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* As will be evident, this paper rests heavily on my 1958-59 experience as Economic Consult ant to the National Council of Applied Economic Research (NCAER), New Delhi, India. While with NCAER I directed--in collaboration with Mr. I.R. K. Sarma--the Delhi Saving Survey. My debts are great to Mr. Sarma, my chief collaborator; Dr. P. S. Lokanathan, Director-General of NCAER who wholeheartedly supported the project; and Dr. H. F. Lydall of Oxford University Institute of Statistics who induced me to go to India in the first place.

Any criticisms of persons or organisations are made in an impersonal, constructive spirit.

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Introduction

My comparative advantage with respect to this subject arises from a year spent in India, where I directed a saving survey. The particular survey, called the Delhi Saving Survey, was a pilot survey designed to ascertain by personal interviews the net worth, income, saving and other relevant financial data of households in Old and New Delhi. Whether my comparative advantage is substantive or only apparent, you will be able to judge only <u>after</u> exposure to this paper. Therefore I use this lever to obtain your attention.

One can only talk about what one knows. I know the problems of surveys in Delhi well, those of all urban India less well, and those of other underdeveloped countries almost not at all. You should be forewarned as to the relatively narrow base of experience on which this paper is based. However, knowledge is relative and this is my defense. Furthermore, in discussions with economists, survey research specialists, sociologists, and anthropologists, I gain the impression that the problems faced in the conduct of

1/The first results of the Delhi Saving Survey, as well as estimates of aggregate saving for India, were presented by Dr. P.S. Lokanathan at the December, 1959 Meetings of the American Statistical Association in a paper entitled, "A Study of Saving in India."

A comprehensive report on the Delhi Saving Survey is reported to be in press. sample surveys are similar in many underdeveloped countries.

This paper has two parts. Part I analyzes potential sources of response and nonresponse errors in Indian economic surveys and discusses techniques developed to minimize such errors.

Part II focuses specifically on the Delhi Saving Survey and presents evidence on the degree of success achieved in minimizing response and nonresponse errors in this survey.

PART I

Response Errors: Source and Techniques to Minimize Them

Any discrepancy between the answer written down in the questionnaire and the true value for that item constitutes a response error. Given a perfect question, perfect cooperation on the part of the respondent, accessibility to the required information on the part of the respondent, and perfect communication between the respondent and the interviewer, we would have zero response errors: the reported value would exactly equal the true value. Nonresponse, by which we mean failure to provide any information at all on a particular item, may be viewed as a particular, extreme case of response error.

Classification precedes analysis and therapy. In the case of response errors, a set of classifications developed by John B. Lansing has proved particularly useful. Lansing distinguishes three sources of response errors:

- 1. <u>Motivational Factors</u>. The respondent may not wish to give to the interviewer the correct answer to the question. He may be indifferent as to whether he conveys the correct information. He may even wish to conceal or to distort the facts.
- 2. Failure of Communication. The respondent may not understand what information is required of him. Or, ever if the respondent understands and tries to communicate the correct information, the interviewer may not understand and record correctly what the respondent is trying to tell him.

1/ Classifications and their description are quoted directly from a draft memorandum by Lansing. Cf. John B. Lansing, "An Analysis of Response Errors in Economic Surveys," (Ann Arbor Survey Research Center, 1959, mimeographed), pp. 12-13. 3. <u>Inaccessibility of the Information to</u> <u>the Respondent</u>. The information may be available to him only with varying degrees of difficulty. The respondent, may recall the information easily and accurately, but not all the desired information is likely to be so accessible to him. There will be psychological forces at work which will influence the rate at which different items are forgotten and may lead to distortions in what is remembered. Resort to financial records may be difficult: they may be lost, they may be poorly organized or incomplete, and they may be physically remote.

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Analyzing the record of American economic surveys, Lansing—in a paper being given at these Meetings--concludes that response errors in American surveys are attributable primarily to motivational factors. \bot The analysis of Indian economic surveys which follows suggest that response errors in Indian economic surveys are attributable more frequently to failures in communication. If true, this is a relatively happy situation because these are often the easiest failures to correct.

The discussion which follows records the experience of the Delhi Saving Survey (DSS). In the planning of this survey, our strategy was to employ the best of American survey techniques. If these proved unsuccessful, an alternative approach would have been attempted, stressing qualitative rather than quantitative data. This second step proved unnecessary. Thus, the techniques actually employed follow rather closely those developed in the American Surveys of Consumer Finances.

Inevitably one asks: How widely applicable are "lessons" gleaned from a survey conducted in Delhi? Certainly they have no applicability at all to village India, a feudal, partially monetized economic society with built-in defenses against outsiders: most observers agree that new and different techniques will be required to obtain good-quality data from villages. Though villages account for 80 percent of the population, urban areas account for 55 percent of aggregate saving (if the Reserve Bank estimates are acdepted). In the large urban areas - Calcutta, Bombay, Madras, and Hyderabad-Segunderabad - the lessons of Delhi should have utility. Their applicability

(Urbana: Bureau of Economic and Business Research, 1959). to smaller cities will be tested when the NCAER completes its National Urban Survey of Saving, now in the planning stage.

Motivational Factors.

Essentially, the objective of any interview motivationally is to get the respondent to accept as his own the objectives of the interviewer (and thus, indirectly, the objectives of the directors of the study). When successful, the respondent optimally will want to give full and accurate information concerning his income, assets, purchases, savings, financial plans, and attitudes. The theory of interviewing has been set forth fully by Kahn and Cannell in their recent volume. 1/ Here we shall sketch only the basic ideas.

In selecting and in training interviewers and in designing the questionnaire and other aspects of the study, our objective was to create and support certain positive psychological forces and to allay or eliminate certain negative psychological forces. Enumerated below are these positive and negative psychological forces. In each case simple statements describe first the relevant theory and then its operational implementation:

- 1. Theory: Respondents will accept the goals of a study on the basis of a "temporary friendship" with the interviewer. Several actions were taken to facilitate the establishment of such friendships. Implementation: (a) Attractive, intelligent, "friendly interviewers were hired. Reflecting the relative underemployment of university graduates, all interviewers held M.A.'s (equivalent to an American Bachelor's degree); (b) These inter-viewers represented all major "com-munities" (Hindus, Sikhs, all regions of the country). Insofar as possible, likes were sent to interview likes-that is, Sikhs to interview Sikhs, etc.; (c) The initial questions in the questionnaire dwelt with the financial problems of the sample family and were designed to indicate the interviewer's interest in the particular family he or she was interviewing.
- Theory: Feople like to feel important by making people feel important, they will be willing to disclose the required information. Implementation:

 (a) Interviewers emphasized the "honor" of being selected in the sample;
 (b) Numerous opinion questions were inserted in the questionnaire. The interviewer stressed the

1/ Robert L. Kahn and Charles F. Cannell, The Dynamics of Interviewing (New York: Wiley, 1957).

^{1/} John B. Lansing, "Studies of Validity in Reporting Financial Data."

^{2/} The results of methodological explorations in the collection of saving data sponsored by the Inter-University Committee on Consumer Behavior were not yet available. A report of one of these was published last year: Robert Ferber, <u>Collecting Financial Data by</u> <u>Consumer Panel Techniques. A Filot Study</u>.

importance of these questions.

- 3. Theory: Respondents are concerned with their own economic self-interest; they may feel that an awareness of the economic situation of their particular group resulting from a survey report will affect government economic policy and hence their personal economic wellbeing. Implementation: Interviewers told respondents that--though this survey was not government-sponsored--the results would be reported to the government and would probably be taken into account in government planning.
- L. Theory: On an altruistic basis, respondents will wish to take actions to help their government, party, or community. Implementation: Interviewers made various appeals to respondents such as: "This survey will help the government in drawing up the Five-Year Flans." "This is the first saving survey to be conducted in an Asiatic country." 1/
- 5. Theory: People like to be entertained; if the entertainment value of an interview is sufficient, they will be willing to provide information not directly entertaining to themselves. Implementation: (a) Questinns of opinion (thought to be more "entertaining") and fact were alternated in the question sequence; (b) intrinsic interest in question content themselves afforded considerable entertainment value.

Negative psychological forces were treated in an analogous manner:

Theory: Respondents may fear that in 1. disclosing financial information to interviewers they place themselves in possible financial jeopardy through (1) theft, (2) "adverse" use of data by tax or other governmental authorities, or (3) by swindlers. Operational Counteraction: (a) All interviewers carried evidence of the authenticity and reputability of the sponsoring organization and themselves. For example, each interviewer carried (1) an identity card with his pictume, and a statement both in English and Hindi telling of the organization and its purposes; (2) a newspaper clipping telling of the Delhi Saving Survey; (3) a "brochure" of the National Council of Applied Economic Research, impressively printed on

1/This is not quite true. A Ceylon Survey of Consumer Finances" was undertaken in 1952-5; however, the data on saving thus obtained were judged "unreliable." Cf. Margaret G. Reid, "Survey of Ceylon's Consumer Finances." <u>American</u> <u>Economic Review</u>, December, 1956, pp. 956-964. coated paper and containing full-page pictures of the nationally prominent persons constituting the governing board of NCAER; (l_i) a letter from the Director General of the National Council (a national figure in his own right) asking the cooperation of the respondent and assuring him of confidentiality; (5) in addition to attesting to the integrity of the organization and its representative, these documents were designed to convince the respondent of the importance of this particular survey.

2. Theory: The greater the number of activities in which the respondent is involved, and the greater the degree of involvement, the less willing he will be to devote time to a survey interview. Operational Counteraction: (a) As just mentioned, we hoped to convince the respondent that the survey was important; (b) fortunately, the busiest respondents were those who best understood the usefulness of economic research in general and particularly the appropriateness of a saving survey.

Obviously, the strength of these and other psychological forces--not discussed here--varied from one respondent to another. Our better interviewers--like good interviewers anywhere-successfully gauged the strength of the relevant forces and adopted his (her) appeal to them.

Favorable Motivational Factors in the Delhi Environment. Happily for the conduct of economic surveys there are a number of favorable motivational factors in the urban Indian environment just waiting to be exploited appropriately. In the first place, there is a strong Indian tradi-tion of hospitality. Very few of our interviewers were ever denied immediate access to a household. Thus, to anyone who has ever attempt-ed to take survey interviews in a large American city, New York for example, Delhi would be a strange but pleasant survey environment. In the second place, much financial data which is regarded as private information in Western society is regarded in India as "public" information. A question frequently asked of me early in an acquaintance was, "How much do you make?" Similarly, in an interview with a high official of the city of Delhi, his reaction after a very brief explanation of the purpose of the interview was: "Go ahead, I have nothing to hide."

The relative lack of competing entertainment in the Indian environment confers on a sample interview an entertainment value of considerable degree. Movies are relatively expensive; there is no television; radio ownership is considerably less frequent than television ownership in this country.

Indians tend to have a high regard for authority figures. This regard, coupled with the fact that there are fewer authority figures in India, gives a greater leverage value to particular authority figures, such as those on the Governing Board of the National Council of Applied Economic Research. Thus, among highincome respondents, particularly, it was not uncommon to have the respondent assent to an interview after learning who the members of the National Council's governing board were.

The spirit of nationalism still runs strong. Thus, a suggestion that this was the first saving survey to be undertaken in an Asiatic country evoked a positive response and positive cooperation on the part of many respondents.

Failure of Communication.

There are two issues here: (1) whether to use a questionnaire or schedule; (2) how to handle the problem of multiple languages.

The use of schedules rather than questionnaires has been traditional in Indian survey work. J Typically, the study director lists in a "schedule" the particular items he wishes to measure. Then the "investigator" records the required information on the schedule. The exact meaning of concepts and the treatment of problem cases is exhaustively specified in a manual which the investigator is to read and to master. These manuals often run to a thickness of an inch. They never specify the phrasing of the question to be asked.

Under two conditions factual information can be validly collected by use of the schedule: (1) when the subject matter under investigation is extremely simple; (2) when the interviewer is extremely articulate and has attained complete mastery of the concepts involved in the investigation. Certainly, economic surveys seeking to ascertain saving, income, and consumption

I/ The Rural Credit Survey, conducted by the Reserve Bank of India, represents a partial exception. Both schedules and pre-worded questions were employed. However, in the places where pre-worded questions were used, their phrasing tended to reflect more the requirements of the survey directors rather than the understanding of the village cultivators to whom they were addressed. Two examples:

- 1. "Have you in your possession as creditor under usufructuary mortgage any land?"
- 2. "If you have no insurance policies, is it because:
 - (1) of superstition?
 - (2) there are no local facilities?
 - (3) it is too complicated?
 - (4) there are difficulties in paying premia regularly?
 - (5) the money cannot be readily realized?

In many places, these questions were translated into local (perhaps more colloquial) languages, though in some places (Mysore, Kerala, Madras, Assam, parts of Andhra) this English version was used. Cf. Committee of Direction, <u>All-India</u> <u>Rural Credit Survey, Volume III</u> Bombay: Reserve Bank of India, 1956), Appendix, ff. 963. can scarcely be classified as simple. Further, for the operational conditions likely to be met in underdeveloped countries it is extremely doubtful that the second two requirements--verbal facility and mastery of concept--would be fully met on the part of many interviewers.

These considerations led us to adopt the use of a questionnaire in the Delhi Saving Survey. The use of questions specified in advance places the responsibility for the verbal specification of concepts squarely on the shoulders of the study director. Further, it insures that this verbal specification is uniform from one respondent to another: all respondents react to the same question (assuming that interviewers have been well drilled in the routine of reading question wording exactly as they appear in the questionnaire.) Fre-specification of questions releases the interviewer from the difficult problems of specifying questions on the spot and permits him to concentrate on the important problem of rapport-building, data-recording, and evaluation of consistency and completeness of information provided. These tasks are sufficient to keep him fully occupied.

The Indian people speak 14 major languages. The cost of translating and printing questionnaires in 14 different languages (as would be required in an all-India survey) is undoubtedly very great. Nonetheless, in an extension of the principles just developed above, it is surely the way of wisdom to make central translations and to require that interviewers utilize these standard translations. Our objective, of course, is to measure constant concepts, regardless of language or sub-culture. By utilizing one standard translation for each language, translating errors will be kept constant and minimal, if the job is carefully done and reviewed by a number of people.

In the Delhi Saving Survey the respondent could choose to reply to an English or Hindi questionnaire, whichever was easier. These two questionnaires provided access to the majority of the Delhi population inamuch as Hindi and Funjabi are orally identical, differing only in written script. Errors of translation were surely more frequent and less consistent in the few cases where it was necessary to take interviews with respondents who spoke neither Hindi, English, or Punjabi.

Accessibility of Information to the Respondent. In order for the respondent to be able to provide the interviewer with the desired information, this information must be accessible to the respondent himself. Fortunately, several factors work to increase accessibility in India as compared to Western countries. In the first place, the relatively lesser affluence of Indian families means that Indians are likely to have more perfect knowledge of what they posses. The bane of American economic surveys--that families have so many possessions that they cannot describe them all with accuracy--is met much less frequently in India.

In the second place, the structure of the Hindu undivided family facilitates accessibility. Operationally the identity of the head of the un-divided family is hardly ever in doubt. 1/ Further, the head is almost invariably conversant with the finances of each individual member of the household, even when that member maintains his finances separately. Thus financial interviews can be taken with one person whose knowledge of family finances is great.

As is well known, gold and silver jewelry constitute an important secondary financial reserve for Indian families, particularly women. To an outsider it was interesting that the monetary value of such assets, possessed by 75% of Delhi families, was known rather exactly, being given either in rupees (value) or in tolas (weight). That their value is known so well reflects their importance as financial reserves.

Memory errors are important in India, as in the U.S. As just noted, the relative nonaffluence of Indians minimizes this problem with respect to financial assets. Nonetheless, to further reduce errors from this source, interviewers were instructed to ask respondents to consult records wherever available. On the basis of a rough tabulation, perhaps 20% of respondents consulted one record or another; in addition, 30% of respondents were "very sure" that the figures given were accurate.

The estimation of saving may be affected greatly by memory errors, depending on the par-ticular approach employed. Though conceptually saving may be measured by either (1) calculating the difference between income and consumption expenditures, or (2) by obtaining the algebraic sum of changes in assets and liabilities, the income-minus-consumption approach gives rise to serious memory errors: income tends to be underestimated and consumption to be over-estimated. This was conclusively shown in the experience of the Bureau of Labor Statistics' Survey of Con-sumer Expenditures, 2 and in the family budget studies conducted by the Cambridge Department of Applied Economics in Cambridgeshire, England.

The income-minus-consumption approach has been employed in several, small scale financial surveys in India with unhappy results.

2/U.S. Bureau of Labor Statistics, "Survey of Consumers' Expenditure in 1950: Interpretation and Use of the Results," Monthly Labor Review, 1952, pp. 425-428.

3/ Dorothy Cole and J. E. G. Utting, "Es-timating Expenditure, Saving and Income from Household Budgets," University of Cambridge, Department of Applied Economics, Reprint Series No. 127, 1957.

In the Delhi Saving Survey, saving was obtained by measuring the net change in assets and liabilities. The memory bias problem dominated the decision to employ this approach, but its adoption was also influenced by the desire to gain better cooperation by minimising the length of the interview.

PART II

Evidence of Success

Having analysed sources of response errors in the urban Indian environment, it behooves us to provide evidence as to the correctness of the diagnosis and the efficacy of the prescribed cure. This is the task of this section.

Validation. How well did the Delhi Saving Sur-vey succeed in its stated objective, the measurement of saving? Ideally, to pass on validation of the saving data obtained, we should require for each household in the sample access to written records from which we could independently estimate the saving of that household. The comparison between this estimate of saving based on written records and the estimate secured through the Delhi Saving Survey questionnaire would give us an accurate measure of response errors arising from all of the major sources--motivational factors, failures of communication, inaccessibility of information to the respondent. Unhappily, this technique of validation cannot be used: The required written records are nonexistent and/or non-available to us.

Unfortunately, even the cruder test of comparing aggregate saving as measured by the survey with aggregate saving as measured by other methods is not practicable: No other estimates exist of aggregate saving of households in metropolitan Delhi. In this connection it is worth noting that, because of the extreme skewness of the distribution of saving, surveys constitute feeble and inappropriate means of obtaining aggregates. 2

The inclusion of the millionaire will increase our mean from \$5,000 as follows:

X = 1 (\$1,000,000) + 2,999 (\$5,000)= \$5,332 3,000

- This would increase the aggregate from: 57,000,000 (\$5,000)= \$285 billion
- to 57,000,000 (\$5,332)= \$304 billion (an increase of \$19 billion)

The chances of a millionaire falling in the sample are 1/19. Similar considerations apply to saving. A memorandum by Benjamin Tepping in 1953 first alerted a number of us to these possibilities.

^{1/} In planning the DSS, much effort was spent in developing criteria and questions which would identify the "head" of the household. The time was misspent: operationally, it was sufficient to ask household members who the head was. Disagreements on this point were rarely encountered.

^{1/} An arithmetic example will show why this is so. Assume: (1) It is wished to estimate aggregate income from a survey of 3,000 households, drawn from a population of 57,000,000 households; (2) That, of the 1,000 "income millionaires" in the population, one falls in our sample; (3) That the mean income of non-millionaire households in our sample is \$5,000.

Since direct validation is impossible, we must fall back upon other and less satisfactory indications of success. I have organized these under three headings: (1) Partial Measures of Validity, (2) Evidence of Willingness to Cooperate; (3) Evidence of Success in Motivating Respondents.

Partial Measures of Validity. For an accounting period, one can measure the sources and uses of funds of a household. Sources-where the money came from--include income earned, withdrawals from bank accounts, proceeds from the sale of assets, increases in debt, etc. Uses--where the money went--include rent paid, increases in bank accounts, decreases in debt, money loaned out, etc. In the Delhi Saving Survey sources were completely covered while many, but not all uses of funds were covered. Logically, in this situation, sources of funds must exceed uses of funds by a "reasonable" amount, this depending on such things as family size, income level, etc. For each interview in the survey this sourcesuses check calculation was made; the number of negative or "unreasonable" residuals was very small. In these few cases interviewers revisited the respondent, ascertained what was wrong, and corrected the interview. This test is asymmetrical; it screens over-estimates of saving. The Delhi Saving Survey passed this crude test with flying colors.

Interviewers' ratings of the accuracy of saving estimates (very good, good, middle position, poor, very poor) provided a second measure of partial validity. Subjectively, they presumably take account of such factors as record consultation, perceptions of such things as the accuracy of recall, deliberate efforts to conceal or distort, the internal consistency of all information given in the interview.

Since interviewers in this survey participated in the subsequent summarization of the data and since they were highly trained and closely supervised more than the usual confidence, in my judgment, can be placed in these ratings.

As Table I indicates, three-quarters of households gave saving estimates rated "very good" or "good" by interviewers. By contrast, only 7% were rated "poor" and less than 1% were rated "very poor." As among occupations, the self-employed businessmen contributed the largest proportion of middle position and poor ratings. This is not surprising in view of the intrinsic difficulty of estimating the "business saving" of these households. Table 2 classifies households by amount of saving and the interviewers! estimate of accuracy. The large, positive savers contributed the largest part of the middle position or "poor" ratings. Whether this is attributable to (1) large savers giving inaccurate estimates, or (2) large savers being mainly selfemployed businessmen and hence giving less accurate reports cannot be determined.

In all saving surveys until now aggregate change in liquid assets had tended to be underestimated, a negative number. This phenomenon, which has its explanation in the theory of recall, is not fully understood. Unlike these earlier surveys, the Delhi Saving Survey's estimate of this magnitude is positive. Though favorable to the Delhi Saving Survey, this constitutes weak evidence of validity for this component of saving.

Evidence of Willingness to Cooperate. As argued before, willingness to cooperate is a prerequisite to accurate saving reports. A survey's nonresponse rate is one index of cooperation. Judged by this index, the Delhi Saving Survey was remarkably successful. The overall weighted nonresponse rate was 7%, which compares favorably with comparable figures for other countries:

United States	15%
United Kingdom	25%
Israel	15%
Puerto Rico	Ĺ% <u>1</u> /

Of the sixty-three nonrespondent households in the DSS, twenty-nine nonresponses occurred by reason of non-cooperation.

Nonresponse rates by occupation - see Table 3 - varied unexpectedly, the rate being highest among managers and officials followed by self-employed businessmen and self-employed artisans and hawkers (my candidates for the number one position). For other groups the non-response rate ranged from 2% to 1%.

To investigate actual and perceived cooperation, the following question was asked at the end of the interview of all respondents: "Do you think that most people will give us accurate answers to questions like how much they have in their savings accounts or not? What do you have in mind?"

Our hopes for the question were two: (1) To ascertain what stereotype existed relative to "financial candor"; (2) To elicit from some relatively naive people responses which would presumably give us knowledge of "honest" answers on their part (e.g., "I don't know about others, but I gave accurate information.").

This gambit was not a striking success. The proportion of respondents who believed disclosure of financial information likely (49%)was greater than those expressing the contrary belief (33\%). Ten percent felt that "the poor, the middle-class, and government employees" would give correct reports; another 10% thought that "businessmen" and "high-income people" would not give accurate information. These proportions were <u>invariant</u> with respect to respondent's occupations, education, and rating as to accuracy of saving data.

1/ The Fuerto Rican survey was confined to the uppermost 10% of income receivers, thus making it an even more remarkable performance. "Can't say" and "don't know" responses to this question did vary, however, with education, being most numerous among the less educated. Can an opinion question of this sort yield a valid distribution of responses when it is put to <u>both</u> educated and illiterate respondents? Further investigation is surely warranted.

The "naive" response was given by 14% of respondents. Doubts as to its validity arise when we note that its frequency does not vary significantly among groups whose estimates of saving were rated "very good", "middle-position" or "poor." Alternatively, it may be that the ratings are not valid.

Evidence of Success in Motivating Respondents.

Lying behind this evidence of respondents' willingness to cooperate is further evidence relating to respondents' subjective reactions to (1) the interview and (2) the study itself. <u>Ceteris paribus</u>, if the respondent "enjoys" the interview and expresses the view that the study is "worthwhile", then an impartial observer should be entitled to infer that the motivation situation existing during the interview was conducive to a high degree of cooperation on the part of the respondent.

- 1. "Do you think that most people will enjoy the interview or not?"
- "Do you think that most people will think that this study is important and worthwhile, or a waste of time?"

"Projective" interpretations were given to answers to these questions: that is, positive responses about how "most people" would react were interpreted as statements of the respondents' own feelings.

Nost respondents (77%)--See Table 4--found the interview "enjoyable." To the extent that there were occupational differences in degree of enjoyment, it is interesting to note that the managerial-official group-the group with the largest nonresponse rate--was least enthusiastic about enjoying the interview.

As to worthwhileness--see Table 5--most respondents (58%) took an affirmative view; only a few (13%) thought it a "waste of time." Oddly enough, the professional group, as well as the self-employed artisans and hawkers, was most skeptical about the worth of the study. In general, opinoons of worthwhileness were more frequently held by the better educated though this may be a spurious correlation, resting on the greater verbal skills of educated persons.

With respect to the relationship between "enjoyment" and "worthwhileness" on one hand and the accuracy of saving data on the other, one might argue syllogistically as follows: (1) Positive responses to the "enjoyment" and "worthwhileness" questions provide indices of a favorable motivational situation; (2) a favorable motivational situation yields a willingness to cooperate; (3) cooperation on the part of the respondent yields more accurate information concerning saving. Direct evidence of the relationship between the factors under (1) and the accuracy of saving data is available from the survey <u>if</u> one is willing to accept the interviewers¹ ratings as valid.

This evidence tends to confirm the theory just set out. As Tables 6 and 7 show, those who enjoyed the interview most and those who were most convinced of the worthwhileness of the study tended to provide the most accurate information on their saving. Both, with respect to enjoyment and worthwhileness, those furnishing the poorest quality saving data tended perhaps to disguise or conceal their negative reactions by giving vaguer and more equivocal responses to the two questions.

The evidence of Part II is encouraging: financial surveys in urban India should yield, if they are carefully conducted, better quality saving data than similar surveys in the United States and the United Kingdom. This is not strong praise. Though analyses of America saving surveys have yielded useful descriptive data and useful analytical insights, 1/ discrepancies between survey results and aggregate estimates have led to suggestions for drastic changes in procedures. As a prudent offset to any optimism induced by this paper, I would strongly recommend a careful reading of the reports in which these discrepancies are documented and evaluated. 2/

1/ Report of the Federal Reserve Consultant Committee on Consumer Survey Statistics. (Smithies Committee), Washington, 1955, pp. 275-290.

2/ Cf. ibid.; also Report on the Federal Reserve Consultant Committee on Statistics of Saving (Goldsmith Committee) Washington, 1955; Irwin Friend and Stanley Schor, "Who Saves?" <u>Review of Economics and Statistics</u>, Supplement to May, 1959 issue.

Conclusions

From this paper these conclusions emerge:

- Techniques utilized in American and British financial surveys, when suitably adapted, will "work" in the urban Indian environment.
- 2. Several cultural factors in the Indian environment facilitate the conduct of financial surveys and lead to the conclusion that betterquality financial data might be obtained in India than in Western countries.

- 3. In Indian survey work it appears that response errors have been chiefly attributable to failures of communication rather than of motivating the respondent (the chief problem in the United States). If this is true, it is fortunate since these sources of error are more susceptible to correction.
- L. In India success in making the interview "enjoyable" and in convincing the respondent of the worthwhileness of the study appear to result in better-quality financial data.

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The above conclusions were based on detailed analysis of the Delhi Saving Survey and less systematic observation of other Indian survey work.

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TABLE I

Percentage Distribution of Honsehold According to Interviewers' Estimates of the Accuracy of Saving Data within Occupation Groups \checkmark

Interviewers' Estimate of Accuracy	All Occupations	Professional and Semi- professional	Self- Employed Business- men	Managers, Supervisors	Clerical and Sales	Skilled Opera- tives	Un- skilled & Service	Self- Raployed Artisans and Haskers
Very good or good.	75	<u>68</u>	52	13	<u>89</u>	n	<u>76</u>	82
Very good. Good. Middle position. Foor Very poor Not ascertained.	2 5 16 7 - 2	19 19 9 12 1 10	10 19 32 7 -	47 23 13 13 1	32 57 6 3 -	23 54 10 13	21 55 12 12	6 76 16 1 1
	100	100	100	100	100	100	100	100
Percent of households Number of cases	98 2/ 513 2/	6 119	ප %	8 88	24 134	12 37	10 39	12 39

1/ Interviewers were asked to rate the accuracy of saving data in each interview on a scale from "very good" to "very poor." Only 3 cases of "very poor" are retained in the sample.

2/ Households with incomes of \$25,000 or more were concluded from this and the following tables. This total includes the 3% of households headed by retired or unamplayed persons.

TABLE 2

Percentage Distribution of Households According to Interviewers' Estimate of the Accuracy of Saving Data and Amount Saved, 1/

	Amount saved or Dissaved (Rupees)							
Interviewers' Estimate of Accuracy.	All Households	Plus 2000 or More	Plus 1000 - 1,999.	Plus 500 - 999	Plus 200 - 499	Plus Below 200	Minus Below ' 500	Minus 500 or more.
Very good or Good.	75	স	됀	13	<u>69</u>	n	<u>89</u>	<u>n</u>
Very good Good Niddle position Poor Not ascertained.	21 54 16 7 2	23 31 39 6 1	32 22 32 10 4	19 54 10 9 8	40 29 27 4	13 64 10 13	18 71 7 3 1	31 10 18 10 1
	100	100	100	100	100	100	100	100
Percent of households. Number of cases	98 513	8 77	7 48	10 58	9 54	27 99	28 105	9 72

↓ See notes to Table I

TABLE 3

Weighted Monresponse Rates by Occupation

Occupation	Nonresponse Rate
All Occupations:	r
Professional and Semi-professional Clerical and Sales Skilled and semi-skilled operatives Unskilled operatives Service workers Retired Self-employed businessmen Self-employed businessmen Mangers and officials	र्मा अक्षर्थ क्ष जनसङ्ख्या क

Each interview was assigned a weight equal to the inverse of the probability of inclusion in the sample. In general, high-income households had smaller weights, greater frequencies of nonresponse. TABLE 4

Respondent's "Enjoyment" of the Interview.	All Occu- pations	Professional Semi-Profess- ional.	Self-Emp- loyed Business- man	Occupation Managers, Executives,	on of Head Clerical and Sales	Skilled & Semi- Skilled	Service and Unskilled	Self-Employed Artisans and Hawkers
Favourable	<u>11</u>	<u>65</u>	<u>69</u>	<u>68</u>	88	<u>100</u>	<u>76</u>	<u>63</u>
"I enjoyed it" Nost will enjoy it Educated people will	23 33	21 12	19 32	28 19	34 26	บ. 58	27 40	14 42
enjoy it. They should enjoy it.	13 8	30 2	13 5	9 12	20 8	13 15	1 8	7
Unfavourable	17	22	<u>21</u>	<u>31</u>	<u>13</u>	<u>15</u>	-	<u>17</u>
I did not enjoy it Most will not enjoy it Uneducated neonle will	1 9	1 11	8	- 24	'n	- • 2	-	11 6
not enjoy it. I cooperated to be helpfu	5 11 2	2 8	11 2	1 6	2-	13	-	-
Equivocal answers	<u>15</u>	<u>28</u>	<u>23</u>	<u>15</u>	<u>10</u>	<u>6</u>	<u>21</u>	<u>12</u>
"Depends," "Can't say," "Don't know"	9	17	14	12	4	-	14	11
Won't.	6	11	9	3	6	6	7	1
Attitude not ascertained	4	1	4	1	3	-	3	12
TOTAL 1/ Percent of households Number of cases.	113 100 2/ 543	116 6 51	-117 25 113	115 8 97	114 24 135	121 12 37	100 10 39	104 12 40

Percentage Distribution of Households by Respondent's "Enjoyment" of the Interview, Within Occupation Groups.

1/ The total adds to more than 100% since some respondents gave more than one answer.

2/ Includes unemployed (1% of all households) and retired (2% of all households.)

TABLE 5

Percentage Distribution of Households by Respondent's Views of the "Worthwhileness" of the Study Within Occupation Groups.

	Occupation							
Respondent's View of Northwhileness of the Study	All Occu- pation	Profess- ional Semi-Pro- fessional	Self- Employed Business- man.	Managers Execu- tives	Clerical and Sales	Skilled & Semi- Skilled	Service & Un- skilled	Self- Employed Artisans & Hawkers
Worthnhile	<u>58</u>	<u>38</u>	<u>54</u>	<u>53</u>	<u>78</u>	<u>69</u>	<u>47</u>	<u>37</u>
I think it is useful Most will think it worthwhile Educated people "" They should """	36 13 6 3	22 18 7 1	꼬 15 6 2	38 6 5 4	50 14 11 3	43 17 7 2	27 14 6	28 7 1 1
A Waste of Time	<u>13</u>	23	<u>8</u>	<u>16</u>	<u>18</u>	20	1	٤
I think it is a waste of time Most people """ Uneducated people ""	3 4 6	6 11 6	4 1 3	5 7 4	5 5 8	- 20	1 - -	5
Equivoeal answers	<u>30</u>	<u>16</u>	<u>35</u>	32	<u>12</u>	<u>17</u>	μų	<u>48</u>
Wast Some will say worthwhile some a / Can't say, Don't know Worthwhile if it improves conditions	° 3 1 7 10	- 14 32	6 25 4	9 12 11	1 4 7	- 12 5	2 22 20	- 38 10
Attitude not ascertained	٤	1	5	5	2	-	2_	<u>12</u>
TOTAL 1/ - Percent of Households Number of cases	106 100## 543	108 6 51	102 25 113	106 8 97	111 24 135	106 12 37	101 10 39	102 12 40

 $\underline{1}$ The total may exceed 100% since some respondents gave more than one answer.

** Includes unemployed persons who constitute one percent of the population

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TABLE 6

Percentage Distribution of Households by Respondent's "Enjoyment" of the Interview and by Interviewer's Estimate of Quality of Saving Data.

Respondent's Enjoyment of the Interview			Interview	er's Estimate of Rel	iability	
-	All groups.	Very Good	Good	Middle Position	Poor	
Favourable.	77	<u>91</u>	<u>83</u>	<u>52</u>	52	
"I enjoyed it" Most will enjoy it Educated people will enjoy it They should enjoy it.	23 33 13 8	110 314 5 12	23 36 16 8	11 37 2 2	7 7 36 2	
Unfavourable	17	<u>14</u>	<u>15</u>	<u>21</u>	<u>29</u>	
I did not enjoy it Nost will not enjoy it Uneducated people will not enjoy it I cooperated to be helpful	1 9 5 2	- 11 2 1	3 8 3 1	- 8 8 5	- - 26 3	
Equivocal Answers	<u>15</u>	_8	2	<u>34</u>	<u>43</u>	
Depends, can't say, Don't know. Some will enjoy, some won't.	9 6	3 5	6 3	14 20	39 4	
Not Ascertained	4	2	4	5	3	
TOTAL 1/ Percent of population Number of cases	113 100 543	115 21 135	111 54 261	117 16 100	127 7 34	

 $\underline{1}$ The total exceeds 100% since some respondents gave more than one answer.

TABLE 7

Percentage Distribution of Households by Respondent's Views of the "Northwhileness" of the Study and by Interviewer's Estimate of the Accuracy Saving Data.

Respondent's View of Worthwhileness	Interviewer's Estimate of Accuracy of Saving Data								
of the Study.	All Groups	Very Good	Good	Middle position	Poor				
Worthwhile.	<u>58</u>	<u>65</u>	<u>66</u>	<u>111</u>	<u>17</u>				
I think it is useful Most will think it worthwhile Educated people will " They should "	36 13 6 3	لم 11 8 6	行 17 6 2	28 5 9 2	12 5 -				
A waste of time	<u>13</u>	<u>11</u>	<u>11</u>	<u>13</u>	<u>33</u>				
I think it is a waste of time Most people think waste of time Uneducated people think waste of time	3 4 6	5 2 4	2 4 5	4 4 5	5 5 23				
Equivocal Answers.	30	23	27	ЦO	48				
Some will say worthwhile, some a waste Can't say, don't know, etc. Worthwhile if it improves	3 17 10	3 13 7	3 11 13	2 33 5	2 علا 12				
Attitude not ascertained	5	5	5	7	2				
$\frac{1}{1}$ Percent of households Number of cases	106 100 543	104 21 135	109 54 261	104 16 100	100 7 34				

1/ The total may exceed 100% since some respondents gave more than one answer.