposed under the Companies Bill 1997, deals only with the prescription of standards for companies and is silent on co-operative societies, partnerships, banks, financial institutions and other income tax assesseees, which the accounting standards of the I.C.A.I cover. So the provision empowering constitution of a national advisory committee is nothing but a golden goose. The ICAI, is the apex body for regulating the accounting profession in the country.

h) Appointment of Auditors :

The Companies Bill 1997, has introduced a provision for rotating auditors. The laws in most of the developed countries do not contain any provision on rotation of auditors because they want to strengthen the position of auditors. Rotation does not improve the independence of auditors because management can play one auditor against the other. Rotation of auditors will inevitably result in higher cost since the new auditors will have to spend extra time in familiarising themselves with the activities of a company.

i) Officer in Default :

The auditor is sought to be treated as an officer of the company for

the purposes of all clauses of the Companies Bill 1997. According to clause 5, the auditor is sought to be treated as an officer in default. Thus this provision is ambiguous as it treats the auditor as an officer who is in default in case a company's failure to comply with any requirement of the Act. The law envisages and makes a large number of provisions to protect auditor's independence in a company. So auditor's treatment as an officer is incorrect.

j) Responsibilities Statement :

The Companies Bill 1997, provides for the inclusion of a director's responsibilities statement in the board's report. Director's responsibility statement contains the authenticity of books of accounts i.e. a statement that materiality, consistency, going concern principles are properly followed etc. A statutory auditor certifies the true and fairness of financial statements, nothing more nothing less, on the basis of recorded documents. He never goes through the business plan, nor does he evaluate the efficacy of risk management. Thus, he is not in a position to certify the long-term solvency of the company.

k) Other Provision :

The Companies Bill 1997 does not make any distinction between large and small companies. A new provision in the Companies Bill 1997 should be introduced that an auditor can not hold more than ten audits of companies having a paid up capital of Rs. 25 lakhs or more, although the raising of total number of companies that can be audited to 25 is an welcome step in the new bill as the number of registered companies is increasing.

Conclusions :

While some of the suggestions are welcome some provisions are ambiguous and they do not properly protect the affected parties; some others are against the basic principles of self-governance. However, considering the magnitude of the exercise and the broad sweep of the report, it would be unfair to charge the working groups regarding their lethargy of duty. The provisions of the new Companies Bill 1997 are to be presented to the public, professional institutes, Universities for debate in their original or revised form and their suggestions are to be incorporated properly in the new Bill before it is enacted.

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**SOCIAL CONTROL IN GRAM PANCHAYAT IN WEST BENGAL:
A NEED FOR BETTER FINANCIAL CONTROL
AND GREATER TRANSPARENCY**

Utpal Kumar Utthasani*

People in the panchayat are handling public fund in the interest of the public. So they should have the greater accountability in the matter of conveying information to the public about their financial activities. But perhaps, in practice, they do not follow always the above simple hypothesis.

In reality, financial control as enacted in the W.B. Panchayat Act 1973, such as budgeting, accounting, statutory and internal audit, opening of bank account, making tenders etc. has not been able to prevent fully the financial crime committed by the panchayat persons. Public has no easy access to the financial reporting made by the panchayat authorities.

Social control, i.e. control by the people, through raising voice in the samsad meeting, annual general meeting, half yearly meeting, election exit or personal exit has also not been able to solve the present problem.

Present author in this article tries to develop an insight into the above matter in four sections. In the first section, he has developed a model as to how the people, panchayat and Governments are related to the control, funding and accountability. In the second section, he has discussed briefly the present system of financial and social control. In the third, by his empirical finding, he states how the effective people-participation may be able to control the financial activities of the panchayat. The last section provides a list of suggestions to ensure better financial control.

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The author expresses his deep gratitude to Dr. K.C. Paul, Reader & Head, Dept. of Commerce with Farm Management, Vidyasagar University, for his valuable comments and guidance.

SECTION-1 People-Panchayat-Governments

Article 40 of the constitution of India provides that "The state shall take steps to organise village panchayats and endow them with such powers and authority as are necessary to enable them to function as units of self-Government". From this, we observe some points which may be helpful to clarify our subject.

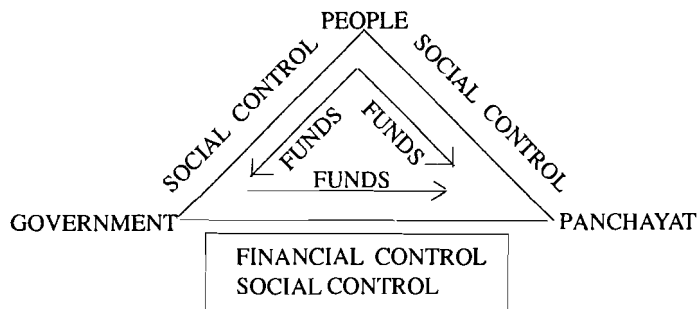
1. Village panchayats are the organisations of the people, where they participate through elected representatives.
2. Village panchayats have some power and authority.
3. These power and authority flow from the Governments and also from the people in the locality by virtue of election (agency theory).
4. These power and authority are such that the organisation may act as independent republics.

Finance is the main source of power and authority which the panchayats gained from —

- A). State source in the form of (i) share of taxes, tolls, fees levied by the state (ii) grant-in-aid from the consolidated fund of the state (iii) borrowed money from the state or state controlled institutions¹ (iv) contribution and grants made by the higher tier-panchayat.
- B). Direct collection of taxes, fees, tolls from the people under its jurisdiction.

Whatever may be the degree or volume of financial authority delegated to the panchayat by the state or people in the locality, that creates the equal degree of accountability to the panchayat. Presently funds are mainly coming from the state source to the panchayat. In some cases it tends to be 100% . So the state will expect the cent per cent control over it and that has been smoothly and surely achieved by the power given in the Panchayat Act 1973 (Act of 1973). Mukhopadhyay states it as a "principle of paternalism of the state government".² In this case the executive power rises by declining the power of the people. It is the "acts 'for' them and is not 'run' by them".³ This is the question of settlement of power balances between the panchayat and state, which demands a further course of research.

State source of finance is also the indirect source of finance that flows from the people to the panchayat via state. So the panchayat should be accountable to the society in two ways : (i) direct accountability i.e. direct social control by the people over the panchayat, (ii) indirect accountability i.e. indirect social control by the people through state. People also control the state by having published report, gathering public support etc. and ultimately election exit. These can be formulated as follows :-



In this picture 'Government' means state government or central government, or the higher tier panchayat from where the funds come in and 'Panchayat' means the Gram Panchayat, the lowest tier of self government.

From the outer side of the triangle, we reveal that there are three-arm social control which means people demand each and every step of action to be reported to the society in an understandable form. Though this part of disclosure and reporting is oftenly neglected.

SECTION-II

FINANCIAL CONTROL AND SOCIAL CONTROL

Financial control as enacted in the Panchayat Act 1973 and Panchayat (Amendment) Act 1992 (here after used as Act 1973 and Act 1992) can be stated as under -

1. Budgetary Control : Like any government department, every Panchayat (in each tier) has to prepare a budget "to equate revenue with expenditure"⁴ as per section 48 of the Act of 1973. It is a system of planning and controlling the expenditure with "a realistic estimate of the fund allocations to be received from the government"⁵. At the Gram Panchayat (here after used as G.P.) level, secretary has to prepare budget at the direction of the Pradhan in the forms No. 34 and 35 and that should be presented to the Panchayat Samiti(P.S.) within a stipulated date for recommendation.⁶ No expense can be made outside the approved budget. The stipulated dates as fixed by the West Bengal Government for the purpose of budget are as follows⁷:

<u>Function</u>	<u>Dates</u>
1. Budget preparation	10th October in each year
2. Discussion on the budget in the budget meeting.	20th October in each year
3. Finalisation of the budget in the budget meeting.	10th November in each year
4. Sending the budget to the P.S. for recommendation.	14th November in each year
5. Recommendation by the P.S.	1st December In each year

In Practice, "Preparation of budget under sec. 48 of the Act 1973 and approval of the same in time from the appropriate authority (P.S.) is not always followed".⁸

Commercial technicalities of preparing budget and introducing standard costing technique to assess the performance have not been considered both in practice and in the Panchayat Act. In short, performance budget has not been prepared for better assessment of the elected representatives.

The compulsory task of preparing budget in time has also been avoided by :

1) allowing preparation of supplementary budget under section 49 of the Act of 1973.

2) extending the time limit of presenting the original budget for recommendation simply by putting an application to the respective officer of the Zilla Parisad.

Supplementary budget is to be prepared within 20th February and be presented to the P.S. within 25th February in each year. It is allowed to accommodate any modification of any estimated expenditure of the original budget. Thus, to my mind, it is a system of providing legality to the undesirable deviation of the original budget.

Deviation from budget estimates occasionally made by drawing advance in the personal account of the panchayat members are not accounted for in time. Penalty for any failure in any of the steps in preparation and execution of the budget has not been prescribed in the Act of 1973.

2. Accounting : According to section 50 of the Act 1973, every G.P. has to maintain its 'Account' in the specific form and registers. Pradhan of the G.P. is in the charge of all accounts maintained in the G.P. But all the books of accounts and registers will be maintained by the Secretary of the G.P. with the help of Job Assistants. Secretary will make entries in the cash book but the Pradhan will have no right to do so. He has only the right to check the entries in the Cash Book. This is the only occasion where we find a scope of internal check system within the system of maintaining accounts.

"The present practice of maintaining accounts and the procedure of audit of accounts of the Gram Panchayats and Panchayat Samities of West Bengal are guided by the West Bengal Gram Panchayat / Panchayat Samiti Accounts and Audit Rules 1989 and no deviation from the given format of accounts is permitted".⁹ All the various types of documents and registers that are required to be maintained are in single entry system and on cash basis.

"Accrued income, outstanding expenses, pre-received incomes and prepaid expenses can not be reported in specific manner under this system."¹⁰

Section 42 of the Act of 1973 empowered the G.P. to incorporate all

the public properties within its jurisdiction and the respective G.P. will also be the recipient of the incomes derived from these assets. But these assets are not considered at all in the position-statement of the G.P. Some unrealistic methods of valuing assets are briefly undertaken, such as valuation of assets at cost price ignoring the appreciation or depreciation.

"Again the accounts are maintained on cash basis and double entry principle is not consistently followed in many cases."¹¹

Absence of sufficient internal check, incomplete accounting records and failure in timely presentation of accounting information to the society further jeopardise the system of detecting errors and frauds, safeguarding the assets of the society and noble wishes of the policy makers.

3. Audit : Sections 186 to 196B of the Act of 1973 deal with the provision of Panchayat Audit. There are three types of audit :

- i) Annual Audit [Section 190(1) and 190(2)],
- ii) Internal Audit (Section 196A), and
- iii) Special Audit (Section 196B).

Annual Audit of each panchayat is conducted by the Extension Officer of the panchayat (EOP) at least once in a year. He will have to examine all the registers, vouchers, account books and other necessary documents which will have to be supplied to him on his requisition. His work does not go beyond a mere routine checking of the documents. He is a Government servant and he need not necessarily possess any professional qualification.

He has to prepare his report within two months from the date of completion of his audit to the pradhan. He has also to send one copy of his report to the State Government through District Officer, Panchayat and through the Director, Panchayat [Section 190(1)].

He will specify the following points in his report [Section 190(2)]:

- i) the grants-in-aid received and the expenditure incurred therefrom;
- ii) any material in propriety or irregularity which he found in the expenditure or in the money due to the G.P. or in the accounts of the G.P.;
- iii) any loss or waste of money or other property owned by or vested in the G.P.

Section 187 of the Act empowered the E.O.P. for compelling Pradhan to present the accounts of funds maintained in the G.P. By virtue of the Sec. 188 of the Act, he has also the power of demanding any information from any person.

Internal Audit of the G.P. is done by the Panchayat Accounts and Audit Officer. He has to examine all books of accounts, records, registers etc. of the G.P. "He is required to detect the errors, irregularities and illegalities, if any, in the books of accounts and in the system of accounting, and render

suggestions for correcting the defects and reconciliation of discrepancies."¹² Mishra states it as a "system of giving suggestion about the procedure of accounting."¹³

Internal auditor has to visit the G.P. office at least once in a month and he is to give the report of his audit. In addition to that he is also to submit quarterly report on the last date of the months of June, September, December and March of every financial year.

His report is to be considered in the next meeting of the G.P. members. During his next visit, he has to ensure that his report has been considered and corrective measures have been taken according to his directions.

It is a system of internal as well as continuous audit where corrective measures can be taken as and when the errors and frauds are committed.

Special Audit : According to section 196B of the Act 1973, State Government has the power to appoint such authority as it may deem fit to conduct special audit of the accounts of a G.P. for special purpose.

The annual report and Internal Audit Report are generally considered in the meeting of the G.P. members and corrective measures, reporting and penalties taken are kept confined to department concern. General people have no easy access to this report.

Auditors are the Government servants and they are accountable to the Government. They protect the interest of the Government and not the people directly. Furthermore, timely audit, placing of report and action taken on the report are not occasionally done by the auditor and panchayat also.

Bank Account : Every Gram Panchayat has to open a savings account with the nearest post office or any scheduled bank or cooperative bank in the name of the G.P. All funds collected under section 45 of the Act 1973 are to be deposited into that account. Pradhan or in his absence Upa-pradhan will operate the account. Any payment drawn from that account exceeding Rs. 500 is to be made by cheque. No doubt, it is an attempt of checking cash embezzlement.

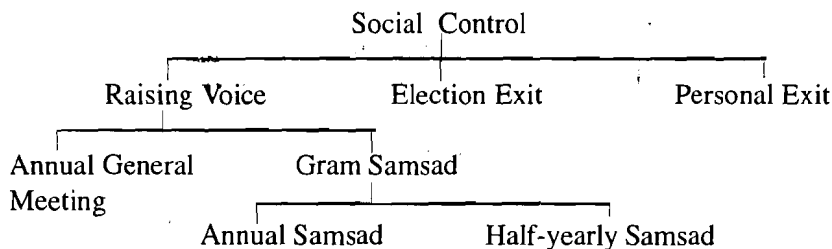
Tender : Any purchase exceeding Rs. 100 is to be made through open tender. Any goods purchased should be recorded in the stock register.

SOCIAL CONTROL

Social Control over panchayat means the control by the people in the locality by their direct personal involvement in the activities of the panchayat. By this they may be able to unify diversified personal goal of the panchayat people to the desired welfare objectives of the society. We cannot deny the fact that financial discrepancies are the major sources of fulfilling personal objectives at the cost of social welfare goal.

Present day people's right to control these financial crime-biasness to

the vested personal or group interest can be chalked out as under :



Raising Voice in the Annual General Meeting of the G.P. and in the Samsad Meeting is expected to control the irregularities in panchayat activities by the people's direct involvement. But it faces various problems and does not get the expected result.

Gram Sava or Gram Samsad is the lowest unit of decision making about the development activities to be adopted. All the eligible voters of an election booth or ward will be the members of this Samsad. There are 36185 Gram Samsad in 3313 panchayats in West Bengal.¹⁴ The number of Gram Samsad in a panchayat area will be determined by the number of wards in that panchayat. Every panchayat has its compulsory task to convene an annual general meeting of the Gram Samsad in the month of May and a half-yearly general meeting in the month of November each year. Following actions are to be considered in different meetings of Gram Samsad :

- i) budget for the ward (if it is separately prepared for the booth);
- ii) list of development activities adopted;
- iii) formation of the beneficiary committee and the list of beneficiaries;
- iv) selection of the development project according to preference.
- v) last audit report etc.

In the annual general meeting of the panchayat a consolidated budget is prepared compiling all the gram sava budgets. It also considers the statutory audit report if it is completed at the time of the meeting.

Election Exit is one of the weapons in the hands of the voter where it is presumed that 'right person to be retained and wrong person to exit' by voting. But recent political polarisation and lack of education of the voters have blunted the sharpness of this weapon.

Withdrawal approach, though a negative approach, becomes the last weapon in the hands of the general public. The frustrated people have the only right to cover themselves by the armour of Personal Exit. They gradually feel that panchayat meetings are not the proper place of raising voice.

They would rather like to keep themselves indifferent and aloof from the panchayat activities .

SECTION-III

Empirical Finding, People Participation and Observations

From the above discussion we have developed the following hypotheses:

1. Financial control now prevailing in panchayat system could not be able to remove the financial irregularities.
2. Social control also could not gather sufficient strength to cope with the above.

Now, let us turn to the empirical evidences. Present author conducted a sample survey of 180 Scheduled Caste and Scheduled Tribe Households, 30 Panchayat members and 6 G.Ps in 6 statistically selected blocks in Midnapore District in the year 1995 for his research work. Some of his observations are presented in the following table.

Table Summarising the Observations

Sl. No.	Questions	Answer received						Total	
		Positive		Negative		No answer		N	P
		N	P	N	P	N	P		
1.	Head of the household attended panchayat meetings	19	10	120	67	41	23	180	100
2.	Attended Budget meeting out of the above	4	21	3	16	12	63	19	100
3.	Corruptions exist in panchayat	14	8	98	54	68	38	180	100
4.	Vikash Patrika Maintained (IRDP Account)	0	-	37	100	0	-	37	100
5.	Persons received the wage employment in J.R.Y.	1	0.5	179	99.5	0	-	180	100
6.	Panchayat members feel that their G.P. is corrupted	3	10	23	77	4	13	30	100
7.	Panchayat published its annual report timely.	1	17	5	83	0	-	6	100
8.	Panchayat prepared budget annually	6	100	0	-	0	-	6	100
9.	Monthly Internal Audit done	-	-	6	100	0	-	6	100
10.	Annual audit done timely	3	50	3	50	0	-	6	100
11.	All of the registers maintained in the G.P. according to Audit and Accounts Rule 1989.	-	-	6	100	0	-	6	100

N = Number, P = Percentage

From the above we observed that while 8% households feel that the panchayat is corrupted, 10% panchayat members shared the same feeling. 38% households and 13% panchayat members preferred to keep their opinions reserved. This may be due to their personal exit or safeside role to avoid adverse criticism.

This observation can at least be taken to have reflected the fact that there exists a certain degree of corruption in panchayat in Midnapore District.

All the registers as required by law are not maintained in 100% cases. Same is the situation of IRDP Accounts. Hence, the position of maintaining accounts may be said to be poor in those G.P.s.

In 50% of the cases, annual audit is done at the end of each year. But monthly internal audit is not done monthwise in cent per cent cases. Budgets are, however, prepared in 100% cases. We may now be tempted to draw the conclusion that financial control presently in vogue could not remove the irregularities fully in the G.Ps in Midnapore District.

10% of the households is attending the panchayat meeting. Out of them only 21% attended the budget meeting. It is further surprising that 63% of the households could not tell anything about the type of meetings they attended. 99.5% of the Scheduled Caste and Scheduled Tribe households told that they did not get any wage employment from the Jawahar Rojgar Yojana (J.R.Y.) . But, this may not be the reflection of the reality. They might be ignorant about the fact. Only 17% panchayat was able to publish Annual Report timely and othe panchayats publish two or three years' report at a time.

The following observations of different authors or researchers may hint at the similar picture.

One such observation reveals the following :

- 1) average percentage of people who attend Gram Samsad meetings in West Bengal - 15%;
- 2) penalty given to the Pradhan of the G.P. not convening Samsad meeting in time - none;
- 3) pending cases of audit in West Bengal :

<u>Year</u>	<u>No. of G.P.</u>	<u>Year</u>	<u>No. of G.P.</u>
1990-91	46	1994-95	154
1991-92	56	1995-96	396
1992-93	64	1996-97	2208
1993-94	56	(Upto 24.09.97)	

We may find that the alarming number of pending audit cases did not appear to be the sufficient cause to penalise any of the Pradhans of the

related GPs.

Pramanik and Dutta¹⁶ were bold to state that "In response to our question on the corruption in Panchayats, 62% of the non-beneficiaries answered in the negative and only 22% of them answered in the positive".

Mr. Kanjilal¹⁷ stressed the need of people's participation and thinks that people's participation in planning and implementation of the development proposal can solve the problem of corruption.

Chanda's finding¹⁸ that "an inefficient and corrupt government is far worse than an imperfect market for the purpose of resource dispensation" goes a step ahead.

SECTION-IV

Suggestions for Improvement

Though there is enough scope for further research we may suggest some measures by which social control can be strengthened to control the so called financial malpractices in panchayat. Suggestions are:

1. People's participation should be ensured. Financial Audit at present form, can go up to the stage of routine checking of the transactions with the supporting vouchers. "Presently they (auditors) push pencils more than they push brains".¹⁹ People's participation can go beyond this stage of mere routine checking. Present author finds a case where general people in that area could check the inclusion of fake name by the panchayat in the Master Roll of the Wage Employment Scheme of the J.R.Y.

People's participation can also create more pressure on the panchayat and that will indirectly prevent the frauds and errors in panchayat accounts.

People may be the real auditor of all financial activities of the panchayat as all the actions taken by the panchayat happen before the eyes of the people in the area and they usually become the beneficiaries. External auditor may feel uneasy in the new situation as the nature of work varies from panchayat to panchayat.

People can even force the panchayat to obey the Panchayat Acts and Rules if they are made aware of the provisions of the Acts and Rules. For this purpose a scientific social interaction between the panchayat and people may be mooted.

2. Provisions in the Panchayat Act should be made for further strengthening the social control. A scientific social reporting system should be developed. Performance audit and propriety audit(i.e. justification of the expenditure) may be introduced to judge the worth of the panchayat.

3. Commercial Budgeting and Accounting should be introduced by replacing the old system. Accrual basis of Double Entry System may be

better suited in panchayat accounting.

Independent qualified auditor (at least a commerce graduate) should be appointed for statutory Annual Audit. Introduction of a transparent financial reporting system which is easily understandable to the general people is the need of the hour. An internal check system should be developed to control the financial activities. All the financial activities of the G.P. need to be reported to the people through an organised media.

A committee in the line of Public Accounts Committee may be established for greater financial control.

4. Formation of people's organisation in the political line or non-government organisation, should be encouraged to exchange experiences. For this purpose a series of group discussions (informal in nature) may be invited within the Gram Samsad throughout the year. These persons may be provided with adequate protection from being thrown out of this group. Criticism from any person may be entertained by the panchayat bodies. "Organised strength of the poor is a force to reckon with. It can destroy the social and economic order which is a burden to them".²⁰

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DEPRECIATION ACCOUNTING AND ITS IMPACT ON DECISION-MAKING

Santimoy Patra*

Purchase of a fixed asset involves Capital expenditure resulting outflows of Cash and like cash items and inflow of a tangible long lasting asset having service potentiality for earning revenue in future, if it is permanently used in the business and not primarily put for resale in the ordinary course of business . For any kind of service, whether rendered by any person or derived from any fixed asset, a cost is incurred and as such, cost incurred for having service by using fixed assets over its useful life is called depreciation. In this sense depreciation is the prepayment of expected benefit cost of using fixed assets over its estimated useful life. In accounting parlance, depreciation is the process of allocating the cost of a fixed asset over its estimated life in a systematic manner. Alternatively, depreciation may be defined as the reduction in the economic value of an asset. But as difficulty arises to measure the value-reduction of an asset in an accounting period of its utilisation, this definition is not well accepted. According to A.I.C.P.A. (1953), depreciation accounting is "a system of accounting which aims to distribute the cost or other basic value of tangible fixed assets, less salvage (if any) over the estimated useful life of the asset, in a systematic and rational manner. It is a process of allocation, not of valuation".

Why the Concept arises

Excepting land, maximum fixed assets have not unlimited years of useful life because of the following reasons :-

- i) Wear and tear due to actual use.
- ii) Effluxion or expiration of time (even if the asset is not used).
- iii) Physical deterioration.
- iv) Depletion or Exhaustion (in case of asset of wasting character).
- v) Obsolescence— a new invention due to the technological development and a permanent change in demand or in line of production may render an asset useless.

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Should the depreciation be charged

Depreciation of a period should be charged against revenue of that period as an expense firstly, for ascertaining true profit of the business. When an asset is purchased and put to use in the ordinary course of business to earn income, it falls in its value slowly and gradually due to the above mentioned reasons. This fall in value is like any other expenses (i.e. salary, wages, stationery) and should be charged to profit and loss account to ascertain true profit of the concern.

Secondly, at the end of useful life when the asset becomes useless, it will have to be replaced. The replacement is possible if there is sufficient fund and the existence of this fund depends only if the proprietor had made a provision for depreciation every year during the life of the asset.

Thirdly, to exhibit a true & fair view of the state of affairs of a business requires a system of charging depreciation against the asset in each year during its life, otherwise the asset so presented in the Balance Sheet will be overstated.

Lastly, to face capital erosion and to meet legal requirements regarding payment of dividend in case of companies, as laid down in section 205 of the Companies Act, proper amount of depreciation should be charged.

Accounting Aspect

According to the recommendation of International Accounting standard-4, "The depreciable amount of a depreciable asset should be allocated on a systematic basis to each accounting period during the useful life of the asset".^{1(a)} 'Depreciable amount' of a depreciable asset is its historical cost or other amount substituted for historical cost (excluding revaluation) in the financial statement less the estimated residual value. 'Depreciable assets' are assets which (i) are expected to be used during more than one accounting period, (ii) have a limited useful life, and (iii) are held by an enterprise for use, in the production or supply of goods and services, for rental to others or for administrative purpose and not for purpose of sale in the ordinary course of business. 'Useful life' is either (i) the period over which a depreciable asset is expected to be used by the enterprise or (ii) the number of production or similar units expected to be obtained from the use of the asset by the enterprise.^{1(b)}

The difference between acquisition cost and the estimated residual value at the end of the useful life gives the total amount of depreciation of the asset which is to be allocated over its working life. For computing total amount of depreciation the following basic data are required :-

- i) The original cost of the asset i.e. cost of acquisition, cost incurred to begin its function, cost of receiving & installation and the like.
- ii) The approximate scrap value or residual value or breakup value

Students' Section

i.e. the value which the asset will fetch when discarded as useless. There are some assets which have no scrap value, e.g., i.e. lease, patents etc. But most of the fixed assets fetch something if it is sold at the end of its useful life.

iii) The estimated useful life of the asset, i.e., the number of years the asset is expected to render service.

iv) Major repairs, if any.

Out of the above four factors, the factors like scrap value and useful life of the asset are very difficult to determine accurately. No mathematical precision can be applied for such determination. What will be the scrap value at the end and how long the asset will effectively be useful, is a matter of estimation, even such estimation is not an easy task. It involves many factors like market trend in distance future, inflation, extent of serviceability, extent of use, physical deterioration, obsolescence, etc. So, calculation of depreciation is mostly a matter of approximate estimate .

The amount of total depreciation should be allocated to different accounting period in a systematic and rational manner. "Systematic means that the amount of depreciation for a particular accounting year can be computed objectively and variably. Rational means that there should be some direct relationship between the amount of depreciation provided in a particular period and the amount of usefulness apprehended to be lost in the value of that particular asset."² How much depreciation will be charged on a particular accounting period depends upon the selection of method of charging depreciation. There are several methods of charging depreciation . The choice of a particular method should consider the unique allocation depending upon the pattern of expected benefit obtainable in each period from its use. A brief summary of different methods of charging depreciation, their applicability, as practised, is given below :

<u>Name of the method</u>	<u>Annual Depreciation</u>	<u>Applicability</u>	<u>Basic Thrust</u>
1. Straight Line Fixed Instalment Method	Fixed Per annum, Annual Depreciation (Cost of the Asset - <u>Estimated Scrap Value</u>) = Estimated Useful Life	Assets rendering uniform service throughout its useful life and the benefit to be derived from a fixed time period , e.g. lease, patents, copy - rights, Trade mark.	A fixed amount of original cost less scrap value is charged every year during the working life so that the asset is reduced to nil or scarp value at the end of its life.

<u>Name of the method</u>	<u>Annual Depreciation</u>	<u>Applicability</u>	<u>Basic Thrust</u>
2. Reducing Balance Method.	Decreases every year. Rate of Depreciation is fixed per annum which is = $\frac{1-n}{n} \times \frac{\text{residual value}}{\text{cost}}$	Assets rendering service more in earlier years than later years and having residual value and requiring repairs & maintenance, e.g., Plant & Machinery, Ship etc.	A fixed percentage on the reduced balance of the asset is charged as depreciation every year, the amount so charged decreases every year and the asset is never fully depreciated.
3. Sinking Fund Method.	Fixed per annum A Sinking Fund Table can be used.	Assets requiring essential replacement like Plant & Machinery and many wasting assets.	The amount written off as depreciation should be kept aside and invested in readily marketable securities and allowed to accumulate at compound interest. When the life of the asset expires, the securities are sold and a new asset is purchased with the sale proceeds.
4. Annuity Method	Fixed per annum. An Annuity table can be used.	Assets requiring considerable investment without frequent addition and having no residual value, e.g. long lease.	Time value of money and opportunity cost of capital locked up in the asset in terms of interest lost on acquisition of asset are considered.
5. Sum-of-the years' Digit Method	Annual Depreciation decreases every year, which is = $\frac{\text{Remaining Expected life}}{\text{Sum of years' digit}} \times (\text{Cost} - \text{Scrap Value})$	As in case of Reducing Balance Method.	A varying percentage to the original cost of an asset is applied so that total cost is allocated in reducing instalments over the period of usefulness.

<u>Name of the method</u>	<u>Annual Depreciation</u>	<u>Applicability</u>	<u>Basic Thrust</u>
6. Insurance Policy Method.	Fixed per annum, which is equal to annual premium paid on the policy.	As in case of Sinking Fund Method. Life of the asset should definitely be known.	An insurance policy is taken paying annual premium and the amount received from the Insurance Company is used to replace the asset at the end of its useful life.
7. Revaluation Method.	May fluctuate. Annual Depreciation = Decrease in value at the end of each year as compared with the cost/Book Value at the beginning.	Small items like Loose tools, livestock, sacks, bottles, etc.	Assets are valued at their market values.
8. Depletion Method.	May vary. Annual depreciation = Annual output x Rate of Depreciation per unit of output $= \frac{\text{Cost of Assets}}{\text{Total Quantity to be extracted over its useful life}}$	Natural resources like mines, quarries, oil wells, standpits and similar assets of wasting character.	Depreciation of a particular year is charged on the basis of the output of that year.

Considering the nature of the asset alongwith some other factors, a business man is to select a particular method of charging depreciation so that the amount charged to a particular period should be in proportion to the estimated benefits provided in that period. It is worth mentioning that method of charging depreciation on a particular asset should be consistent over time. Different methods may be applied for different group of assets but same method should be applied for a particular asset in successive years.

Accounting Treatment

Each method requires a separate accounting treatment. However, current year's depreciation amount in each of the methods is charged to Profit & Loss Account. This amount is sometimes directly credited to the concerned asset account or a separate Provision for Depreciation Account is created. In the former case, the book value of the asset is reduced period by period. Asset Account appears in the Balance Sheet at written -down value. In the latter case, Asset Account is maintained at original cost in the assets side of Balance Sheet and a Provision for Depreciation Account,

created and built up with the accumulation of annual depreciation, is shown in the liabilities side of the Balance Sheet. Here original cost of the asset and up-to-date amount of depreciation can easily be ascertained from the Balance Sheet which is not possible in former case. So from the view point of Doctrine of Disclosure, the second alternative gives better picture than the first one.

Accounting for depreciation, though a coverage in Financial Accounting, it influences, to a great extent, different aspects of decision making in financial management such as profitability, working capital determination, dividend declaration, tax payment, performance evaluation, investment appraisal, replacements, etc. The leading role played by depreciation on the above areas of decision making are discussed below .

Impact of Depreciation on Profit and Profitability

The net profit earned by a business is determined after charging operating cost against revenue of the period. Depreciation is the significant part of operating cost of the business. As operating costs are significant for making business decisions, management has to take into account the impact of depreciation charged against revenue of the business. In fact, the choice of method of depreciation has a definite impact on the profit. There are different methods of charging depreciation. The amount of depreciation, however, varies from one method to another which, in turn, affects the amount of profit. If higher amount of depreciation is charged, the profit will get reduced and vice-versa. The quantum of depreciation depends upon the choice of a particular method . Even within the same method, used for calculating the amount of depreciation, varying result may crop in due to the factors like imposing a higher rate of depreciation, estimating a lesser period of useful life, lowering the estimated scrap value, etc.

For many reasons businessman may want to conceal the actual amount of net profit. In that case he may choose such a method that will increase the quantum of depreciation and consequently reduce the volume of profit. Many policy decisions like payment of dividend to the share holders, payment of income tax, managerial remuneration, bonus payable to workers, etc. are based on the availability of profit and all these decisions are affected by overcharging depreciation and thus manipulating profit. Again management sometimes may prefer to overstate the financial position by undercharging depreciation and thus increasing the volume of profit to stand the business in competitive market, to attract the prospective investors, efficient workers and money lenders. Thus we see that depreciation is such an important factor which can directly influence the quantum of profit and hence affects all the managerial decisions based on profitability.

Impact of Depreciation on Fund Flow Statement

Any kind of cost involves outflow of cash. Although depreciation is an operating cost and accordingly charged to the debit side of Profit & Loss Account, there is no actual outflow of cash. Hence amount of depreciation charged during the year is added back to profits in order to find out funds from operations. But an important question pertaining this issue is whether depreciation is a source of fund or not.

Depreciation, whether a source or not, is a controversial issue and there are different opinions on this point. Some recognise it as a source, while others do not. Without going through any debate what I think is that depreciation at least does not amount to a direct source of trading fund, rather it is the recovery of fund invested earlier. Like raw material, labour and overhead expenses, depreciation is included in operating cost and is debited to the Profit & Loss Account to find out actual profit or loss. But unlike those expenses it does not entail release of cash, whereas along with material, wages and other expenses depreciation is recovered through proceeds from sale of goods. So there is a saving in cash outflow remaining in the firm equivalent to the amount of depreciation charged during the period under consideration which may either be regarded as a source of fund or recovery of fund invested at the time of purchasing the concerned fixed asset. Generally, a source of fund represents one which is earned from an external source, e.g., issue of shares and debentures, sale of fixed assets, investments and stock-in-trade, taking long term loan, etc. The accounting for depreciation is an internal transaction having no outside connection. It is simply a book entry reducing the profit for the current year and the book value of the concerned asset or creating a provision for depreciation for the same amount. So depreciation is not a direct source of fund. But as already explained earlier, when a fixed asset is purchased, a lumpsum amount is spent and by charging depreciation over the estimated useful life of the asset, such amount is recovered in piecemeal. The sense implies that purchase of fixed asset is the prepayment of several years' depreciation at a time and the accounting for depreciation is the recovery of such amount, not from outside source but from internal source by setting aside profit for the purpose. Thus to conclude, it can be said that in no circumstances depreciation can be called as an extra source of fund which solves financial problem. Only it can influence the periodic income which sometimes may affect managerial decisions.

Another important point may throw light on the issue that under certain circumstances depreciation may be regarded as indirect source of fund. In case of a prospective concern earning sufficient profit, the amount of depreciation charged to the Profit & Loss Account affects saving in the payment of tax as well as dividend and indirectly generates funds through

normal trading operations. But if a concern is suffering from losses, the amount of depreciation charged to the Profit & Loss Account will neither effect tax liability nor payment of dividend as there is no profit and in such cases, depreciation does not help in generating fund and as such it should not be considered as a source.

Had the asset been hired, there would be an outflow of funds on account of hire charges, but if the asset is owned, this amount is saved. This saving in hire charge is another context of depreciation and hence may be treated as a notional source of fund.

Impact of Depreciation on Working Capital

Generally, each element of costs affects working capital either by reducing current asset (cash) or by creating current liability (expenses payable). But a classic example of cost which does not affect working capital is depreciation. Unlike other expenses depreciation reduces non-current assets (like Plant & Machinery etc.) . It has another contrary also. Depreciation is a non-cash expense charged against revenue which results into saving in cash. Again under certain circumstances, depreciation may help in generating fund as argued in earlier paragraph of the article. This 'cash saving' or 'generated fund' remains with the business in the form of cash or is invested in any asset. But whether this investment is made in fixed assets or in current assets that can not be separately demarcated. Generally fixed assets are financed by long term sources like issue of shares and debentures, taking long-term loan, etc. but we can say that fund created by the amount of depreciation as 'cash saving' or 'generated fund' simply enhances working capital temporarily.

If Sinking Fund method of depreciation is followed, the amount of depreciation is invested in readily marketable securities and when the life of the asset expires, these securities are sold to replace the old one. Similarly in Insurance Policy method of depreciation, an insurance policy is taken paying annual premium equivalent to the amount of annual depreciation and the maturity value received from the insurance company is used to replace the old asset. Thus in these two methods, obviously depreciation has no impact on working capital.

Impact of Depreciation on Dividend Payment and Tax Liability

In case of a company, depreciation has a bearing on payment of dividend. Shareholders would invest money with the expectation of getting higher amount of dividend. The company may inflate the Profit by under-charging depreciation to attract the potential investors. Again it may, in certain circumstances, conceal the actual profit to pay lesser amount of dividend to the shareholders. Since depreciation is charged against revenue,

distributable profit is likewise reduced and as the amount available for distribution of dividend is reduced, the amount of dividend payable to the shareholders get reduced proportionately.

Generally, depreciation reduces the current taxable income and so, if more amount of depreciation is charged it will result into lesser amount of tax payment and on the other hand, higher amount of tax payment is the result of lower amount of depreciation charges. However, to find out taxable income of a 'person' specific provisions are to be followed under the Income Tax Act, 1961 as regards the quantum of depreciation to be calculated and charged against revenue. There is also certain provision under the Act, regarding carry forward and setting off of unabsorbed amount of depreciation under certain circumstances.

Impact of Depreciation on Inter-firm Comparison

Inter-firm comparison refers to the comparison of results of one firm with those of the other firms engaged in similar type of business with a view to measure the improvement of efficiencies. Inter-firm comparison is mainly based on Accounting Ratios. Profitability ratios, Turnover ratios and Liquidity ratios are the key ratios used for inter-firm comparison and of great importance in taking many policy decisions. But all these ratios are largely affected by the variation in depreciation policy adopted by different firms. It has been seen earlier that profitability position is directly influenced by the amount of depreciation and so are the profitability ratios. Return on Investment is one of the most important measure of overall performance of a firm. Depreciation policy affects Return and Investment as well. Two firms engaged in same type of business, having same amount of investment and same earning capacity may differ in performance due to the adoption of different depreciation policy. Firm charging lower amount available for distribution of dividend is reduced, the amount of depreciation may appear to be healthier than the other, though real fact may not be so.

Despite uniform depreciation policy being followed by different firms in an industry, amount of depreciation may vary and influence the concerned areas because of the different proportion of investment in fixed assets in different firms.

Depreciation is included in operating cost and constitute a part of cost of sale. Hence it affects operating ratio and all the turnover ratios (i.e. Stock turnover ratio, Debtors turnover ratio, Capital turnover ratio, Turnover to total assets, Turnover to fixed assets, etc.) In inter-firm comparison, liquidity ratios are also affected by the depreciation policy. Total liquidity depends on liquid resources. As depreciation is a non-cash item having no impact on cash outflow, hence if a firm charges more amount of

depreciation, its liquid resource will increase and hence it will affect liquidity decisions, liquid resources. As depreciation is a non-cash item having no impact on cash outflow, hence if a firm charges more amount of depreciation, its liquid resource will get rise and thus affects liquidity decisions.

Thus we see that depreciation policy has great impact on accounting ratios and inter-firm comparison through ratio analysis itself will be misleading and the purpose for which such comparison is made will not be fulfilled. Uniform depreciation policy like method to be adopted, rate to be charged on each class of assets, life of the assets, etc. followed by each firm, consistency in application can, however, minimise the problem to a certain extent to achieve the objective.

Impact of Depreciation on Capital Budgeting

A capital investment involves current cash outlay with the expectation of benefits measured in terms of cash flows to be realised in future. To evaluate the profitability of the projects, the investment proposals should be judged by Internal Rate of Return Method or Net Present Value Method or the like. Internal Rate of Return and Net Present Value are calculated on the basis of net cash flows (not net income) and so estimation of future cash flows from a project is one of the most important tasks in capital budgeting decision. The amount of depreciation to be charged on new project is significant in this respect as it affects the probable cash flows. Question may arise in this connection : should depreciation be included in cost and, therefore, be deducted from revenue to arrive at net cash flow ? Depreciation is an allocation of expired cost having no outflow of cash, rather it indirectly generates cash by way of tax saving and by some other measures as mentioned under different heads of the article in previous section. So the amount of depreciation is added back to the profit figure along with other items to arrive at net cash flow for the period. Thus depreciation does have an impact on capital investment decision. Expected earning per share and also of leverages to measure the risk and uncertainties associated with project investment are also influenced by the existence of depreciation.

Impact of Depreciation on Replacement Cost

One of the major objectives of charging depreciation is to collect sufficient funds for replacement of the asset at the end of its useful life. In the context of inflationary trend, prices are rising constantly. If depreciation is charged on historical cost, enough funds will not be provided to replace the old asset by a new one due to the substantial increase in the price of new asset. So it will be more logical to charge depreciation on

replacement cost instead of historical cost. But certain practical difficulties are associated in charging depreciation on replacement cost method. Income Tax authority does not allow depreciation on replacement cost. At the time of purchasing asset, replacement price in distant future can not be known. If depreciation is calculated on the arbitrary figures of replacement cost, it will contrast with the accounting concept of objective evidence. Not only that, depreciation on replacement cost will inflate cost of production, sales and stock valuation and deflate dividend payment, bonus negotiation etc. and thus true position will not be reflected. Hence depreciation should be charged on original cost, but a separate reserve account for the purpose should be maintained as an appropriation of profit or Sinking Fund Investment Method or Insurance Policy Method should be followed to take care of inflation.

Sometimes it is seen that an asset is capable of rendering effective service even after the expiry of normal life time and after recovery of its entire cost through the periodic debit to the profit and Loss Account. This is the result of overcharging depreciation due to the adoption of a higher rate of depreciation, wrong estimation of working life of the asset and efficient maintenance leading to greater useful life. Difficulty in replacement due to the non-availability of existing asset may again result into continuous use of the asset even after the expiry of effective working life. In such case, depreciation should be charged to cost of production as the asset is rendering service in production. In financial account depreciation on life expired asset may be ignored but in cost account, if it is not considered cost of production will not give a fair picture. Besides, a fresh assessment of the second service life should be considered.

Conclusion

Thus we see that financial decisions are mostly dominated and influenced by depreciation. Decision making is the most important factor in today's competitive and dynamic business world. Decision making is rightly said to be the life blood of a business. Depreciation has a leading part to play in the decision making process. So the management should adopt a suitable depreciation policy with a view to ascertain true cost of production, correct profit and loss, derive maximum tax benefit and generate sufficient funds for replacement of the asset after its useful life. Selection of an appropriate method of charging depreciation and periodic review of the position will, however, demand for successful and effective decision making in many fold aspects.

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AN APPLICATION OF LP IN CAPITAL RATIONING

Sibaram Chatterjee*
Minu Pal*

What is Capital rationing ?

Capital rationing refers to the choice of investment proposals when there is a budget ceiling, or constraint on the amount of funds that can be invested during a specific period of time, such as a year.

With capital rationing constraint, the firm attempts to select the combination of investment proposals that will provide the projects the greatest profitability, because every rational investor tries for effective utilisation of capital or fund.

Causes behind capital rationing :

Capital rationing may arise due to market conditions or may be entirely self-imposed.

External - Temporary imperfection of the capital market leading to dearth of capital, deficiencies in market information, difference between borrowing and lending rate, etc.

Internal - The unwillingness of the share holders and the board of directors to raise further funds through issue of equity shares, because of fear of ownership, the fear psychosis of the board of directors from the imaginary inability towards payment of interest on loan, a natural tendency against the extension of any business, etc.

Various situations of capital rationing :

On the basis of divisibility, projects are of two types :

(i) Indivisible (ii) Divisible

On the basis of period of investments, projects may be of two types:

(i) Single-period investment (ii) Multi-Period investment .

On the basis of the above two dimensions of divisibility and period of investments, capital rationing may be of the following types :

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- 1) Capital rationing, when the projects are indivisible and investment is single-period,
- 2) Capital rationing, when the projects are divisible and investment is single-period,
- 3) Capital rationing, when the projects are divisible and investment is multi-period,
- 4) Capital rationing, when the projects are indivisible and investment is multi-period.

Introduction of linear programming in solution of capital rationing problem :

Linear programming can be used to allocate capital under certain conditions of capital rationing.

What is Linear Programming (LP)?

Linear programming is the analysis of problems in which a linear function of a number of variables is to be maximised (or minimised) when those variables are subject to a number of restraints in the form of linear inequalities.

Terminology of LP :

- i) Decision variables : are those variables whose solutions are worked out.
- ii) Objective Function : the function which gives us fulfillment of the objectives through the values of decision variable is known as objective function.
- iii) Constraints : the subjective functions under which the objective function is optimised. Limitation of resources.
- iv) Non-negativity : the business or economic variables cannot be negative.

General formulation LP problem :

$$\text{Optimise (maximise or minimise) } Z = \sum_{j=1}^n c_j x_j \text{ (Objective function)}$$

$$\text{Subject to, } \sum_{j=1}^n a_{ij} x_j (<, =, >) b_i, i = 1, 2, \dots, n \text{ (Constraints)}$$

$$\text{and } x_j \geq 0, j = 1, 2, \dots, n \text{ (Non-negativity restrictions)}$$

Application of LP in Case No. (3) of Capital Rationing :

i) **Graphical method** - can be used capital rationing when the projects are divisible and investment is multi-period. The graphical method can be used only when two projects exist.

Example : A Company is considering to invest in two projects, A&B. Project A requires investment of Rs. 10,000 in the first year

and Rs. 20,000 in the second year. Project B requires Rs. 5,000 investment in the first year and Rs. 15,000 in the second year. The NPVs of each project are Rs. 30,000 and Rs. 20,000 for project A and Project B respectively. Funds available in the first year is Rs. 10,000 and in the second year is Rs. 25,000.

Solution :

Let the total investment be made in 'm' part of Project A and 'n' part of Project B.

Let total NPV be Rs. Z.

Step 1 : Formulation of LP Problem

Maximise, $Z = 30,000m + 20,000n$
 Subject to,
 $10,000m + 5,000n \leq 10,000$
 $20,000m + 15,000n \leq 25,000$
 $m \geq 0, n \geq 0$

Step 2 : Construction of the Graph

The inequalities are graphed taking them as equalities :

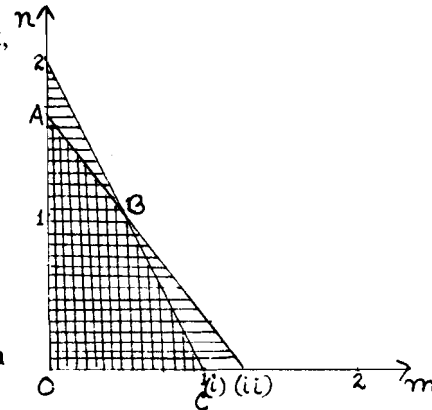
$10,000 m + 5,000 n = 10,000$ -----(i)

$20,000 m + 15,000 n = 25,000$ -----(ii)

Since the functions to be graphed are Linear, we need to plot only two points per constraint,

For (i) For (ii)

m	0	1		m	0	5/4
n	2	0		n	5/3	0



Step 3 : Identification of the feasible region

The feasible region is the area of the graph which contains all pairs of values that satisfy, i.e., ABCOA.

Step 4 : Location of the corner points

The corners here are, A(0,5/3), B(2/2,1), C (1,0) and O (0,0)

Step 5 : Evaluation of the objective function at corner points

Corner point (m,n)	Objective function $Z = 30,00m + 20,00n$	Value
O = (0,0)	$30,000x0 + 20,000x0$	$Z(O) = 0$
A = (0,5/3)	$30,000x0 + 20,000x5/3$	$Z(A) = 33,333$
B = (1/2,1)	$30,000x1/2+20,000x1$	$Z(B) = 35,000$
C = (1,0)	$30,000x1 + 20,000x0$	$Z(C) = 30,000$

Step 6 : Optimum Value of the objective function

Point B is the optimal point, since the optimum value of 'Z' is the highest in it. So we shall take 1/2 (half) of Project A and full of Project B.

ii) **Simplex Method** - gives us the algebraic solution of the LP Problem. Here we can have two or more than two variables.

Example : The same example given under Graphical method is used.

Solution : Let the total investment be made in 'm' part of Project A and 'n' part of Project B. Let total NPV be Rs.Z.

Step 1 : Formulation of LP Problem

$$\begin{aligned} &\text{Maximize } Z = 30,000 m + 20,000 n \\ &\text{Subject to, } \quad 10,000m + 5,000n \leq 10,000 \\ &\quad \quad \quad 20,000m + 15,000n \leq 25,000 \\ &\quad \quad \quad m \geq 0, n \geq 0 \end{aligned}$$

Step 2 : Conversion of the Constraints to equations

For converting constraints to equations we need to add a 'slack variable(s)' to each constraint. Slack Variables are added to 'less than equal to' type of constraints.

$$\begin{aligned} \text{So, } &10,000m + 5,000n + s_1 = 10,000 \\ &20,000m + 15,000n + s_2 = 25,000 \\ &m > 0, n > 0, s_1 > 0, s_2 > 0 \end{aligned}$$

Now, the objective function is,

$$\text{Max } Z = 30,000m + 20,000 n + 0.S_1 + 0.S_2$$

Step 3 : Formulation of the Simplex Tableau :

ITERATION : 1

c_j	Basic Variable	Solution Value	30,000	20,000	0	0	Replacement Ratio
			m	n	S_1	S_2	
0	S_1	10,000	10,000*	5,000	1	0	$10,000/10,000 = 1$ Key Row
0	S_2	25,000	20,000	15,000	0	1	$25,000/20,000 = 1.25$
	Z_j	$0.10,000 + 0.25,000 = 0$	0	0	0	0	
	$C_j - Z_j$	-----	30,000	20,000	0	0	

↑
Key Column

ITERATION : 2 (s_1 left, m entered)

c_j	Basic Variable	Solution Value	30,000	20,000	0	0	Replacement Ratio
			m	n	S_1	S_2	
30,000	m	1	1	1/2	1/10,000	0	$1/1/2=2$ Key Row
0	S_2	5,000	0	5,000*	-2	1	$5,000/5,000 = 1$
	Z_j	30,000	30,000	15,000	3	0	
	$C_j - Z_j$	-----	0	5,000	-3	0	

* Key Element

↑
Key Column

Rule regarding transformation of the elements of the Key Row :

All the odd elements of the Key Row are to be divided by the Key Element.

Rule regarding transformation of the elements of the non-Key Row :

$$\text{New Element} = \text{Old Element} - \frac{\begin{matrix} \text{(Corresponding} \\ \text{element in the} \\ \text{Key Row)} \end{matrix} \times \begin{matrix} \text{(Corresponding} \\ \text{element in the} \\ \text{Key Column)} \end{matrix}}{\text{Key element}}$$

ITERATION : 2 (s₂ left, m entered)

c _j	Basic Variable	Solution Value	30,000	20,000	0	0	Replacement Ratio
			m	n	S ₁	S ₂	
30,000	m	1/2	1	0	3/10,000	1/10,000	
20,000	n	1	0	1	-2/5,000	1/5,000	
	Z _j	35,000	30,000	20,000	1	1	
	C _j -Z _j	—	0	0	-1	-1	

Since all the elements in the 'C_j-Z_j' row of the above table are either zero or negative. This indicates the sign of arriving at optimum solution. Therefore, half of Project A and full of Project B are to be accepted and the maximum NPV can be Rs. 35,000.

Application of LP in Case No. (4) of Capital Rationing :

Integer Programming Method :

This method can be applied in capital rationing, when the projects are indivisible and investment is multi-period . As the method is beyond the scope of the authors, this has not been discussed.

INFERENCE :

From the above discussion, we can find the wide application of LP Problem not only in solving day to day quantitative problems but also in specific area of financial management i.e. on capital rationing. The capital projects, which require multi-period investments can be chosen under the condition of capital rationing by application of Linear Programming technique.

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DEPARTMENTAL SEMINAR REPORT

The Department of Commerce with Farm Management, Vidyasagar University, organised a one-day seminar on 21st March '98. The seminar was divided in two technical sessions dealing with two very important current topics having much relevance to the prevailing global business situation. A glimpse of the business sessions of the seminar may be had from the Rapporteurs' Reports presented below.

RAPPORTEUR'S REPORT OF THE FIRST TECHNICAL SESSION

Arindam Gupta *

This session on "International Financial Management with special reference to India" was chaired by Prof. I.K. Chatterjee, Retired Professor, Dept. of Commerce, Kalyani University, W.B. and the key-note speaker was none other than prof. Bhabatosh Banerjee, Professor, Dept. of Commerce, Calcutta University, W.B.

The session started with the introductory remarks by the Chairman who introduced the theme and highlighted the necessity of discussion on such topic in the present context of liberalised economy. In his paper, entitled "International Financial Management - Some Glimpses", Dr. Banerjee made a very simplified analysis in his own famous style of the main issue, which is really not so simple. He started with the discussion of traditional financial management functions of financing, investment and dividend decisions and also pointed out the mutual linkages. Then he discussed the environmental changes including global and regional alliances, FDI, globalisation of competition, technological change, development of information technology, deregulation and integration of financial markets, emergence of service industries and growing trend of privatisation. Shift in the role of national governments, volatility of exchange rates and integration of financial management into overall strategic and operating management decisions. At the end of his presentation, he also enlightened the august audience about the economic variables and socio-political variables influencing the value of the currency.

This is followed by presentation of papers by Dr. K.C. Paul, Reader & Head, Dept. of Commerce with Farm Management, Vidyasagar Univer-

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sity and by Shri Samir Ghosh, Lecturer of the same department and institution. Dr. Paul discussed on the tax "implications of international finance." He stated the situations of the MNCs becoming the victims of double taxation due to existence of financial levies in various forms in any two countries of their business. On the other hand, the opportunity to siphon the profit away from the high-tax countries to the low-tax countries was also discussed by him. At the end, he also cautioned the listeners about the illegal ways of under-invoicing and over-invoicing of the MNCs in a well-knit network of transfer pricing mechanism.

Shri Ghosh's topic for presentation was "international financial flows with special reference to India." He enlightened the audience about the comparatively greater amount of FDI inflows in the developing countries than that in the developed countries during the post-liberalisation period. He also stated the measures taken by the Govt. of India to invite foreign capital in the absence of sufficient domestic capital. He expressed the need of managing FDI in a most effective and efficient way so that the benefits must go down to the ordinary people at the grass root level.

A healthy discussion followed in which Shri A. K. Chattopadhyay, Shri S. Ghosh, Shri A. Gupta, the speakers and also the Chairman participated.

**RAPPORTEUR'S REPORT OF THE
SECOND TECHNICAL SESSION
ON
"RECENT TRENDS IN INDIAN CAPITAL MARKET"**

Arup Chattopadhyay*

This technical session was chaired by Professor I.K. Chatterjee and the Keynote paper was presented by Professor Amit Mallik of Burdwan University. Mr Arindam Gupta of Burdwan University submitted another paper in this session.

In his keynote address Prof. Amit Mallik provided an extremely precise survey of the directions and movements, along with the general expectations, of the Indian capital market during the post liberalization period, from 1991-92 to 1997-98, and also gave his opinion about the future prospects of this market. He indicated that the artificial boom in Indian stock market in the beginning of 1992 was erroneously interpreted by the then Government as the success story of its adopted new economic policies. But its early crash as well as the startling disclosure of securities scandal exposed the weaknesses in Indian stock market and also the hallowness of the Government's claim. Prof.Mallik then vividly described the reform measures which had been initiated and followed up in post 1992 period to regulate and strengthen Indian capital market and also to bring transparency in its dealings. Some of these measures were as follows. Repealing the earlier Acts and enacting some new Laws, wide ranging powers over the entire spectrum of capital market (such as regulation of mutual funds and market intermediaries, registration of FIIs, introduction of stock invest, enhancement of efficiency and transparency, etc.) had been entrusted to SEBI. A lot of investor protection guidelines (such as vetting of prospectus and letter of offer, disclosure of risk factors in prospectus / offer document, compulsory credit rating in case of fixed deposit, redressal of investors' complaints etc.) had been framed and implemented. Investment norms for NRIs and overseas corporate bodies had been liberalised. A core group for inter-exchange market overseeing had been set up for co-ordinating action in case of abnormal volatility. Over the Counter Exchange of India and NSE commenced operations with nation wide stock trading and electronic display. Depositories Act was passed and SEBI Regulations were modified to minimise the problem of handling of securities and to record

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ownership detail in a book entry forum.

With these capital market reforms and regulations, Prof. Mallik mentioned: a common expectation was that the market would move along the right path allowing the industry access to capital resource and offering investors opportunities to choose the type of instruments suiting their risk-return preferences. From the market movements it was observed that though Indian stocks finished 1996 with marginal losses, since then upto October 1997 BSE sensex gained 40 percent. Domestic institutional buying and FII inflow increased significantly. The Fall out of currency crisis in some of the Asian countries did not reach our market prominently.

From his vast experience in this field (apart from his own contributions, nearly half a dozen of his scholars completed their Ph.D. works in this area and also citing various evidences, Prof Mallik commented that these did not reflect the in-built strength of Indian capital market. Series of Central Bank measures (namely, reduction in cash reserve requirement, lowering of interest rates, augmenting supply of foreign currency, etc.) really acted as boosters. The strength of our macro economic fundamentals (like growth of GDP, reduction in inflation rate, etc.) which were supposed to act as safeguard against the external shocks (e.g. economic debacle of the 'Asian -Tigers'), had been developed more by the occurrence of consistently good rainfall than others. He gave caution that capital account convertibility and excessive dependence on external debt might lead to disastrous consequences for our economy; one should not forget the 'capital flight' episode of Mexico. To strengthen Indian capital market he prescribed the revival of common investors' confidence through stringent measures for corporate offenders and unscrupulous promoters, the steady growth of industrial and other real sectors through appropriate policy measures and the increased inflow of household savings through well developed mutual fund route.

Mr Arindam Gupta presented his paper on 'Innovative Financial Instruments And Credit Rating'. After explaining the nature and types of financial instrument Mr. Gupta pointed out the necessity of the emergence of innovative financial instruments for a growing and diversified capital market. From an in-depth study on the new financial instruments prevalent in the Indian capital market he indicated the existence of as many as eleven such instruments, like 'Secured Premium Notes with Detachable Warrants', 'Non-convertible Debentures with Detachable Equity Warrants', 'Zero Interest Fully Convertible Debentures', 'Partly Convertible Debentures', 'Equity Shares with Detachable Warrants', 'Global Depository Receipts', 'Foreign Currency Convertible Bonds', etc. Analysing the trend of their performances Mr. Gupta mentioned that these innovative instruments were still

in experimental form and equity and equity-related instruments were dominating the Indian capital market scenario.

In the second part of his paper the contributor examined the importance of credit rating for the innovative debt instruments in a deregulated economy. In India, he pointed out, credit rating was mandatory in most cases. There were different credit rating agencies, like CRISIL, ICRA, CARE, etc. which were promoted to publish the credit rating as a measure of 'the ability and willingness of the companies to meet the financial obligations on the debt instruments' by using their different specific credit rating symbols. Credit ratings were being calculated on the basis of financial as well as overall business analyses. Mr. Gupta asserted that credit ratings were gaining good acceptability among the various investors in India, along with the introduction of innovative financial instruments. He argued that this was the healthy trend coming forward in the Indian capital market.

While participating in the discussion Dr. K.C. Paul of Vidyasagar University pointed out that for the same company different agencies frequently gave different credit ratings and therefore, put question on the reliability of the ratings of the credit rating agencies in India. Mr Arun Banik of Subarnarekha Mahavidyalaya reminded the contributor about the issuance of some new types of bond by the emerging plantation farms in India.

At the end Prof. I.K. Chatterjee, Chairman of this session, commented that the quality of discussion was high and deliberations were lively.

Before closure of the day's programme, Dr. K.C. Paul, Head, Department of Commerce with Farm Management, Vidyasagar University, proposed a hearty vote of thanks on behalf of the Organising Committee.

