

UNIT FOR TRAINING IN THE METHODS OF APPLIED
SOCIAL SCIENCE RESEARCH

SEMINAR PAPERS

1956 & 1957



UNIVERSITY OF MADRAS

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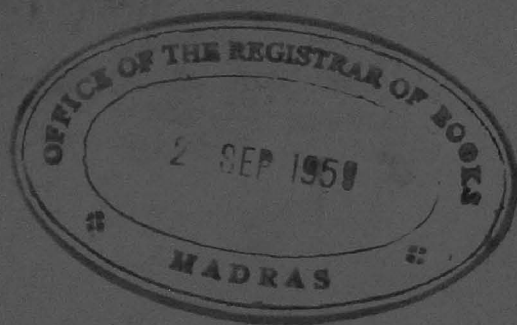
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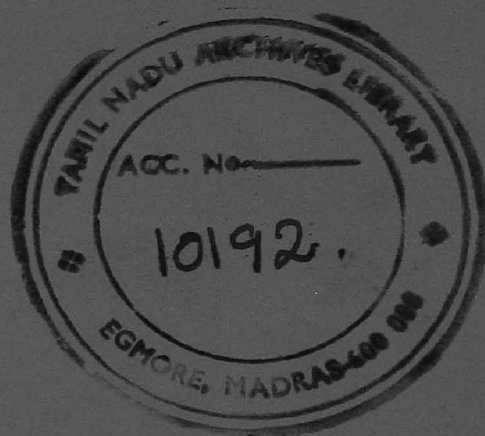
SEMINAR PAPERS

1956 & 1957



DEPARTMENT OF ECONOMICS
UNIVERSITY OF MADRAS

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PREFACE

One of the important features of the training programme in Methods of Applied Social Science Research conducted by the Department of Economics, Madras University, with a grant from the Ford Foundation, is the weekly Seminar. At these seminars papers prepared by the student-trainees and the members of the staff are presented and discussed. These papers relate either to some aspect of current economic development or research methodology. A brief report is also prepared on the proceedings of every seminar.

As these seminars have been going on in a systematic manner for the last three years, the papers and the discussion reports made up a good collection. It was thought that if these were printed into a volume and made available to the outside world, it would serve a useful purpose. Accordingly the first two years' papers are being presented here, as the first step. It is hoped this volume will be of interest not only to our sister institutions running this training scheme but also to others at large.

I am grateful to the Madras University, the Research Programmes Committee of the Planning Commission and the Ford Foundation for sanctioning this venture.

University Buildings,
Madras,
11-6-1959.

R. BALAKRISHNA,
Director.

THE UNIVERSITY OF CHICAGO

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PART I
SEMINAR PAPERS OF
1956

9-3-1956

PLANNING TECHNIQUE AND THE INDIAN PLAN-FRAME*

By

R. BALAKRISHNA

The desire to plan arises out of certain shortcomings in the economy of a country relatively to others, which are economically more advanced. It is widely recognised that through planning it would be possible to achieve certain objectives which may not be easy in a system of free private enterprise. The starting point of planning, therefore, is to have certain aims. These aims can only be broad and, perhaps, vague. While they should not be fantastic, they cannot be too specific either. Care should be taken to see that the aims are not inconsistent with each other and a compromise should be effected between them wherever necessary. Aims should not be unrealistic in relation to the overall resources available in a country. The increasing of *per capita* income, the raising of living standards, full employment, the attainment of a Welfare State are some of the aims of planning.

Timing of Targets

The aims should take the form of targets for realising the desired ends and the nature of the targets would depend upon the type of pattern that is desired. In India, at present, the socialistic pattern is prescribed as the goal. Having arrived at the targets, the kind of balance that should be maintained among them would depend upon the priority assigned to the aims. The targets in their ultimate analysis would be governed by the resources available in the country. No doubt resources could be imported and even created internally. So while targets are being fixed, an endeavour may also be made to create the resources wherever they are insufficient.

The achievement of the targets may be graduated over a period to correspond with the availability of resources. Targets have to be scientifically dovetailed. The achievement of each of the targets

* By the courtesy of *Commerce*, Annual Review Number, 1955.

should concurrently be related to the utilisation of it in the realisation of other targets wherever they are complementary. In other words, the output in one sector must be matched with the offtake in another. For instance, if ten million tons of steel production is taken as the target, the fabrication of it and the actual utilisation of it for various purposes should be simultaneously planned. Therefore, technically speaking, there should be a timing in the achievement of related targets. No doubt, certain targets could be independent of each other, but even they, in their ultimate effects, are related and hence have to be planned. Steel output and textile production may be independent in their initial impact, but steel is an essential requirement for the manufacture of textile machinery.

In the fixation of targets, an overall resource allocation is automatically determined. So, it is necessary, at the first instance, to see whether such resources are available, as otherwise the targets would be unrealistic. It is also essential to observe from where the resources are to be drawn. They may be either unutilised resources or they may move from other sectors where they are already being employed. In the latter event, it is imperative to examine whether such movement is in conformity with the overall objectives of the Plan or is likely to have an adverse effect on the achievement of other targets.

In a democratic set-up, there would obviously be no regimentation of the allocation of resources even for the benefit of the public sector. Hence, it is necessary to determine the nature of incentives to be offered either to encourage or discourage such movement of resources for the execution of the Plan. A decision should also be taken whether the incentives should be supplemented by other direct methods for controlling the movement of resources. These measures are in the nature of the dynamics of planned operation. The targets that are thus fixed ought to be flexible, because what might have appeared at the beginning of the Plan period as the optimum allocation of overall resources may cease to be so with the unfolding of the Plan.

Production Efficiency

The laying down of the targets is only the beginning of the effort. For the actual achievement of the targets, the technique of the production function has to be determined. Production for reaching the targets should be at the highest level of technical

efficiency. Here, the sphere of planning becomes narrow, as the firm or the individual establishment becomes the focal point and the centre of interest. Internal efficiency within an establishment is essential, as otherwise there is a risk of production being conducted at a low level of efficiency, though the overall structure of the planned economy may be sound. Care must be taken to see that, within a firm, there is an optimum combination of factors of production. The size of the firm should be at its optimum under competitive conditions. A high degree of managerial competence must be ensured and, wherever possible, the principles of scientific management should be applied. An attempt should be made at the measurement of productivity in various industries. Inter-firm and inter-industry comparisons must be made to ascertain labour productivity variations among them. Input-output ratios should be established with reference to different methods of production organisation. The purpose is to maintain productivity at a high level.

Efficient and economic operation of individual establishments depends also upon the availability of external economies. Their absence in underdeveloped countries is a grave lacuna which has to be overcome by suitable planning. Apart from the investment by the State on social overheads, encouragement should be offered for the starting of subsidiary and supplementary industries in the vicinity of industrial areas. Specialised transport agencies, preferably under private management, may be encouraged to be established.

The Private Sector

Under capitalist planning, the existence of the private sector is inevitable. Its parallel maintenance with the public sector is required to avoid complete regimentation and to have the benefit of free enterprise. *The advantages of individual initiative will outweigh the loss of precision in planning that may be possible under a perfectly regimented system of production.* Still, comprehensive planning will not be beyond reach, when the co-operation of private enterprise is enlisted. But the private sector has to be made to conform to the overall Plan, which is for the whole economy. The method of doing it is by giving, at the outset, blueprints of the Plan to each industrial segment of the economy. Then, through the fiscal method, the State has to offer incentives or impose deterrents to win their adherence. Occasionally, subsidies

may also be paid if necessary. The State will also have in its armoury direct methods of control, such as the control on capital issues and on raw materials.

Certain conflicts are bound to arise between the private and public sectors when the two begin to function on parallel lines. They may outbid each other for resources, pushing up the cost of production. The private sector may resist the deterrents and fail to respond to incentives, particularly if they happen to be weak. There may also be a deliberate failure on the part of the private sector to co-operate with the public sector in reaching the targets. It is also not unlikely that attempts may be made by the public sector to thwart the efforts of the private sector, particularly when the two sectors are integrated in the reaching of specific targets. For instance, the public sector may not make adequate steel available to the engineering works in the private sector.

The Other Possibility

The other possibility is that there may be a deterioration in the spirit and enterprise of the private sector. It may be either because the sphere assigned to it is narrow or that it is more risky and less profitable. Their freedom of activity may be curtailed by the direct and indirect methods of control exercised by the State and the tax burdens may be so heavy as to reduce their incentive to effort. They may also resent the labour welfare measures implemented by the State.

There is also a general dislike of the mixed economy model that has come to stay. Perhaps, the most powerful factor undermining the spirit of enterprise is the fear of nationalisation and the ushering in of the socialistic pattern. The result is a reluctance to make heavy financial commitments. Private enterprise would be more interested in quick returns rather than in the long-run stability of industry. They would wilfully neglect adequate provision being made for depreciation and replacement. No attempt may be made to maintain industrial productivity at its highest level, owing to the short-run considerations that are likely to prevail over their decisions. So the State may have to constitute Working Parties and Productivity Experts to enquire and report about the variations in productivity on an inter-plant and inter-industry basis and create the necessary machinery to remedy any shortcomings.

Agriculture

Agriculture presents a special problem, being not only the largest segment of the private sector but also having several peculiar features. The fiscal method would be ineffective in making it conform to the overall Plan. The direct methods of control would also be difficult to enforce, as a large number of persons are involved who are for the most part scattered. Therefore, what is needed in the case of agriculture is a mass awakening. Subsidies in kind, such as fertilisers and seeds, may have some good effect. The National Extension Service and the Community Projects are the most appropriate under the present circumstances.

The controversy about financial *versus* physical planning is needless, as the two are not really contradictory. Physical planning is absolutely essential for giving concreteness to effort. But finance is the mobiliser of physical planning and hence it has to be accurately estimated and appropriately distributed over the different segments of the overall Plan. Neither finance nor physical planning by itself can set things going without an integration between them. Mere finance that is out of proportion to physical resources will either not be absorbed or result in inflation.

A decision to have a certain volume of investment for doubling the national income over a period is on the assumption that physical resources exist and would be forthcoming. But an accurate estimate of them before implementation is an essential prerequisite of successful planning. If physical resources fall short of the requirement, the financial plan must be curtailed. Similarly, the financial allocation for particular segments would depend upon the resources specific to each of them and the degree to which diversion of general resources would be possible. Investment in each segment should also be governed by the rate of productivity among them. An acceleration of productive effort among higher productivity segments would result in a quicker increase of national income.

Dynamics of Planning

Planning is a dynamic process. To think merely in terms of targets and investments is purely a static approach. It is essential to realise that the resources have to come from somewhere in order to operate the Plan. No doubt unused resources and personnel could be mobilised and pressed into service, but they may not be sufficient. Even if sufficient, their very employment and the

consequent expenditure by them of the income generated would alter the overall equilibrium of the economy. On the contrary, if a diversion becomes necessary, their movement must be watched and provided for in the subsequent operation of the Plan.

Accordingly, with the implementation of the measures to reach targets, a concurrent study of the dynamics of planning should be undertaken. Factor prices are bound to undergo a change with the impact of planning and, in the absence of regimentation, they would exert an adverse influence on the allocation of resources among different segments of the economy. They have to be watched to foresee their effect on the designed development of the economy. There may be a failure to reach certain targets if resources leave a segment, not having had any special attachment to it either on account of disagreeableness or due to absence of monetary incentives.

With the inauguration of a grand plan having investments in several fronts, the small-scale sector, even if self-employed, and the unorganised group are likely to lose their personnel. If fostering of such non-competing groups is an objective of the State, special measures have to be adopted to prevent the depletion of resources from them. At the end of every phase of the Plan period, the planning authority must, therefore, be in possession of information regarding such dynamics and make suitable adjustments for the future.

Finally, the determination of the overall pattern of the economy is an essential condition of planning. A change of pattern may be desired if the existing one does not conform to the welfare ideal. It is purely a question of value judgment based on empirical evidence of the extremes of poverty and riches in the society. There may be no statistical study for the determination of the poverty line influencing such judgment. The economic pattern is the means of achieving the welfare ideal, but there is no single pattern which should be considered as the best for the purpose. The pattern adopted may be one of the many ways of reaching the ideal, but, perhaps, more suitable for a given set of circumstances and environment than others.

Difficult to Define

Similarly, it is difficult to define the welfare ideal in very concrete terms. It may imply a certain minimum income and

standard of living for all with a large measure of communal consumption of essential things combined with a comprehensive social security scheme. It may also involve an arbitrary determination of the permissible degree of disparity in wealth and income among the people or the purpose may be merely to take off the edge of capitalism by controlling some of its abnormalities.

The socialistic pattern is one such pattern of planning and a vague idea of it is the direction of all economic activity towards the enhancement of the well-being of the people. To give it a concrete shape, it may take the form of certain targets which alone might conduce to human well-being. In respect of the organisation of industry, the small- and the medium-scale units may be preferred to the large scale. It may also imply State control over key resources, even though they may be allowed to be utilised by private enterprise.

The socialistic pattern may not countenance any private monopoly. Similarly, in marketing, no form of organised control by private parties may be permitted and the State may intervene to break them, either through importation or by the maintenance of buffer stocks of essential goods. Apart from a national minimum wage, the fall of earnings below a floor in various occupations may be prevented by a price support policy. Public expenditure for the amelioration of the poor by slum clearance and construction of houses for the needy and free education would be part of the social aspects of the pattern. It would also include social security with a wide coverage. Thus, the socialistic pattern could be given a concrete form.

The Plan-frame

The Plan-frame of the Second Five-Year Plan may now be tested in terms of the planning technique that has been elaborated in the foregoing paragraphs. At the outset, it may be pointed out that the successful formulation of a second Plan depends primarily on a full and scientific assessment of the effects of the first Plan. But such an assessment does not seem to have been made the basis of the second Plan. For instance, there is no evidence of the economic forces generated by the first Plan being measured and made to serve as a guidance for further planning. However, the Plan-frame presents certain basic objectives, such as improvement in the level of living, fuller employment and a greater measure of social justice. It also lays emphasis on the necessity to reduce

the existing inequality of wealth and opportunity among the people. The Plan aims at the establishment of a healthy and contented social fabric. As a means to this end, the socialistic pattern is adopted which would involve a widening of the public sector and an increase in public investment for the optimum utilisation of the resources in the country.

Should Be Flexible

While all this is laudable, it would have been even more helpful if the Plan-frame had indicated that the State would take in the slack in the tempo of investment in the private sector whenever necessary. It is quite likely that, even among those categories of investment which ought to fall legitimately within the purview of private enterprise, there may be some which may not sufficiently evoke its enthusiasm. Then, the State has to step in and do the investment as a corrective of the attitude of private enterprise. Hence public investment should not only be wide but flexible.

The Plan-frame recommends an industrial structure that is largely determined by the new values introduced through the objectives that are set forth. The basic strategy suggested is to invest large sums in the development of capital goods and basic industries, transport and mining and to economise as much as possible capital investment in the other sectors. An all-out effort has to be made for the utilisation of excess capacity in existing industries and for securing additional production in the capital-light and small-scale sector of industries. In other words, there should be no increase in production capacity of organised large-scale industries engaged in the production of consumer goods. The Plan-frame makes provision for the introduction of better production technique in the consumer goods industries, but only after a time-lag, which would be required for solving the existing unemployment.

The foregoing norms have determined the financial allocation in the Plan-frame. Out of a total net investment on the Plan of Rs. 5,600 crores, industries and mining receive Rs. 1,400 crores, that is, 25 per cent. of the total. The major emphasis, therefore, is on industries and mining. A greater part of the allocation is devoted to basic industries. They get Rs. 1,100 crores which is 78.6 per cent. of the total investment in the industrial sector. The factory consumer goods industries get only Rs. 100 crores,

that is 7.1 per cent. The small-scale and village industries get as much as Rs. 200 crores, which is 14.3 per cent. The rationale of the financial allocation is that factory type of production would require heavier capital investment per engaged person and would still have a lower employment potential, whereas the small-scale industries would enable a more economic use of the scarce capital, having at the same time a high employment potential.

An Appraisal

The chief lacuna in the model presented by the Plan-frame is the lack of a proper timing of the rate of acceleration of different segments in order to have a balanced growth. While provision has been made for an early start of capital goods industries, they have not been dovetailed with the improvement in production technique envisaged and the time within which their products are likely to be absorbed. This is the essence of planning, as already explained, and there is not much evidence of it in the Plan-frame. Besides, the time-lag that is deliberately provided is linked with the solution of the present unemployment. If the expectation remains unfulfilled, the capital goods that would emerge would have to remain unutilised. In fact, the timing of the two processes, which at its best is vague, is wrongly conceived.

Besides, the Plan-frame does not contain any definite scheme of progress in technique for the consumer goods industries, whereas, a heavy investment is to be made immediately on capital goods industries. The result may be an excess of capital goods and a compulsion to improvise schemes for their absorption. The fundamental error seems to be in believing that the processes of employment creation and improvement in productivity are inconsistent with each other. There is certainly no justification in deliberately postponing the improvement in the production technique of small-scale industries. There may be a case for fostering it for a while, but not indefinitely. It is only through an improvement in their productivity that they could be made to stand competition in due course and meet the demand for consumer goods.

Thus, while the economic model conceived in the Plan-frame and the basic strategy suggested are, by and large, appropriate for the country, there are certain shortcomings in designing the details of the scheme. In the first place, the development of the capital goods industries would be out of proportion to the rest of the economy and the absorption of their products is not ade-

quately planned. Secondly, by denying technical progress to the small-scale industries, there would be a need to foster non-competing groups perpetually and there may also be a threat of a shortage of consumer goods. Thirdly, the Plan-frame could have done well to offer a scheme of technical integration of large- and small-scale industries, as a long-range solution of the conflict between them.

The Defects

A few more criticisms of a general nature can also be levelled against the Plan-frame. The Planning technique elaborated in the foregoing pages finds no application in the Indian Plan frame. Targets are fixed without a reliable study of resources available. Targets are not timed and matched with each other. The dynamics of planned operation, consisting of a movement of resources from one segment to another, has not been envisaged and provided for by means of blue-prints for guidance. There is also no reference in it to the nature of production technique and the method of measuring productivity in individual establishments.

With regard to the private sector, the Plan-frame assumes its full compliance, ignoring its certain normal reactions to a partially controlled economy. Further, it is not confidently indicated anywhere that physical and financial planning are reconciled at every stage. Finally, the dynamics of planning and the attainment of the new equilibrium for the economy have not been foreseen and no machinery for their continuous study has been envisaged. All these have to find a place in the final Plan, as the stage of improvisations is over and the era of scientific planning has to commence.

CULTURAL REORIENTATIONS IN ECONOMIC DEVELOPMENT*

By

R. BALAKRISHNA

Traditional cultures impede technological development as much as they are disrupted in the process of economic growth. It is therefore germane to inquire about the meaning and content of a culture and the degree of its influence on evolution. In the process of change, motivated either by deliberate measures or by the normal course of social evolution, a part of the traditional culture may suffer extinction. It is essential to determine how much of it should be fostered to sustain certain social values worthy of a civilization.

Culture is defined as the learned, socially sanctioned behaviour of a people. People hold tenaciously to their established modes of behaviour as they give meaning and value to their life. The dynamic quality of a culture, however, is derived from a continuous process of relearning in response to external stimuli. Still in adapting societies to new tasks, traditional culture may resist innovation, particularly when it involves a reshaping of basic habits. For instance, the Western conception of work is based on individual effort, whereas it is communally oriented in greater part of the East; the individual acting as the member of a group based either on kinship or residence. So a change from a pattern of collective effort to individualism meets with resistance. Even if a person is induced to work on individual initiative, the labour incentive will not be effective, as his consumption patterns are dictated by the traditions of a collective system characterized by the joint family.

It is therefore necessary to recognize that there are cultural and personality factors impeding economic growth. But it is not impossible to predict whether a particular innovation would be resisted or welcomed if we knew the scale of values and attitudes

* By the courtesy of the University of Madras: *Bulletin of Institute of Traditional Cultures* (UNESCO) 1956.

of a society's culture and the matrix of its customs and sanctions. There can be also be a measured infiltration of induced cultural innovations into pre-existing patterns. An existing culture provides the base from which exploration into new orientations in living can move, as a culture is never discontinuous. However, no cultural innovation should be disruptive of the social and personal integration of the existing system. The introduction of technological developments must be in accordance with the needs of the society and they should be analysed in terms of their consequences. The developments must be fitted into the organizational principles of the indigenous society.

A very intriguing question in this context is whether it is right to speak of the social consequences of a technical change rather than of technical change as a social consequence. Technical change is not an independent force impinging on society and setting in motion certain undesirable reactions. It is part of the general process of social evolution and hence incapable of easy transplantation. It is naive to believe that external aid in the shape of know-how and capital could transform an indigenous society. They should be gently grafted, as society is a living organism. Know-how is not merely a mental process of abstract technical knowledge to be imported, but an inherent part of its actual performance. Similarly, capital is attuned to the particular purposes and the state of knowledge which led to its creation. Saving is the result of new attitudes in social behaviour and hence its investment anywhere cannot automatically result in development. Economic development is the process of evolving patterns of activity, unfolding in one direction, disappearing in another as beliefs, aptitudes and hopes change.

It is thus evident that social systems incorporate within themselves the seeds of all aspects of social behaviour and are also amenable to change, being extremely resilient. In this process of change and economic growth, while there should be no blind preservation of old values, certain economic patterns and social values, threatened to be undermined, ought to be fostered. The village contact of industrial labour in India, which is often criticised as the cause of the migratory tendency of the personnel, is a necessity in the economic and social context of the country. In the absence of a scheme of Social Security with a wide coverage, the rural contact assumes the role of social insurance. Measures towards the decentralization of industry are meant not only to

encourage the rural contact and reduce undue urbanization but also to avoid the disruption of the family, as the traditional Indian culture has had a familial structure. Where necessary, the migration of the whole family has to be arranged if the adoption of modern technology warrants it.

The solicitude shown towards the cottage and small scale pattern of industry in India, which is threatened extinction by modern technological developments, is meant as much for the preservation of artistic culture and social values as for making the scarce capital resources of the country go as far as it can in the creation of employment. The International Planning Team of the Ford Foundation on Small Industries in India speak of the amazing skills, remarkable agility and intuitive precision of the Indian workers and express a feeling of regret that their natural talents are wasted in a losing race against modern technology. They recommend a revival of interest in folk crafts and say that the aura of repose so genuine in an Indian home is the one much sought for everywhere in the world.

The Karve Committee, speaking of the hand-pounding of rice as an integral part of village economy, say that factors which operate to dislodge it from this position should be resisted and counteracted. The Second Five Year Plan has made the fostering of small-scale industries a part of its basic strategy, and has gone all out to develop them both as a measure of economic policy to conserve capital resources and as a means for the preservation of the traditional social structure. In the Madras State, the small-scale industries that are either declining or have become almost defunct are hand-spinning, bangle making, hand-made paper, printed cloth manufacture, musical instruments, toy manufacture, gold and silver lace thread, boat building and crochet lace industries. Their significance is to be assessed not individually but as the basis of an ancient civilization and as a way of life imbued with a purpose and meaning. It is incumbent therefore to stress on the human implications of technological and economic change.

While it is argued that the extinction of traditional culture in the process of economic growth should be averted, certain social restraints on technological development ought to be countered even at the risk of initiating a fundamental cultural change, as otherwise there will be no economic progress. The ultimate purpose of any reordering of life is to attain better living conditions, and if in reaching it a few vestiges of an ancient civilization

are sacrificed, there need be no regret on sentimental grounds. With the ushering in of the money economy there was a complete destruction of the structure of family relationships and of the social and economic system of the group. It has meant the undermining of parental authority and the authority of tradition. But on that score it would be a folly to encourage subsistence farming and exchange by barter.

In the adoption of technology there is both a simple and a complicated form; the tool representing the former and the machine the latter. The tool is an extension of the body following the rhythm of the body. While it enhances and intensifies work, it does not replace or introduce anything basically different. The machine, on the other hand, is not body patterned. It has its own existence and rhythm to which man must submit. Any resistance offered against its adoption is due to a form of human rigidity nurtured in an outmoded social organization. It should be discouraged and a proper appreciation of the benefits of machine technology should be inculcated. Technological development even in village and small scale industries is a primordial necessity for the attainment of better living conditions. It cannot be delayed even on the score of technological unemployment.

It is also not uncommon to find the attitudes of people unfavourable to industrialization. Some may be unwilling to submit themselves to the discipline of industrial labour. Among others, the economic assumption of an incentive to work and improve their standard of living may not exist. A higher wage may sometimes mean lesser work, the premium on leisure being great. Traditionally work has been, according to the call of necessity, following a seasonal rhythm. So they may not relish continuous work of the Western oriented pattern of economy. But people must be made to undergo a new discipline, necessitated by the present demographic pattern warranting an optimum production process for its sustenance. Then again people may be pessimistic of progress with a lack of interest in material things. This is an unexpected by-product of the philosophy of our life. An economic attitude is an essential precondition of development, as development after all is a function of a favourable state of mind.

Certain social sanctions in our traditional cultures are also inimical to economic progress. The socially determined norms of expenditure on religious and marriage ceremonies militate against the creation of capital. The reluctance of villagers to be organized

into new co-operative units for the development of village industries slackens the pace of economic progress.

Thus it may be said in conclusion that one ought to aim at a selective culture change rather than a blind preservation of all old values. They may very often impede economic progress without adequate compensation in terms of the higher values of life.

Discussion:

For convenience, it was decided to consider the impact of and on traditional culture in two stages, first with reference to the institutional manifestations of traditional culture, and secondly the many beliefs and attitudes which traditional culture generates. Under the first, the main institutions discussed were the caste system, the family, marriage, and worship. On the caste system, the consensus of opinion was (i) that it does not make any positive contribution towards economic and other development and (ii) that though it does not jeopardise economic development directly, it does hinder it indirectly. It creates social tensions and thwarts cosmopolitanism. It releases disruptive forces and undermines national unity and political stability. These, in turn, affect economic progress. Various methods were suggested to progressively eliminate the caste system. Chief among them were (i) wider and more liberal education, (ii) inter-caste marriages, (iii) governmental non-recognition of the caste system. Communal representation on public bodies and communal reservations in public employment were disapproved. Educational encouragement to the erstwhile lower castes should not take caste lines but should be along the lines of income and general economic condition.

The family, as an institution, has served many useful purposes and the characteristic compactness of the Indian family must be preserved. While sacramental marriage has promoted family stability, the extravagant expenditure associated with it must be arrested. The contractual type of marriage may also exist side by side so that people inclined towards it could take advantage of it. While some members held the view that the spread of contractual marriage would steadily undermine marriage stability, others thought there was no such danger.

It was agreed that forms of worship do not come in the way of economic development and may therefore be left alone. A

suggestion that the funds of religious institutions should be devoted towards social amelioration was approved.

While many of the beliefs and superstitions do not hinder economic development, a few do. Orthodoxy was considered by the group a significant hindrance towards progress, although under the impact of modernism, its influence had begun to decline. Propaganda through art and literature and greater social contacts and education of women were suggested as means to remove orthodoxy.

THE MEANING OF DISGUISED UNEMPLOYMENT

By

T. N. KRISHNAN

Unemployment in under-developed countries has been divided into four categories: cyclical, seasonal, technological and disguised. About the meaning and content of disguised unemployment, there is a lack of clear thinking and, to some extent, confusion among those who have discussed it. Disguised unemployment may be found both in advanced and in under-developed countries. Mrs. Robinson¹ has pointed out that in a society in which there is no regular system of unemployment benefit those who are thrown out of work do not figure in the list of the unemployed but take up some other work in which their productivity is less than in the occupations they have left. The cause of this diversion is a decline in effective demand, and this adoption of inferior occupations by dismissed workers has been described as disguised unemployment.

In under-developed countries, disguised unemployment is a normal feature, but it is not due to a fall in effective demand. Disguised unemployment in those countries is associated with agriculture and household enterprise where the unit of production and the supply of labour is the family. Its origin can be traced to the disappearance of rural industries and other subsidiary occupations as a result of the displacement of their products by cheap machine-made goods of the industrialised countries. Those who have been thrown out of work found that no alternative employment opportunities existed except in the agricultural sector. This situation has naturally led to the concentration of population on land. But the total area of land available being limited, the successive entry of population on land has set in diminishing returns forcing the new entrants at each stage with lower and lower productivity. This process of absorption has continued to such an extent that there are many whose marginal product is zero or even a negative figure.

1. Joan Robinson: *Essays in the Theory of Employment*, pp. 82-84.

According to the U.N. Committee of Experts:² "The disguised unemployed are those persons who work on their own account and who are so numerous, relatively to the resources with which they work, that if a number of them were withdrawn for work in other sectors of the economy the total output of the sector from which they were withdrawn would not be diminished even though no significant reorganisation occurred in this sector and no significant substitution of capital". Prof. Ragnar Nurkse³ says that "those countries suffer from large-scale disguised unemployment in the sense that even with unchanged techniques of agriculture, a large part of the population engaged in agriculture could be removed without reducing agricultural output. The same farm output could be got with a smaller labour force". According to Dr. Rao,⁴ "the term is not applied, as Mrs. Robinson does, to wage labour taking to less productive work on account of unemployment. It is applied in the case of India to persons who are employed in the sense that they are engaged in household enterprise but who are really in a state of disguised unemployment in the sense that no difference will be made to output by their withdrawal from the occupations concerned". In technical terms, the marginal productivity of a part of the working population is zero.

The term disguised unemployment is not applied to wage labour. It denotes a condition of family employment in peasant communities. Secondly, the disguised unemployed also do not fall under the category of involuntary unemployment. The people may all be occupied and are not aware that they are unemployed. Thirdly, they are in receipt of a real income and they will take up other employment only if offered a higher wage than the income they are receiving in their existing occupations.

Disguised unemployment may be divided into two parts: (1) Actual surplus of labour, and (2) the Potential surplus of labour. *Actual surplus* of labour exists if the total output remains constant by the removal of a part of the working population without any change in "the state of arts". The above definitions of disguised unemployment thus refer only to the actual surplus of labour existing in the productive units.

2. U.N.: Measures for the Economic Development of Under-developed Countries, p. 7.

3. Ragnar Nurkse: Problems of Capital Formation in Under-developed Countries, pp. 32-33.

4. V. K. R. V. Rao in Indian Economic Review, Vol. I, p. 62.

Even if this actual surplus of labour is removed, disguised unemployment may still exist in the form of potential surplus of labour. In under-developed countries, the level of technology is very low and in many lines of productive activities primitive methods and types of equipment are still in vogue. Therefore, with economic development changes in methods of production and technological advancement are bound to release a surplus of labour from these lines of productive activities. *Potential surplus of labour* exists if a part of the working population can be withdrawn for other sectors of the economy without reducing the total volume of output, by putting more capital into land, by mechanisation, by using better seeds and other such changes. In the process of economic development, this potential surplus of labour may assume the garb of actual surplus and unless alternative employment opportunities are provided, they may subsist on the family's real income without contributing anything to it.

The disguised unemployed, while contributing virtually nothing to output, subsist on a share of the family's real income. From this we can readily infer that there must be an *upper ceiling* for disguised unemployment above which it cannot rise. This upper ceiling is determined by the subsistence level of the community. The family's real income being limited, there will be a *saturation point*, determined by the subsistence level, upto which it will be able to absorb additions to the family. Once this saturation point has been reached, further additions to the family may find it difficult to get a share in the family's real income, and they may have to look elsewhere for their subsistence. At this point disguised unemployment will remain stationary, and there will emerge open unemployment or under-employment.

In recent economic discussions, the terms disguised unemployment and under-employment have not clearly been distinguished and in some cases they are used to describe the same situation. For example, the U.N. Experts prefer the term under-employment to disguised unemployment. But under-employment in under-developed countries is entirely different from disguised unemployment. *Under-employment* exists when the actual amount of labour time worked by its labour force is smaller than the amount of labour time which the labour force is able to supply. The labour force covers only those who offer their services at the prevailing wage rate and, therefore, does not include the disguised unemployed.

In thickly populated under-developed countries, there is a growing sector of wage labourers, agricultural as well as urban. In the break up of the economic and social structure of their countries, many have been reduced to the position of wage labourers. Their number is growing with the growth of population. To accentuate this situation, there will be a diversion of labour from self-employment to wage-employment once the saturation point has been reached. A large proportion of the population in the towns and in the country districts are willing to work at prevailing rate of wages. Thus the aggregate amount of labour-time actually worked by the labour force is far below what it is potentially capable of doing.

Thus in under-developed countries, there is under-employment as well as disguised unemployment. Disguised unemployment exists in some sectors of the economy in the sense that a part of the working population can be removed without a fall in output.

The marginal productivity of the under-employed labourer will never be zero. If it is zero, it can mean only one thing: that he is unemployed. We can safely assume that if his marginal product is zero, nobody will employ him for a wage.

A state of chronic under-employment among wage labourers is hardly distinguishable from involuntary unemployment. The failure to distinguish these concepts has led some to pitfalls in defining under-employment. For example, the International Labour Review⁵ gives the following definition: "Because of the shortage of land and capital, part of the labour force in these countries remains chronically under-employed, either in the sense that the productive resources at the worker's disposal are too meagre to enable him to make full use of his available labour time, or in the sense that the marginal productivity of labour has approached zero, so that a certain amount of labour could be released without reducing output". When the marginal productivity of labour has approached zero, there is no need to release the labourers. They will naturally be unemployed.

Discussion

At the outset, the author's four-fold classification of the types of unemployment met with some opposition. It was pointed out

5. I.L.O.: World Unemployment Situation, August 1954.

that while there could be technical, seasonal as well as cyclical causes for unemployment, these could not be considered as different types of unemployment. On the other hand, occupational idleness could be classified into say 4 types, viz. irregular employment, under-employment, disguised unemployment and unemployment.

Another objection raised was that the distinction between under-employment and disguised unemployment could not be maintained and it was even suggested that the term disguised unemployment may be given up. Disguised unemployment, as interpreted by the author, could exist only in the case of self-employed workers.

It was generally agreed that the term "disguised unemployment" might be used only in the sense in which Mrs. Joan Robinson used it, i.e., the adoption of an inferior occupation by dismissed workers on account of a decline in effective demand. What the U.N. Experts, Prof. Nurkse and Dr. Rao meant by "disguised unemployment" could better be designated "under-employment". Thus the term under-employment would be used both to cover the "disguised unemployment" of the U.N. Experts as well as the "under-employment" of the author. The author's use of the concept of marginal productivity to distinguish between the two situations was not approved. The application of the one concept to self-employed people and the other to wage-workers was also turned down.

FORCED SAVING AND CAPITAL FORMATION

By

A. MADHAVAN

The rate of capital formation is a major determinant of economic growth. Capital formation is a complicated process which can, for the sake of convenience, be divided into three stages: First, individuals and institutions save a part of their incomes through the negative act of not-spending. Secondly, these funds are collected by canalising agencies such as banks. Thirdly, the monetary savings are exchanged for or invested in real capital goods.

In underdeveloped countries there is the initial drawback that the margin of voluntary saving between income and consumption is very small. The second and third stages are not only held up, but considerably reduced in tempo. There is little investment in heavy industries, since roundabout methods of production are avoided. Advanced techniques of mechanised, large-scale manufacture are not easily adopted, and economic growth suffers a retardation.

In spite of conspicuous disparities in wealth and income, the taxable capacity is shallow. If the scope for private saving is small, the scope for public saving through the regular fiscal measures is not much wider. Such a country is often reluctant to place undue reliance on the avuncular generosity of Mr. Ford and the like. How then can it hope to accelerate the pace of economic development?

The answer lies in a carefully-planned scheme of fiscal operations, the cornerstone of which is forced saving. I define 'Forced Saving' as the restriction of real consumption which occurs when fixed income groups are confronted with a rise in the price level engendered by the introduction of new money into the monetary circulation. (Howard S. Ellis has given it a broader connotation: he includes taxation in forced saving). It is a phenomenon which does not readily lend itself to accurate statistical computation, but one which is cognisable to the consumer. As will become apparent, it has connections with both deficit financing and inflation, but it is by no means synonymous with either,

The essence of forced saving is that the advantage lies with the party which has the first use of the new money. New money consists of monetary units or their equivalents not hitherto active in circulation. It includes fresh stacks of currency notes, coins bright from the mint, bank deposits not backed up by cash balances, extensions of government balances with the central bank, and counterfeit money which passes the test of general acceptance. Conceptually, the activation of idle hoards need not be brought under the category of new money though the effect of dishoarding is similar to that of spending new money.

A consideration of these types of new money will show that the greater part of it is in the control of the government. The government is therefore in an unrivalled position to reap the benefits of forced saving. A wise government will utilise these gains for the economic development of the country. This however involves an elaborate fiscal policy.

Let us assume, for the sake of convenience in analysis, that the government has already determined a programme of investment, and that it begins to finance this investment solely with new money in the form of crisp currency notes, still wet from Nasik. The government is able to mobilise factors of production in certain proportions by infusing the new money into the circulation. In a real sense, it gets something for nothing. But the owners of the factors of production who have accepted the new money do not regard it as trash by any means. For them it is money income, and they proceed to spend the greater part of it on consumption goods. The new money, now slightly soiled, thus gets absorbed into the money stream which it swells. Simultaneously, there are significant changes in the stream of goods and services. Given conditions of full employment, the investment programme of the government must necessarily have diverted some units of the available factors of production from consumption goods industries to capital goods industries. The supply of consumption goods will be reduced in the short run. Even in the absence of full employment, this is likely to happen, owing to imperfect mobility. The expanding money incomes and the concomitant constriction in the supply of consumer goods will create a condition of excess demand which will lead to inflation. If controls are not rigorously imposed on the economy, the inflation will be open and not repressed. Prices will rise. The cost of living will increase. People with fixed money incomes will find their real income reduced. Financial

limitations will compel them to curtail their real consumption. The process of forced saving will take place.

Before proceeding further it is necessary to examine the constituents of the fixed income group in order to determine how far forced saving is detrimental to economic welfare. The salaried employees both private and governmental, the clerical and menial staff in offices, belong to this group. While the recipients of handsome salaries (such as those performing managerial or high administrative services) react to higher commodity prices by reducing their margin of saving rather than by trenching on consumption, the people who enjoy salaries below the income tax exemption limit are hard hit. A rise in the price of food, clothing and shelter tightens the belt of poverty round their waists. The sociological perversity of this class makes it reduce the consumption of necessities rather than conventional expenditure.

The implications are serious. If forced saving through inflation is considered as a method of taxation, its incidence is seen to be iniquitous. It involves an impairment of purchasing power in quarters which are not strong to bear the loss. It does not treat all persons equally, but no tax does this. Its inequity can, however, be tempered by countervailing fiscal measures. A compensatory system of taxes and bounties will lubricate the wheels of the economy and ease undesirable frictions. Taxes must be designed to mop up the savable surplus of the high-salaried group, so that they might restrict their real consumption of luxuries and comforts. Graduated grants, in the form of dearness allowances, must be offered to the low-salaried employees, so that their standard of living and nutrition might not fall below the decent minimum. In this way forced saving can be extracted from the fixed income groups.

No government should dream of embarking on a programme of development through forced saving without being prepared to spread out a network of controls. When the Welfare State is accepted as the ideal, a certain degree of paternalism on the part of the government is necessary. It is a mistake to abandon economic controls just because they are liable to abuse. The problem of conspicuous consumption, for instance, can be tackled by import controls and the tariff to some extent. In a backward economy, there is a strong case for the prohibition of certain articles of luxury which have a snob appeal among the parvenus. This will release the country's resources of foreign exchange for the

purchase of machinery from abroad. Control of capital issues is also essential, since the aim is to utilise domestic resources for optimum results. If there is considerable inflation of prices, even rationing of essential consumption goods may be resorted to. A growing economy should be prepared to make sacrifices and face austerity just like a wartime economy. The similarity is not superficial for a growing economy is also engaged in war, a war against poverty and backwardness.

There is a credit side to be considered too. All this tightening of the belt is not for nothing. It is to increase the capacity to produce in the near future. The period of austerity will cover the time lag between the investment input and the consumption output. It need not be very long, if the planning is realistic, yet forward-looking. This is the difference between a war economy and a peace economy.

The technological problems of capital formation are difficult to solve. In modern underdeveloped countries, the so-called Demonstration Effect works not merely on the consumption side, but also on the production side. We find here an astonishingly wide range of production techniques. Primitive devices which have long been extinct in Western societies coexist with the latest gadgets that science can supply. In a backward country, technical obsolescence seldom occurs. This makes it hard for the planners to decide which particular technique of production should be chosen for governmental investment, how heavy the heavy industries should be. No guiding rules can be laid, for it all depends on the circumstances.

Discussion

The author of the paper made a strong plea for the adoption of "forced saving" as a method of capital formation in an under-developed country. His definition of forced saving as the restriction of real consumption on the part of fixed income groups on account of a rise in price-level created by an addition to monetary circulation, did not receive general acceptance. The suggestion that "compulsory borrowing" has a better claim to be called forced saving was not accepted by Mr. Madhavan.

It was pointed out that this method of forced saving would yield only negligible results because fixed income groups form only a very small part of the community. It was further suggested that the other more conventional types of raising revenue for

development should be preferred to forced saving. The author's reply was that his "forced saving" should be employed in addition to the other methods. He defended the method on the ground that, unlike the conventional methods like taxation, forced saving could take place without the people being aware of it. This argument, however, was not accepted.

The author's suggestion of a compensatory system of bounties and allowances to the low-salaried groups to enable them to withstand the inflated price-level came in for criticism. It was pointed out that what the State would get from the high-salaried groups would thus be frittered away to the low-salaried groups. This addition to consumption-capacity would further defeat the purpose of forced saving.

When the discussion turned to the consideration of suitable alternative methods of capital formation, the idea of the Turnover Tax, as practised in U.S.S.R., was put forward. The suggestion got a generally welcome reception, although one member feared it might lead to inflation.

STRATEGIC OUTLINES OF THE SECOND PLAN

Some Reflections

By

B. RAMADORAI

The purpose of this paper is to study the strategic lines of approach to the Second Five Year Plan as evidenced in the Draft Outline. The Plan is much wider in scope. It has its political, administrative and social aspects which are as important as the economic part of it and which in point of fact to a great extent determine the tempo of planning. But these extra-economic aspects are assumed as given and are treated only in occasional digressions.

The strategic outline of the Plan is this: conceptually, the economic landscape is divided into two segments. (1) Investment for production of machines which produce the machines which produce the goods—in other words, the first segment is that of heavy industries. The accent of the Plan is, as it should be, on industrialisation. And industrialisation is impossible without heavy industries, because it is they which constitute the bedrock of every economic structure. No country which wants to industrialise itself can possibly do without investment in heavy industries. It is this argument which has weighed with the Planning Commission and there can be no dispute about that. Heavy industries should be there.

The second segment is concerned with consumer's goods production. The type of reasoning is that, while the economy is busy building up its base, an adequate supply of consumer's goods should be ensured during that period. In the first place, normal consumption demands should be satisfied. In the second place, new consumption demands resulting from a programme of investment in heavy industries should also be met. In other words, a programme of heavy investment in heavy industries generates higher incomes in the economy, which, other things remaining equal, will lead to greater purchasing power in the hands of the people. In an economy where the propensity of the people to

consume is high, greater purchasing power will without doubt pull its weight with the price level, in the context of constant supplies of consumer's goods. If the production of consumer's goods does not or is not made to respond to increase in purchasing power, price level begins to rise in the familiar inflationary way. This should not happen. If supply does not increase *pari passu* with demand, the resulting situation becomes inflationary. How can the Planning agency tackle this situation?

There are two ways. One is to impose and rigidly enforce physical controls on real consumption. This method finds favour in totalitarian techniques of planning. It has the advantage of accelerating the pace of development because greater resources are left for investment in heavy industries.

The second method is to ensure that the rate of increase in consumer's goods production is commensurate with the rate of increase in demand. This method finds favour with the Indian Planners. The advantage claimed for this method is that it avoids the unpleasantness and the sufferings that are associated with measures that rigidly restrict real consumption. Perhaps. Furthermore, a country the political framework of which is democracy finds it easier to compromise the demands of planning with the wishes and whims of people to the extent necessary or possible than impose hardship on the people and risk their displeasure. This aspect of the question merits a deeper examination. How far is it worthwhile to grant concessions to the demands of political democracy at the expense of the demands of economic development? In this particular aspect of the question, i.e. the alternatives of restriction of real consumption or increase of consumer's goods production, the Indian Planning Commission has plumped in toto for expansion of consumer's goods production. The Commission has sternly discountenanced the suggestion of restriction of real consumption. This enthusiasm of the Commission in favour of increase in consumer's goods production appears hasty and misdirected. The paramount need of an under-developed economy is a quick pace of economic development and any inhibiting force that slackens the pace should to the extent possible be put down. And the greatest misfortune that can happen to an under-developed economy in the initial stages of its economic development is to suffer from some of the unimaginative concepts of political democracy. Let this statement not be taken for a blasphemy. Democracy is an evolving concept. No country in the world is perfectly

democratic and no country is perfectly undemocratic. Every country is democratic in its own way. The problem in an under-developed country is how to balance the ideals of political democracy with the need for power in the sphere of planning. There is after all something in the statement that when there is a planner there should be a hangman. To be back from the pardonable or unpardonable digression, the planning agency could have done well to examine seriously the need for restriction of real consumption in the economy at least for some years to come.

In the same segment, i.e., consumer's goods production, there is another aspect which should be examined—the place accorded to cottage industries. The Plan has a distinct bias to labour intensive schemes of production in the expansion of consumer's goods. This is to meet the demands of an employment policy in an under-developed economy suffering from a heavy population problem. The argument is: cottage industries are labour-intensive. Labour-intensive schemes of production should be encouraged in a country with heavy population. Therefore cottage industries should be encouraged.

By and large, there is a good deal of sense in the argument. Cottage industries do have a place in a country's economy and it is imperative that the planning agency should be clear as to the place which these industries should occupy not only in the present juncture but in the future stages of economic development. The pattern of economic development which is envisaged is as follows. The economy is backward. It has been exploited and its interests have been neglected for hundreds of years in the past. There is a heavy population problem. The techniques of production adopted are sometimes primitive, often bad and mostly backward. The upshot of all these forces is that the economy is helplessly whirling in the grips of a network of interlocking vicious circles all leading to the same vortex of low income, low productivity, low standard of living, low savings, low investment, *et hoc genus omne*. To break these vicious circles and give the economy the needed operational dynamism, the only possible solution is industrialisation. And industrialisation involves investment in heavy industries and mechanised production of most consumer's goods except perhaps food. This is the pattern of development which is envisaged. Now what is the place that cottage industries should occupy in such a scheme of things? Crudely summarised, the attitude of the Planning Commission is this. During the transitional stage, i.e.

during the stage when the economy is bent on building up the basic industries, cottage industries should be utilised in the production of consumption goods. But once the economy is strong at the base, it will be shifted to mechanised production.

It can be easily seen that the solicitude shown by the planners to cottage industries is not of the Gandhian type. Gandhiji wanted them for their own sake. The argument which has weighed with the Planning Commission is purely economic. Cottage industries are to be preferred now because they are labour intensive. In other words, cottage industries are devoutly wooed at present only to be deliberately jilted in the future. A sort of Democle's sword threatening disaster in a not distant future is hanging over their heads. This is certainly not the way to develop cottage industries. It would be much better to leave them even now high and dry to languish and wither away. At least, some resources can be saved and used for better purposes. The implication of such a policy is obvious. There will certainly be certain millions of workers who will be thrown out of employment. To the extent possible they can be settled in newly reclaimed land areas, set to work on irrigation projects and road and house construction schemes. Still certain amount of suffering there will be and this suffering is inevitable. The path of planning is not laid in mosaic. As in war, so in planning the country has to put up with "toil, sweat and tears".

Discussion

While the author's endorsement of the emphasis laid in the Plan for the development of heavy industries was agreed to without dispute, his approach to the question of consumer goods production received sharp criticism. The proposition that the general standard of consumption in India was already low and could not by any means be lowered further was upheld by the group and accepted by the leader. The author further agreed that any attempt to lower the level of consumption must be confined to the sphere of conspicuous consumption. Here the doubt was expressed whether restriction of conspicuous consumption would, by itself, yield adequate resources for investment. The arguments advanced in the paper against the small-scale and cottage industries, though ably supported by one member on administrative and organisational considerations, were countered by the others on the grounds of capital-lightness and labour-intensity.

SAMPLE SURVEY METHOD

(With special reference to Economic Survey of Madras)

By

K. S. SONACHALAM

From census to sampling :

Sample Surveys offer a cheaper and a quicker method of obtaining factual information on certain desired characteristics of a universe (known also as population and aggregate). The characteristics (or items) desired may be the average income per family, the number of earners, the number of unemployed, the average yield per acre or retail sales by kind of business. A census or a comprehensive count may yield results if the quality of investigation is high and response good. But it is a costly, time-consuming process, not always feasible in modern populous communities, nor always accurate due to non-sampling errors arising from faulty methods of measurement, interviewing, design of the questionnaire, processing and tabulating techniques. On the other hand, the recent advances in Sampling Methods have made it possible to ensure reliable results.

A Sample Survey project falls into three parts :

(1) specification; (2) design and (3) appraisal.

I Specification :

Specification means a lucid specific statement of the purpose or ends in view. A sample survey is not a purposeless yet persistent effort to collect unrelated, incoherent mass of data. Data are collected to provide a broad factual basis to solve a problem or to shed light on dark crannies. In the consideration of any survey, it is necessary to obtain answers to the following questions :

(1) What kind of statistical information is believed to be necessary?

(2) Why is the information needed ?

(3) Could the desired information be collected at all or at reasonable cost ?

(4) When the data are collected, could the data be interpreted in a form that would assist rational decisions or add to knowledge? In short, why a sample survey?

Even a mere fact finding or exploratory survey fulfils the purpose of adding to the existing fund of knowledge. e.g., the 1942 Handloom Fact-Finding Survey and the current beggar Surveys. In a progressive society, business, the Government and the Professions need factual information for decision making, policy formulation and the development of social and economic theory. Lack of knowledge may lead to wrong decisions and policies which could never be implemented. Filling up such lacuna would justify a decision to conduct a sample survey.

The problem for which Economic Survey of Madras seeks to provide factual basis is the phenomenal growth of population, about 6 lakhs or nearly 70%, in the inter-censal period 1941-51. The preliminary questions stemming from this problem of rapid urbanisation are the following:

1. To what extent is the increase of population due to immigrants?
2. Which is their original home, village or town?
3. What is the cause of their migration? Is it a pull or push factor?
4. How are the immigrants employed?
5. What are the socio-economic effects of this influx on the original inhabitants of the city?
6. If the immigrants are not employed, could they be repatriated? (Are not the proposed land reforms likely to provide them better employment in the agricultural sector?)
7. Are the agricultural immigrants willing to go back to land?
8. Are the unemployed — original as well as immigrant — willing to undergo training in small scale and cottage industries?
9. What is the magnitude of disguised unemployment in the urban area? Are the affected persons — men and women — willing to be more intensively employed?
10. Are the unemployed prepared to move out to any part of the country if they are provided regular employment?
11. Are the unemployed willing to work in factories or in their own homes?
12. How are the casually employed and unemployed adjusting to urban conditions of living? Have they got socially assimilated into the urban population?

Answers to these and several other questions in the questionnaire would provide relevant factual information for decision making and policy formulation in regard to the problem of the huge rural-urban migration. If the individuals do not desire to go back to the land or to be employed in hand or cottage industries, or to move out to project areas where assured employment could be had, but desire only regular 8 hour employment in large scale factories or 6 hour work in offices in Madras city or its environs, the policy decisions for transplanting them or fitting them into cottage industries sector will have to undergo a sea-change. The results of the survey are bound to be of value when great new policies are in the making or in the offing.

The characteristics on which factual information is collected in the Economic Survey of Madras are migratory status, employment position, character and causes of migration, training desired, aptitude and experience of the unemployed etc. Most of the characteristics are capable of being statistically measured. The survey is also concerned with a study of attributes, as distinguished from variables, like marital status, economically "active" and "not active". These attributes are classified and the results afford some additional light on the main problem.

II. Design :

Designs for a sample survey may be spurious or scientific. To collect the desired information several alternative designs are possible. The use of an expert's opinion, choice of convenient units in respect of accessibility or response, purposive sampling and biased selection are spurious designs. They contain items in wrong proportions, include items outside the universe and omit important elements, leading ultimately to false conclusions. These, called judgment designs, are non-measurable designs. Statistical techniques do not provide any method for computing the sampling errors in their results. The difference between the sample result and the true value i.e. the result from a complete count taken under the *same* conditions is measured by what is called the "precision" or the reliability of the sample result. This precision cannot be measured in judgment surveys. A scientific sample is that in which the probabilities of selection are known. It is called a random sample or probability sample and here the reliability of the sample result could be measured. The Economic Survey of Madras has adopted stratified random sampling which is a little more refined than unrestricted random sampling (Vide infra).

PRINCIPAL STEPS IN A SAMPLE SURVEY

(i) *Definition of universe to be sampled:*

In Economic Survey of Madras the universe consists of the population of Madras city. This fixes a spatial limit. No person living outside the Corporation limits will be included in the universe.

(ii) *Determination of the data to be collected:*

Data relevant to the purpose of the survey should be collected. No essential data should be omitted. The various blocks in the Economic Survey of Madras questionnaire would show the broad categories of the data collected. As one of the objectives of the survey is to find out the origin of the immigrants, the stages of migration before reaching Madras city, the occupation and economic status of the immigrant at home and in Madras City, Block No. 15 is drawn up so elaborately. Frequently there is a tendency to collect too many data which has to be discouraged. Block No. 14, concerned with domestic servants though not directly related to the main issues of the Survey, has been added as the Research Programmes Committee of the Planning Commission has directed that important information on special problems of local importance may be collected.

(iii) *Methods of measurement:*

Data must be capable of precise measure. As far as possible the Economic Survey of Madras questionnaire has been drawn bearing this point in mind. Yet some data, like desire to leave the city, do not satisfy this criterion. However even these data provide attributes for classification which shed significant light on the problem of immigrants. The manner and order in which questions are asked would produce substantial differences in the results whenever human population is the subject of the survey. This point too has been kept in view in drawing up the questionnaire and in constructing the schedules.

(iv) *Choice of Sampling Unit:*

In the urbanization surveys, the choice of the sampling unit offered some difficulties. It could be (1) all the persons living in a house; (2) members of a household or (3) an individual person. Finally a household has been chosen as a sampling unit. In all

sample surveys, the construction of a complete list of sampling units or the universe may be one of the major practical problems. In the Economic Survey of Madras, the complete list called the Frame was available in the National Register of Citizens maintained fairly up-to-date by the Corporation of Madras. According to the 1951 census, Madras city had 282,930 households. This number would have changed since then but the National Register of Citizens provides a fairly satisfactory frame.

(v) *Selection of the Sample:*

There are several procedures by which a sample may be selected. A specified number of streets or blocks in the city may be selected and all the households in them or a fraction of the households in all the streets may be investigated. The most important consideration in the selection of the sample is its size which depends on the finance available. If the budget allows a larger grant, a larger sample could be chosen yielding a greater precision. In the Economic Survey of Madras the sampling fraction is $1/20$, or 5% sample. Since the universe consists of 282,930 households it is planned to survey 14,277 households or 1 in 20. The fifty Corporation Divisions of the city are taken as the strata. A uniform fraction of $1/20$ households from each stratum or Division was selected by a reference to L.H.C. Tippet's Random Sampling Numbers. Thus each unit in the population is assured an equal chance of being included in the sample.

In unrestricted random sampling, the units in the population are numbered from 1 to N . A series of requisite random numbers 1 to N is then drawn. In extremely unlucky cases, this process may leave several Divisions or blocks of the city unrepresented. It would not matter much if the distribution of the population over the entire city is perfectly homogeneous. Madras city has a highly heterogeneous population scattered in all the Divisions in scarcely recognisable proportions. Accidental omission of a Division like Triplicane, Mylapore, Perambur or Choolai may distort the sample. A scientific sample should afford a good cross-section of the universe. To avoid the omission of significant Divisions, stratified random sampling is adopted which ensures a uniform fraction of houses from each one of them occurring in the sample, although it may not cover every street, alley and lane in them. The total population of households N is broken into $N_1 N_2 N_3 \dots N_{50}$ units as they occur in the 50 Divisions. The latter are called sub-popula-

tions which together make N or 282,930 and they do not overlap. From each of them, 1 in 20 is selected by means of random numbers with the result that the samples in them will be $n_1 n_2 n_3 \dots n_{50}$ the sum of which will be the required sample of 14,277 households or " n ".

(vi) *Orientation and training:*

For both the types of Investigators, freshmen and the experienced, orientation and training are necessary. For one thing, each survey is usually unique. Several terms and concepts have peculiarities of their own which have to be learnt. The objectives of the survey and the background information should be well understood. The Investigators should have a clear enough grasp of the terms to convey their true meaning to the respondents. They must be able to explain the purpose of the survey in a suitable manner. They should learn to frame questions capable of eliciting the desired information without the least fraying of feelings.

(vii) *Pilot Survey:*

After orientation, training in actual field work is given through a pilot survey which fulfils many purposes. Apart from training given to investigators, it serves to test the Questionnaire itself and remove vagueness, redundancy, and other difficulties. This pre-test enables us to gain a knowledge of the reactions of respondents to the investigation and suitably amend or amplify the scope of the survey. The Pilot Survey is therefore followed by a refinement of the questionnaire. Too ambitious columns are taken out. The final questionnaire will thus gain greater realism.

(viii) *Organization of the field work:*

An important requirement of the survey is that it should respect time-cost schedule. The survey of the targetted sampling units should be completed in time. The allotment of work is not the only organisational part of the survey. A procedure for early checking of the quality of the returns is essential. This is done by spot-checking of about 10% of the households and a careful scrutiny of all the schedules. Spot-checking will show whether the Investigators have strictly adhered to the sample or bent it to their convenience. It will also keep the Investigators alert, avoiding slackness,

III. Appraisal: Scrutiny, Editing and Coding.

All the filled-in schedules require to be scrutinised for rectification of mistakes of all kinds. Obvious slips are corrected e.g. a daughter-in-law may be put down as Male. No serious inroads could be made in the course of editing. It is confined to amending recorded errors. It is wrong to reject certain schedules because they do not conform to the pattern of one's thinking or hypothesis. Coding is an aid to systematisation of the data and a necessary pre-condition for mechanical tabulation like punching and machine sorting. Even otherwise it is an essential pre-requisite for tabulation.

Tabulation and Analysis:

Tabulation procedure is governed by the number of questions for which answers are sought. It is thought out well in advance, even at the specification stage. Analysis of the data follows and averages and percentages are worked out.

Estimates and Precision:

Statisticians have developed several methods of estimates. The simple unbiased estimate is obtained by multiplying the sample total by the reciprocal of the sampling fraction, N/n , i.e. in Economic Survey of Madras by 20/1. The factor N/n is called the inflation or expansion factor.

For estimating the population mean or total, a ratio estimate using the value of the same item at a recent census is sometimes very successful, if available.

Estimates based on the sample mean or weighted sample mean are often more precise than the unbiased estimates. If large samples are taken to yield reasonably reliable estimates of the variances it would be a reasonably safe procedure to estimate from the sample itself the variance of each of these estimates and choose the form of estimate that has the smaller estimated variance. This method will be adopted for final estimates in Economic Survey of Madras wherever suitable.

In analytical surveys like the Economic Survey of Madras (as distinguished from descriptive surveys) it may be desirable to compare the average values of certain variables in one part of the population with those in another part; e.g. it may be decided to find out whether differences exist between the immigrants and

original inhabitants, population of North Madras and South Madras, lower and higher educational groups, various linguistic and religious groups. The United Nations Sub-Commission for Sampling has applied the term "domains of study" to these parts of the population.

Sources of error: Sampling errors:

The course of sample survey never runs smooth. Things never go exactly as planned in a complex survey. It is the duty of an alert sampler to recognise mistakes in execution and to see that they do not recur in the same or future surveys. Errors arising from defective sampling method or design are called sampling errors. They constitute the difference between the estimate computed from the particular sample and the result that would be attained from a complete census if the same interviewing and other procedures involved in collecting the data are followed. In the United States Census Bureau, the Mecca of sampling experts, there is in vogue a saying, quite the opposite to Gresham's Law: "Good samples drive bad samples out of use". It is possible for the Statistician to select an optimum sample which will give more reliable results per unit cost; that is if for a given cost it gives results of a greater precision or if results of a specified precision are produced at a lower cost.

Non-Sampling Errors:

Non-sampling errors are common to both sample surveys and complete counts. They arise from a faulty understanding of the purposes by the statistician, mistaken definitions not pertinent to the purposes, defective questionnaire, cavalier method of collecting the data, biased selection of investigators, lack of true zeal for research and integrity among the field workers, tabulators, supervisors, right up to the sampler, wrong processing methods etc. There may also be response error due to wrong answers given unwittingly or purposely and difficulty of recalling a past event. In the census, response error tends to vitiate seriously the true value. Errors in coverage too may arise from under or over-coverage, missing some points and duplicating some other units and from wrong application of a definition (e.g. an immigrant for the purposes of Economic Survey of Madras is one who arrived in Madras in 1940 or later). Then there are classifying, compiling and publication errors. In the last category, failure to point out

the limitations of the statistics should be viewed as a grave error. Attempts to give erroneous impressions of the survey statistics tantamount to a crime against society. Non-sampling errors could be minimised to a great extent by the form of the questionnaire, method of interview and the ability and training of the interviewer, zeal and perseverance of the tabulating and analysing staff.

To conclude, the sample survey is like a chain made up of several links each of which is important. No link could be permitted to become weak. For effective control of operations in the successive phases, resources in money and technical personnel are scarce and require optimum allocation. A sample survey calls for different types of skill and it is practical business. Poor work in one phase may ruin a survey in which everything else has been done well. It is in essence a high grade team work.

Discussion

The author explained with examples and illustrations the meaning and purpose of the sample survey *vis-a-vis* the census. This was followed by a discussion on the relative merits as well as practical difficulties of the different sampling techniques, such as Random Sampling, Stratified Random Sampling, Multi-stage Sampling and Systematic Sampling.

The author explained how the choice of 'design' in a sample survey was determined by the objectives of the survey and illustrated the principle with reference to the Economic Survey of Madras (ESM). Opinion was sharply divided on the merits of the method of stratification adopted by the ESM which had chosen the Corporation division as the basic stratum. While on the one hand its special advantages were pointed out, critics questioned the scientific value of the method adopted. There was however general agreement that the method would not vitiate the results. The merits of alternative methods of sampling and stratification were also discussed.

The different types of non-sampling errors liable to enter a socio-economic enquiry were then taken up and various measures suggested to eliminate or minimise such errors. Considerable stress was laid on the tact and integrity of the field investigator. One member doubted if socio-economic enquiries would be useful at all if non-sampling errors would render the data largely unreliable. To this the reply was given that (i) steps could be taken

to minimise non-sampling errors; (ii) checks and cross-checks could be introduced which would not only reduce but indirectly measure the extent of non-sampling error; (iii) that socio-economic enquiries which were largely successful in advanced democracies could be made successful in the new democracies in course of time; and lastly (iv) that it was better to have some statistics than no statistics.

Trainees who had done field investigation during May and June then raised a few questions and practical difficulties in the light of their experience. The discussion closed with suggestions of steps to obviate such difficulties.

THE SCIENTIFIC METHOD: ITS ROLE IN SOCIAL RESEARCH

By

T. P. SUBRAMONIAN

(1)

Science is knowledge. Knowledge is the result of mental activities operating upon a world of objects. Science is also the method by which additions are made to the heap of definitely established knowledge. Science is thus considered both as organised knowledge and as the process leading to knowledge. It is on the latter aspect of science that stress is laid in this paper; and this may be called the scientific method, the method of scientific enquiry.

The scientific method is not to be regarded as a ready made formula which could be applied by anyone. It is rather "an approach, an attitude, a combination of procedures, a set of values, which have in the past proved favourable to scientific investigation and are recognised as characteristic of it".¹ Essential elements of the scientific method are "the spirit of free inquiry, the reliance on observation and experiment, the systematization of knowledge through generalisation or laws and the continuity of inquiry".² The spirit of free inquiry suggests an open mind, free from prejudices and pre-conceptions and an inquiring mind, ever on the search for truth. Reliance on observation and experiment becomes part of a scientific attitude, as nothing that could not be learned by observation and tested by experiment would be acceptable to the scientist. A concern with generality and system is equally important. A scientific enquiry is not primarily concerned with individual objects or events but rather with types, kinds or classes of objects or events of which the individual object or event is a specimen or an instance. The scientist is "an invincible classifier and organizer of his experiences". He tries to find a scheme for understanding their complexity and causal relationships. The

1. Emberger & Hall: *Scientific Writing*: (1955), p. 2.

2. *Ibid.*, p. 1.

common characteristics of types or classes are ascertained and general laws are framed, and the discovery of many such laws leads to a whole pattern or system. The stress on continuity of the inquiry brings out the cumulative nature of science. Each worker takes up the thread where the one before him left and every new discovery is an expansion of the horizon of knowledge.

(2)

The scientific method consists essentially of three stages; the accurate observation of data, the formulation of a hypothesis and the promotion of the hypothesis, after empirical verification, to the status of a theory or law. Let us examine the application of these processes in the field of social sciences.

The development of all sciences, social as well as natural, has been based on man's observation of himself and his environment. "The modern era in science began when the medieval practice of referring questions to authority and speculation gave way to the modern practice of referring them to investigation and observation".³

If observation is to be fruitful, it should be confined to significant and relevant facts. The study of previous work on the subject is a guide in this respect. A vague idea of the problem, a preliminary working hypothesis, is formed in the researcher's mind; and he proceeds to the observation of relevant data.

Data must be accurately observed. But accurate observation presents certain difficulties in the social sciences, as distinguished from the natural sciences. Dealing with human relationships, the social scientist is part of his material. The material for observation is too familiar; and the very familiarity renders accurate observation difficult. One should therefore take care not to miss the actual facts and substitute for them one's own imaginations. The observed data must be accurately recorded. Recording calls for a suitable medium. Dead languages like Greek and Latin have provided the natural scientist with an adequate technical vocabulary. The use of contemporary language for technical terms in social sciences is apt to lead to confusion. Concepts like "culture" "society", "attitude", "value", "land", etc. are examples of terms which convey widely different meanings to the social scientist

3. *Ibid.*, p. 7.

and the common man. To some extent, the confusion and misinterpretation can be avoided by providing exact definitions, standardizing such definitions and reaching agreement on their uniform usage.⁴

(3)

The next stage in the scientific process of enquiry is the formulation of a hypothesis which is a tentative explanation of the phenomena observed. As stated earlier a vague hypothesis would guide the selection of data for observation. But on the basis of the observations, the hypothesis is to be more clearly formulated.

The formulation of the hypothesis is a crucial step in research. The function of a hypothesis is to suggest laws of association between observed phenomena. This suggestion is then put to empirical test.

As in the case of observation, so in the case of hypothesis, special difficulties appear to face the social scientist, as distinguished from his counterpart dealing with natural phenomena. It is said that human behaviour is indeterminate and human affairs intractable. To the extent to which this contention is valid, laws of association are not possible in social sciences and hence formulation of a hypothesis to anticipate such laws becomes a difficult endeavour.

The consolation for the social scientist is firstly that human behaviour is not entirely indeterminate, and generalisations are, by and large, possible; secondly, it is not necessary for the progress of a discipline that the phenomena dealt with be entirely tractable.⁵ For, the laws one attempts to establish need not be in the shape of a mechanistic cause-and-effect relationship. They could largely be statements of association. Even in natural sciences, laws are of varying degrees of probability. The raising of an association of lower probability to a degree of higher probability is the hallmark of scientific progress. This is possible by accumulation of knowledge and improvement in the tools of research.

Formulation of a hypothesis requires imagination. It is a creative art but it can be studied and cultivated.

4. Pauline V. Young: *Scientific Social Surveys & Research*, (1956). p. 102.

5. Barbara Wootton: *Testament for Social Science*, (1950), Ch. II,

(4)

In the third stage, the hypothesis is put to the test of empirical verification. If found right, it is raised to the status of law; if found wrong it is rejected; the data is re-examined and the hypothesis re-formulated.

Experiment is valuable for testing a hypothesis. Here again social sciences are under a handicap. Human affairs are too complex for experiment and the human being has a will of his own, not entirely amenable to external experiment. Controlled laboratory experiment has to be ruled out in most of the social sciences. (Psychology is an exception, and a valuable exception at that). The social researcher has therefore to content himself with the substitute of controlled observation. In fact experiment in social research usually means controlled observation. Notwithstanding the difficulties of setting up controls in human relations, present day social science has shown a growing ability to set up more and more effective controls.

Empirical verification also requires quantitative measurement. And this is yet another handicap for the social scientist—the difficulty of subjecting his data to quantitative measurement. The importance of quantitative measurement has only been recently realised in the realm of social sciences. But since this realisation rapid strides of progress have been made in Sociology and Economics. The different kinds of economic surveys in India at present are indicative of this trend. If the results arrived at by these surveys are not perfectly reliable, it does not imply that the fields of enquiry are not amenable to quantitative study. It only shows that the process of measurement is more difficult in the social than in the natural sciences and hence the need for greater refinement in the technique of measurement.

In the application of the scientific method, the Social Scientist faces certain difficulties which the natural scientist does not. But that is the only method by which any science can progress. The development of the social sciences will therefore depend on the degree to which these difficulties are overcome.

Discussion

Outlining the basic requisites of a scientific attitude, Mr. Subramonian explained the scientific method as consisting essentially of three stages, observation, hypothesis and verification. In

each of the three stages, the social scientist would be faced with certain difficulties which the natural scientist would be free from.

A doubt was initially raised whether it was correct to talk in terms of *the* scientific method and whether there were not available to the scientist *a number* of different scientific methods. The reply to this was that if scientific method was understood in the sense explained by the author then there could not be a plurality of scientific methods. It was further contended that the scientific method of inquiry could work only in the complete absence of imposition of ideas from above. Also, neither the stages nor the conclusions of the scientific enquiry were infallible.

When a member tried to argue that the questionnaire method was applicable in some situations and inapplicable in others and that therefore the scientific method was not of universal applicability, the author explained that the questionnaire was only a technique of observation and verification and that one should avoid confusing it with the wider concept of scientific method, a method which permitted the use of diverse techniques according to the needs of the situation.

Clarifications were sought by members on how a scientific enquiry was concerned not with individual objects or events as such, but rather with types and classes leading to generalisations, and explanations were offered by the author with the help of examples.

It was said by one member that all the stages of the scientific method were not indispensable in some of the metaphysical sciences. It was also said that some stages of the scientific method were difficult of application in the social sciences, e.g., verification by experiment and quantitative measurement. This was an inherent handicap in the Social Sciences, but the consolation was that some precision was better than no precision at all.

THE CASE STUDY METHOD

By

M. H. GOPAL

The case study is often termed a method, sometimes a technique, at others an approach to social reality and occasionally a mode of organising data in terms of some chosen unit. Whatever the nomenclature, it is an old and important method in social research, developed and extensively used in U.S.A. In the light of its objectives and structure described below, the tool appears highly useful for social analysis, specially in a developing country where varied social institutions act and react on one another.

Features:

Case-study is largely a non-statistical device. It believes that the statistical approach to a social problem is not always adequate, for "Statistics will never tell the whole story". The statistician studies individual traits in a large number of separate units and takes a horizontal view of society across a vast area of data. His technique, no doubt, enhances the reliability of the study by increasing the total number and the representative character of the data; but it is really concerned with the nature of the common denominators and can, at best, correlate a few factors. This is essentially a quantitative micro-approach to social problems.

But to be understood and assessed correctly, these problems need a developmental macro-approach—a kind of qualitative analysis. "Social science", it is said, "aims to study social reality. It is difficult to conceive social reality in the form of a statistical table, since social reality is real only when taken together with the social setting, the social happenings and group elements which produce it". The objective of any analysis should be an intensive study of the 'subjects' in all their component, changing parts rather than a cross-section picture at any particular point of time. An organic explanation of social behaviour and problems is essential, for, "any act of a person or group gets meaning in its configuration or frame of references in the life experience of that person or group".

Case study may, therefore, be defined as "the method by which we gather facts regarding 'total' situations or combinations of inter-related factors by which we describe the social processes or sequence of events in which human experience occurs, or by which we study individual behaviour in its social setting and by which we analyse and compare cases leading to generalisations or formulation of principles." In both the data gathering and analysing phases, changes in time and processes are followed in case studies, and the relevant characteristics as they appear in interaction are noticed so as to maintain the unitary character of the social object. A historical-genetic method offering a continuous picture through time is provided, since set questionnaires and schedules are *by themselves* ineffective in the study of an evolving life history of intangible factors and social forces. In the statistical or 'modern' technique of analysis where cross-tabulation is followed, the *person* disappears from the analysis and the *traits* become important in the tabulation. We cross-tabulate the distribution of one *trait* with that of another. Cross-tabulation is essentially static, though an element of process can be introduced, e.g. by the time series. The individual representing the 'wholeness' of these traits is overlooked.

The 'wholeness', however, is preserved in the case study. Every trait and every variable is linked with another, for is not every institution or trait, like every living organism, 'a construct' ? While there should be a limit to the area of enquiry, an overall approach must be and is made. Thus the perspective of the case study is qualitative and aggregative, taking note also of the process of *development* of the unit.

"Statistical technique", observes Prof. Young, "depends upon the reduction of data to quantitative terms in order to yield totals, averages and correlations; the case study technique seeks data in terms of processes which, for the most part, cannot be stated numerically. The statistician selects certain specific factors involved in social situations and manipulates them so as to discover the relations between the several variables. The case student examines single situations, persons, groups or institutions as complex wholes in order to identify types and processes."

The statistical and case-study approaches, however, are really not mutually exclusive. They are, in fact, complementary and inter-dependent, and both may be employed with advantage in the same project. While one method analyses masses of data horizontally and cross-wise, the other studies vertically a small

number of individual cases in detail and as a whole — the number of units may be small but the total number of traits is large.

The complementarity of these methods may be at three levels : first, in the choice of units for case study. Preliminary statistical studies — perhaps in the nature of a pilot survey — may guide the selection for detailed case study. Secondly, a prior case study may help the statistician in developing the final questionnaire, which is necessarily selective both in the sample and in the problem. Otherwise, in the process of selection, the researcher might choose items which seem outstanding to him and neglect perhaps equally important data. Finally, the analysis and processing of the case study material has to be treated statistically to confirm or reject the hypotheses and to determine the more precise correlation, etc.

Technique:

Any approach of such comprehensiveness necessarily involves the use of data with varying degrees of overtness and statistical accuracy. The technique of gathering and processing data may be put down in three phases : choice of cases, recording of data and their interpretation. Two essential features in the *choice of cases* are : first, selection of 'representative' units as far as possible. The 'typicalness' of the cases is important, for the individual case is studied not as a definite entity in its own right but as a representative unit of society. As suggested earlier, a preliminary statistical study may be useful. The ability in the researcher to recognise 'representative' cases is important and may facilitate selection. Secondly, although the case study has an overall outlook, a well-defined and carefully selected problem is presumed and a social situation in concrete is being studied. It is not an aimless collection of data. There would, therefore, be a necessary circumscribing of the limits of enquiry both in number of cases and type of data.

In *recording the data*, breadth and level are important. Studying the unit as a totality needs a broad array of facts so as to grasp the pattern of the individual's life in its many facets. Life histories of the units, their social attitudes, reaction to stimuli and social forces must be recorded. A mass of raw material describing in detail the background and social relationships must be accumulated. The recording must be not only comprehensive but also accurate. Seek data throwing light on the processes, causal

factors, and rate and direction of change within the typical social pattern. Presume continuity of human *nature* and social situations, although human *conduct* changes. Adopt some base-line position in the past to project contemporary life; the determination of the base depends on adequate data and sources to reconstruct the past. The data may be abstracted from levels other than the purely sociological or economic, e.g., a biological defect or a dominant religious concept may be recorded if it affects social relationships. This gives added dimension to the individual under study, placing him more fully in the network of his relationships.

Two other facets of recording relate to the formation of indices and types and to the interaction in a time dimension. To preserve the 'wholeness' the technique employed is the development of typologies and indexes so as to use the various traits in characterising the unit. These devices are being used in all varieties of qualitative analysis and cross-tabulations; but in case studies, the breadth and added dimensions of the data and the processes of interaction between the various facets of the unit's life become specially important in bringing out the type. Breadth and levels of data are to be supplemented by the dynamic factor — changes in process and time. So data over a period of time should come into the records.

A definite documentation should be adopted, e.g. clear identification of data through accurate description; classification of problems and objectives of study; definition of the methods and technique employed, etc. Varied sources and varied techniques should be used — person, institutions, records, interviews, schedules, personal observations, scoring devices, ecological method, etc. Remarks or criticism of data while fresh in the investigator's mind should be recorded. In fact, nothing significant should be overlooked. At the same time, no effort should be made to prove any theses.

The limitations of the case-study method are of two kinds — in the technique itself and in the personnel. There is, to start with, the practical difficulty of obtaining a sufficient number of records and of the enormous amount of work needed for an adequate analysis of the material. A blanket enquiry into the life histories of even a few may also lead to a great deal of irritation and resentment on the part of the units and may involve a great deal of money and time. But all research is expensive and needs tact,

time and money. Further, a large part of the data, that which is objective, may not lend itself easily to quantitative checks.

What is of greater concern is in the investigator himself. The investigator's bias is a danger in *all* techniques, but the danger increases in case studies, where he is in closer contact for a longer period with a smaller number of units. The records are open to errors of perception, judgment and over-emphasis of unusual events. The tendency to generalise on a few cases and to extrapolate unwarrantedly is present. The dangers of *ad hoc* theorising and neglecting to test his data become greater, since nobody else knows the case as thoroughly. Thus, unscrupulous and unscientific thinking has greater scope to operate.

This failing in the investigator and the greater temptation to ignore basic principles of research methods can, however, be countered in two ways. First, as experience and judgment on the part of the researcher are more important in case studies than in the statistical treatment of multiple observations, the selection of a well-defined and carefully selected problem becomes essential and so does the choice of trained and dependable investigators. Secondly, to neutralise the feeling of false certainty, develop a research design—an adequate sampling pattern, for instance; utilise the technique of qualitative coding for individual factors and traits; establish categories; define and delimit types of behaviour already recorded; establish precise coding instructions for the important qualitative items. In other words, systematise the mass of data by condensation, excision, reinterpretation, etc.

The varied *usefulness* of the case study technique overbalances its limitations. It draws attention to the role of each independent factor in relation to the others and provides a picture of past situations, furnishing them new meanings and responses. The study of data from different angles can point out the crises significant in the development of new attitudes and habits, spotlighting social developments in concrete.

The most important theoretical advantage of the method is that it gives a wider and greater depth of experience valuable in interpreting the data and in further research. It offers a corrective to the cross-tabulation tendency of concentrating on particular traits. "The case study, attempting to organise data round the unit of growth or group structure or individual life pattern, does force the researcher to think in these terms rather than fall back

on trait analysis alone." The surveyor needs to go beyond his narrow investigation. A prior case study will give him this wider experience and may yield new insights because of the differences between the two approaches. This would minimise the danger of disinterpretation possible when abstract, isolated and disjointed facts are presented in quantitative terms.

Case studies are also valuable as developers of ideas, sometimes leading to obvious conclusions and sometimes to hypotheses needing testing by experimental or other techniques. They also supply information for developing schedules and techniques for observation studies of large numbers of cases. Thus, "for the purpose of group or process analysis", conclude Goode and Hatt, "as against the analysis of individual traits alone, it is highly fruitful approach, as yet insufficiently exploited by those who are currently doing research into research techniques."

Discussion :

The author explained the merits of the Case Study Method and cited a few examples of its use. It was suggested that the group should devote its attention to examining whether the Case Study Method (CSM) had any advantages superior to those of the Statistical Method, before considering the complementarity of the two methods. A doubt was raised whether by using the CSM it would be possible or safe for us to generalise. It was further felt that under the CSM the comprehensive study of traits would make the field of observation unwieldy. The danger of the investigator's bias under this method, which had been admitted in the paper, was emphasised. For, the bias would arise from the investigator's over-familiarity with the object; but, then, intense familiarisation with the object was the basic characteristic of the CSM !

On the question of the field becoming unwieldy under the CSM, one member said that the increase in the number of traits to be studied was counterbalanced by reduction in the number of units studied.

It was argued that the CSM was a slow process and that the results obtained would not justify the time spent on it. On this ground a few members questioned the usefulness of the method for policy formulation. To this one member replied that the Statistical Method also took some time and cited the example of the Economic Survey of Madras — a three and a half-year project to

study the causes and effects of rapid urbanisation. It was further said that a long-term remedy to a social problem would require comprehensive data which the CS Method could furnish and the Statistical Method could not. Even an economic problem, it was said, could be understood fully only in a broad sociological and psychological background and such a study would be possible only by the CSM.

Difficulties in the choice of the units for study, their number and the manner of their selection came in for much discussion. When the random sampling technique was suggested for the selection of units, it was pointed out that the CSM was therefore dependent on the statistical techniques. Choice of the units, without employing such techniques, would make the selection biased, and as one member said, "the chances are nine to one, you will choose the non-typical and non-representative 'sample'." Arguing that the statistical method was the only reliable and scientific method for socio-economic enquiries, one member said the CSM might be employed for studying peculiar traits and abnormal phenomena! He further said that a general reliance on the CSM—which he described as an intensive study of one or two units unscientifically selected—would produce interesting short stories and thrillers but not statistically verifiable or generally reliable data useful for policy formulation!

Summing up the discussion the author made the following points:—

- (i) the basic feature of the CSM was that the unit, whatever it be, should be *intensively* studied;
- (ii) it *would be* possible to generalise from a case study. The validity of the generalisation would depend on the representative character of the units chosen for study;
- (iii) for choice of units, it would be desirable to adopt statistical techniques;
- (iv) a Case Study might be undertaken either with reference to an *area* or with reference to a *problem*; the method followed would be the same;
- (v) the vastness of a country would not make the CSM inapplicable; the method found widest application in the vast country of U.S.A.;

- (vi) the CSM was not opposed to the Statistical Method; on the other hand, the two methods were highly complementary in the study of social phenomena;
- (vii) while the Statistical Method was suitable to certain types of enquiries, the CSM would throw light on certain aspects which the Statistical Method would not;
- (viii) the CSM placed greater reliance on the human factor than the Statistical Method; and
- (ix) given time, money and the right type of investigators, the potentialities of the CSM were immense.

NATIONALISATION OF BANKS

By

M. DANDAPANI

I

The issue of nationalisation of banks has so far given rise to more political rather than economic discussions. Those who argued in favour of the proposal were invariably the Socialists and they confused political and economic issues. Their arguments were doctrinaire or of a more general nature carrying no special reference to the particular problem of bank nationalisation. Their main arguments can be briefly listed out : (1) The creation of credit is a State monopoly and private banks have no right in this field. The creation and distribution of credit is clearly a public service. (2) Private control of banking is always in conflict with public policy. (3) Nationalisation of commercial banks would mean the utilisation of the savings of the community not for the private profit of a few but for the social benefit of the whole people. (4) Better efficiency in providing the banking services can be achieved by the nationalisation of banks.

The central issue involved in each argument is disputable.

However, it appears that no longer will this issue of nationalisation of banks be confined to the small group of Socialists and more more economic arguments will be put forth for consideration. Certain changes in the character of banking operations, particularly the great expansion in bank holdings of government securities, have increased the apparent likelihood that in future recommendations may be advanced for increased socialisation of banking from quarters other than the socialist's camp. The main object of this paper is to analyse one of such arguments for nationalisation recently raised.

II

Support for a policy of nationalisation rests partly on the feeling that the traditional functions of the commercial banks as "referees of credit uses and users" has very largely disappeared,

While many valuable services continue to be performed by banks, their operations have assumed, more or less a routine, standardized character. Bank investments have become patternised. Risk of failure and hence any loss in business is almost ruled out under the aegis of central banking. This is evident from the huge dividend being declared by a number of banks. There is also the whispering argument that because so large a proportion of the income of banks is received as interest on 'Treasury Obligations', the Government may seek a corresponding share in their ownership and operation. For after all, is not the money that banks invest in Government securities rightly the public money held in trust with the banks?

The chief ground for anticipating an attempt to bring about nationalisation of banks, however, is that it could result, it is claimed, in a large reduction in the size of the national debt. It is from this point of view I think that the proposal for nationalisation calls for analysis.

The way in which nationalisation of banks would be effected is presumably as follows: On a particular day the Government would give Treasury bonds in exchange for outstanding bank capital and own the banks. By this method the Government comes to take over both the assets and liabilities of the banks, the major portion of the assets being its own promises to pay and liabilities being the deposits of the public. Now by this ownership, it is being claimed that the Government has wiped out a good portion of its debt—that portion of the debt held by the banks other than the Reserve Bank—because by nationalisation the debt has become a debt of the Government to itself.

But the argument is not so convincing as it is made to appear. Actually are not these assets—Government securities, etc.—held by banks as security for their deposit liability to the public? Would not this mean that the Government would owe just as much as before or perhaps even more, for it would now owe a larger sum to the former owners of the bank stock? The whole idea of the wiping out of the Government debt is an illusion. Even now the banks are likely to retain a large part of their holdings in Government securities indefinitely. To the extent that the Government are not going to be called upon to redeem its promises to pay, the wiping out of the debt through nationalisation would be nothing more than a formality. Even supposing

that this involves the wiping out of a great part of the national debt, the whole idea revolts against the modern conception of the burden of an internal debt. An internal debt involves no burden and the so-called wiping out of national debt in no way increases the capacity of the Government to borrow more funds, because along with the debt it has also appropriated one of the biggest institutions which contributes to the national loan.

A somewhat realistic argument says that nationalisation may involve the substitution by the Government of the non-interest bearing obligation of the Government in the place of the interest bearing obligations of the Government now held by banks. The interest bearing debt would accordingly be reduced by that amount. The issue of so much paper money would not, according to this argument, be inflationary, since additional notes could enter into circulation only through an exchange for an equivalent reduction in the amount of deposit outstanding. The actual position is that Government still pays interest on these papers, but appropriates the interest to itself. So the net effect is that they are non-interest bearing papers but not equivalent to currency notes.

In determining the extent of the reduction in the interest bearing debt and hence the debt charges to the Government which would be effected by this means, it would be necessary to subtract the amount of additional Government bonds (interest bearing) issued to the former owners of the bank stock. It is to be supposed that these newly issued bonds would be long term in character and the rate of interest paid on them would also be higher than the average now paid on the bank-held debt. For it should not be forgotten that a considerable portion of the Government obligations now held by banks consist of Treasury Bills which carry a low rate of interest. Further, the Government will be compelled to pay directly out of its general funds a large part of the expenses of running the banking system, which are now paid indirectly out of the interest received by banks on their investment in Government securities. These would offset the saving that might result in the debt charges by the reduction of the interest bearing debt of the Government. Of course, we are closing our eyes for the present to that portion of the income that a bank derives from other sources, for example, from commercial advances. But they are treated as negligible in the broader setting. Therefore to hold that from a fiscal standpoint a great deal would

be gained by nationalisation of banks is rather dubious. It depends on various factors like the proportion of the national debt held by the banks, the size of the national debt and the capital and reserves of the banks. In India at any rate, the present position of national debt and the savings that the Government may think of making in the debt charges through nationalisation are not sizable enough to encourage it.

III

So far we have argued the issue of nationalisation of banks in a general way applicable to all countries. But there are certain special defects in the banking system of India that have been pointed out as arguments in favour of nationalisation. They are:

(1) The banks have not managed their affairs well and the history of private banking in India is strewn with a record of bank failures recurring on an average at the rate of about 42 a year, if we take the last seven years into consideration.

(2) The banks have not developed the banking habits among the people and have neglected the whole of rural areas in the field of bank expansion.

(3) There is too much of over-crowding in big cities and towns with consequent competition and loss of national interest.

To deny the major truth behind these charges at any rate is difficult. But to take advantage of the charges and bolster up a policy of nationalisation would be wrong. For these three specific charges, the remedy lies not in nationalisation but in doing something else. Regarding the first charge, the Government can set up an institution for the insurance of deposits on the lines adopted in U.S.A. and safeguard the interest of the depositors, besides enacting stringent laws to keep a constant watch over the activities of the private banks. The second charge is met more than half way by the nationalisation of the Imperial Bank of India, and the new State Bank of India is embarking on a policy of branch extension in rural areas. The third argument about excessive concentration in big cities and competition for funds can be better tackled by an agreed policy of rationalisation of bank branches. The banks should come to an understanding among themselves to close down a certain number of redundant branches,

failing which the Government should impose on them such a scheme of rationalisation as it sees appropriate on the advice of the Reserve Bank of India.

In the light of the above discussion, I find no special reason for the nationalisation of banks in India at present. But I am frank enough to admit that the private banks have not much to their credit to insist on their inherent virtue. Perhaps the only and most telling argument in their favour is that there is no conclusive evidence to show that their abolition would bring forth better advantages.

Discussion :

In the course of the meeting the general question of nationalisation as well as the particular question of nationalising banks in India were discussed. While, on the one hand, it was pointed out that nationalisation of banks would not provide the government with additional financial resources, as the bulk of their investments was already in government securities, it was pointed out in reply that the profits earned by the banks would certainly enhance the financial resources of the government. In support of nationalisation it was contended that government banks, not guided by mere profit motive, would establish branches in the rural areas and thus spread the banking habit. But the Leader's contention was that the Post Office Savings Banks and the State Bank of India were sufficient for this purpose. Against nationalisation it was argued that so long as a private sector existed, private banks were necessary to cater to their needs. The difficulty of obtaining suitable personnel in the nationalised banking system was raised; but a view was expressed that this difficulty would only be transitional.

Barring a couple of members, the group agreed that nationalisation of commercial banks in India was neither desirable nor necessary and that a strict supervision by the Reserve Bank of India would well safeguard the interests of the depositors and ensure the general interest of the community.

CONCEPTS AS RESEARCH TOOLS

By

M. H. GOPAL

The scientist studies sections of reality so as to further knowledge by widening or deepening it or by making it more precise and exact. This involves unbiased observation and systematic abstraction of ideas, fitting them into an already existing framework. Such a process demands a set of data and a pack of tools as well as a mind and approach to serve the desired end. One of the tools of analysis is the 'concept', which forms the basic element of the scientific method. The very process of scientific abstraction from reality necessitates the use of concepts.

A concept is a word or a phrase symbolising the phenomena studied helping to communicate the findings; for example, land, accelerator, multiplier, income-elasticity, indifference curve, net reproductive rate, marginal efficiency of capital, propensity to consume, household, socialist pattern, etc. Although it is based upon a study of reality and facts and is abstracted from sense perceptions, the concept is a mere symbol having meaning only with reference to a theoretical system.

The purpose of its formulation is to facilitate the study, organisation and isolation of the properties of objects, and to attempt to relate and integrate different phenomena, by the process of abstracting and generalising sense impressions. Such formulation is basic to all thought process and scientific technique, because it gives precision to communications.

Each field of study develops its own concepts, thereby giving rise to a new language not easily intelligible to others. Thus, an economist is unable to understand the concepts in Chemistry or Biology and in his ignorance would dub them "Resurrections of words from dead languages". Different scientific vocabularies have come into existence, wherein the concept, like a multi-vitamin tablet, contains a lot of compressed ideas. "Each concept, in short, communicates to the specialist a vast amount of experience, abstracted and clarified for those who understand the

term". A knowledge of the basic scientific vocabulary adequate to understand the conceptual development in his field thus becomes a *sine qua non* to the research worker.

This demands, on the one hand, a clear and precise definition of the contents of the concept and, on the other, a full and precise appreciation of the terms by the researcher. Precision, comprehensiveness and clarity in formulating as in understanding become important, especially because of the way concepts come into being. Often, the scientist adopts common words in ordinary use; gives them occasionally a different meaning; and certainly always clothes them with a scientific connotation; for example, land, the multiplier, accelerator and indifference curve, under-developed regions, are all common words, but how different their conceptual significance is!

A scientific concept must avoid multiple meanings, but the same term may have different connotations in different sciences. Look at such an ordinary word as *function*. In Social Anthropology, for instance, it denotes the contribution which a practice makes towards existence of society; in Mathematics we say x (say, divorce rate) is a *function* of y (say, economic position); in socio-economic analysis it refers to occupational phenomena. It is also possible that sometimes different concepts may refer to the same phenomena and there may be overlapping of words and meanings, as, for example, *marginal* utility and *final* utility. Occasionally, a concept may have no immediate application in tangible experience; for science often conceives in the abstract or theorises over *relationships* between concepts themselves. For instance, 'social structure' stands for something which is not physically measurable or weighable, for it denotes a relationship within a 'group'.

The primary duty of a research worker, therefore, is to clarify his thoughts, to choose relevant concepts for literary, institutional or historical reasons and finally to explain their usage and define their meaning. With the accumulation of knowledge, a concept may change its meaning; may be narrowed a little, refined further or defined more precisely; for example, *status*, *role*, *position*, *rank*, etc. indicate different shades. In course of time, concepts may even become irrelevant and outmoded, and may have to be discarded.

One way to reduce ambiguity in the use of concepts is through joint research and discussion. Even a single researcher can bring about conceptual clarity through precise and patient thinking. He should select concepts describing the same process or object; carefully ascertain their meaning; discard those that he does not need or finds contradictory. He might then bring together phenomena described by the *same* term. Finally, he should relate the particular phenomenon he is dealing with, with similar ones described by other terms and often in other fields.

This is the process of re-conceptualisation. A great deal of patience and care is necessary for such refinement, and the trouble is worthwhile, as it will show up the many complex facets of the problem. It also leads to more fruitful hypotheses. It should not be regarded as a mere demonstration of the researcher's cleverness in conceptual manipulation or as an exhibition of one's learning. It is only an attempt to isolate and collate behaviour in many fields and interpret different kinds of observation and theory.

The relationship of the researcher to concepts may be summarised as under : —

1. Get as complete a control of concepts in your special field as you can.
2. Understand their connotation and significance clearly, precisely and fully in the context of their use.
3. If concepts are ambiguous, *realise* they are so.
4. Avoid highly general and vague concepts, such as 'function', 'modern society', 'socialisation', etc. Try to translate general concepts into more concrete ones.
5. Understand the concepts in the related and outlying fields of your study.
6. Select concepts that you want to use and define them.

Discussion :

The author explained the meaning of concepts, their importance in research and the ways of using them and gave a number of illustrative examples from Economics and Sociology. A doubt was expressed whether all those examples could be considered 'concepts' proper. A distinction was sought to be made between an 'abstract' and a process of 'abstraction,' and it was said that concepts were evolved by a process of abstraction. It was also

said that a concept must have a 'logical construct' behind it and must be the result of a thought process.

This led on to a discussion on the distinction between 'terms' and 'concepts'. Some members argued that every science had a number of terms, but not all of them could be considered concepts. They said a term was merely a short and convenient way of expressing two or three words, while a concept was something higher and was the result of a logical construct. Critics pointed out that this differentiation was not correct. They said economics, like every science, had certain expressions which constituted its esoteric language or terminology. These expressions were evolved by a thought process, compressed and conveyed certain ideas and their meaning and significance could be understood only with reference to the context in which they were used. In this sense, they said, all technical terms were concepts. While conceding the central idea of this argument, the former group maintained that all terms could not be elevated to the status of concepts. In support of this, some members said that unlike 'terms', 'concepts' had meaning only with reference to a theoretical system. Giving examples they said, that while 'land' was a *term* in Economics, 'quasi-rent' was a concept; while 'consumption', 'production' and 'capital' were just *terms*, 'propensity to consume', 'marginal efficiency of capital' and 'multiplier' could be considered *concepts*. Those who disagreed with this said the expressions 'land', 'capital' and 'consumption' conveyed a lot of special meaning in Economics which they did not in popular language; and having been evolved by a process of thought, they were as much *concepts* in Economics as 'quasi-rent', 'marginal efficiency of capital', and the 'multiplier'. While everyone agreed with the meaning of 'concept' given in the paper, viz., that "it communicates to the specialist a vast amount of experience, abstracted and clarified for those who understand the term", this particular controversy on the distinction between 'terms' and 'concepts' could not be fully resolved. There was general agreement among all members that all concepts were the result of a logical thought process and that while some concepts had a great deal of thought behind them, others had only a small magnitude of it. The Leader of the discussion, however, felt that this was a distinction without much of a difference.

DEFICIT FINANCING AND THE SECOND FIVE YEAR PLAN

By

MOLLY BUNYAN

Deficit financing is an effective instrument for financing development programmes. In the 'thirties, deficit spending was used with much success, for then it emerged not as a conscious economic policy but as an unavoidable fiscal fact. Creation of a budget deficit for financing public investment is a comparatively recent concept. The orthodox financial doctrine was one of a balanced budget. Public expenditure, according to this doctrine, is to be strictly limited to current revenue except in emergencies, such as war. At best, a loan policy could be permitted against public expenditure on a productive enterprise, provided the rate of return from the enterprise was high enough to cover interest charges on the loan. The doctrine derived support from the hypothesis that the economy outside the budget would normally tend towards equilibrium with full employment of resources. Any tampering with it through manipulation of the budget was thus considered to be unjustified.

This complacent attitude was shaken by the severe fluctuations in economic activity that took place during the inter-war period. The realisation that Trade Cycle is an inevitable phenomenon and is inherent in the natural working of a capitalist economy suggested a modification of the orthodox theory of Public Finance. It became obvious that where monetary measures were not enough, the budgetary method should be invoked to damp down the oscillations in economic activity. A boom should be met by a budget surplus and a depression by a budget deficit. A doctrine of deficit financing thus came to be associated with economic depression.

The theory of deficit financing gained acceptance as a general principle only when Keynes came out with his theory of involuntary unemployment. If there is involuntary unemployment in an economy arising out of a chronic deficiency of effective demand, what is needed to cure such unemployment is an increase in investment or consumption or both and in that context public investment with a budget deficit is prescribed as a stimulant. The aggregate increase of employment turns out to be a multiple of the

initial doze of employment associated with deficit financed public investment. But this is permissible so long as the money rate of wages is held intact. Thus deficit financing came to be recognised as an appropriate principle of public finance for an economy where there is a chronic tendency to under-utilisation of resources.

In India the concept of deficit financing was initiated in the once much advertised and now almost forgotten Bombay Plan, which envisaged financing more than one-third of the planned investment by 'created money'. The Planning Commission have since taken it over and have accepted the principle of deficit financing as one of the permissible ways of mobilising domestic resources for economic development. The way the principle was enunciated in the First Five Year Plan was somewhat cautious and halting and indeed smacked of the orthodox temper, for deficit financing, according to the Plan, was to be limited to the release of Sterling balances except when foreign assistance fell short of expectations. In the Second Five Year Plan, the place of deficit financing has been explicitly recognised.

The special connotation attached to deficit financing in India springs from an anxiety on the part of our Government to separate out that part of the overall deficit which is calculated to impinge directly on money supply. It has thus a Quantity Theory bias. It has been the convention to use the term "deficit financing" in the sense that the Government meets its budget deficit through sale of securities to the Reserve Bank or by drawing down its cash balances. The receipts from the sale of securities to the public are placed in our budget under 'Capital Receipts' and are not shown as forming a part of the deficit. This convention is upheld by the Planning Commission in the Five Year Plan, where, while framing the resources budget, they separate saving from deficit financing. This is somewhat misleading. The justification of the separation is that, whereas the so-called 'saving' is a transfer of money from the public to the State, the sale of securities to the Reserve Bank or drawing down of cash balances leads to the creation of new money. Thus, although from the point of view of the budget as such both represent a deficit, they have different implications for the economy as a whole. One represents a shift of expenditure from consumption to investment and keeps the aggregate effective demand in money terms intact; the other adds to the expenditure on investment without curtailing the expenditure on consumption.

In practice the distinction between these two sources of finance may not be as fruitful as would appear. On the one hand, the sale of securities to the public may not be quite so innocuous. If these securities are passed on to the banking system, they may be made the basis of an expansion not only of credit but also of currency. On the other hand, the so-called 'deficit financing', in so far as it generates additional money income in society, may also yield 'saving' by facilitating the sale of securities to the public and there is no means of distinguishing the saving that 'created money' yields from the saving that would occur without stimulus.

This point can be illustrated with reference to the finance proposed in the Second Five Year Plan. The aggregate investment proposed is of the order of Rs. 4,800 crores and among the sources of finance, 'saving' is put at Rs. 1200 crores and deficit financing Rs. 1200 crores. What is intended between the two is to draft for the public sector Rs. 2400 crores worth of real resources at current prices. The question now arises whether this could be realised if, in the face of deficit financing, just Rs. 1200 crores were recovered under 'capital receipts' in the budget over the five year period. Now, a part of the additional money income generated by deficit financing will be saved and a part of the deficit induced saving will be converted into government securities. Capital receipts of the government may therefore swell to more than Rs. 1200 crores and yet the actual gap in financial resources may exceed the planned cap. The Planning Commission's figure for 'saving' may thus turn out to be an overestimate in one sense and an under-estimate in another sense. Genuine saving may well be below Rs. 1200 crores, and yet when the 'deficit induced' saving is added, the total saving represented by 'capital receipts' in the budget may exceed the figure.

Opposition to deficit financing in the context of planned economic development stems from the fact that while in advanced countries the consequences of deficit finance will be neutralized by quickly increasing productivity, by the utilisation of under-utilised capital equipment and labour, in under-developed economies requiring installation of machinery, plant and equipment, the fruits of capital formation are not quickly obtained. The inevitable time lag between capital outlay and productivity brings out an increase in money supply without a corresponding increase in goods and services. The result is an inflationary rise in prices. Bottlenecks may crop up and if these are not removed, the hope of success will be nipped in the bud.

It is necessary at this juncture to examine whether the present situation of our economy exhibits traits justifying the fears portrayed by the theory. We have made tremendous progress both in the industrial and agricultural sectors and in fact the fruits of the first Five Year Plan will be reaped in the second. Besides we have been enjoying a substantial measure of stability and a mild doze of deficit finance need not invoke great fears, for all development processes involve a certain inflationary pressure, but so long as we keep firm control of the reins, the runaway steed can be kept in check.

As a result of deficit financing there will be increase in purchasing power. Part of this will be absorbed by the addition to national production and part of it will be absorbed through the increased monetization of the economy. The wheels of economic activity will whirl round, people's willingness to hold cash will increase significantly and this excess purchasing power can be directed into the public exchequer through taxation, borrowing and small savings. Thus development with inflation is better than stagnation with stability. Besides, the object of planned public investment is not only to enlarge the capital base but also to reduce unemployment which is explicitly recognised in the Second Five Year Plan. Deficit financing is imperative, particularly when the framework within which the Plan is formulated is one of mixed economy with a democratic way of life. The existence of surplus labour by itself suggests that investment can proceed without a corresponding curtailment of consumption. Savings in so far as they are voluntary must be mobilised and institutional facilities must be provided for that. But the Planning Commission has sternly discountenanced the suggestion of restriction of real consumption and has plumped in toto for expansion of consumer's goods production. Thus it follows that deficit financing is a method by which we can reconcile the twin objectives of capital formation and employment.

The question may now be asked as to what is the 'safe limit' of deficit financing in the context of our Second Five Year Plan. Different arithmetical totals have been given. Conservative economists like Dr. Shenoy advocate deficit financing to Rs. 50 crores a year. He says that any attempt at investing beyond our available resources would be inflationary and self-defeating and would entail measures of control which must necessarily be totalitarian in character. The Panel of Economists have fixed it at Rs. 200 crores a year and have urged the need for keeping the situation

under watch. If by 'safe limit' were meant a limit which is consistent with stable prices, then a deficit of the order of Rs. 1200 crores would be considered to be beyond the limit. Deficit financing is associated with a corresponding increase in the supply of currency. If the existing volume of note circulation is about Rs. 1300 crores, then when the Plan is implemented there will be an addition of Rs. 1200 crores. Deducting Rs. 200 crores, being the amount which can be matched against the release of sterling balances, the net increase in total circulation will be about Rs. 1000 cores, which is 77 % of the existing volume. Some allowance must also be made for the increased monetization of the economy and for the increased demand for cash as levels of living improve and the convenience of holding cash comes within the reach of a larger proportion of the people. If then we assume that the income velocity of circulation of money will remain more or less the same during the plan period and further that the volume of credit will move *pari passu* with currency, then the order of price rise will be about 35 or 40 % for the whole plan period. This can be checked by selective credit control. This order of price rise need not cause much concern especially when it is remembered that the measure that is responsible for it is dictated by the need for creatnig employment.

Deficit financing will augment the ability of banks to extend credit to the private sector. Such expansion will be needed and will have beneficial results upto a point. Care will have to be taken to prevent excessive credit expansion which may react adversely on prices and to ensure that credit does not flow into speculation to the detriment of productive activity. Quantitative as well as qualitative controls on credit including variations from time to time in the relationship to be maintained between the liabilities of banks and their reserves should be regarded as an important accompaniment to the scheme of deficit financing. Thus central banking policy along these lines can and has to play a vital role in steering the economy on an even course.

The best defence against inflation is in a sense to keep clear of it, but a policy of 'playing safe' is not always conducive to development. A measure of risk has to be undertaken and the state must have command over reserve stocks and a few other necessities of life. American commodity surpluses will be made available as one of the methods of offsetting the effects of deficit financing. As national income increases, expenditure also increases and

care must be taken to see that people do not indulge in a consumption spree, or else in the second or third year of our Plan we may have to resort to the draconic measures of the Soviets by which consumption is cut down to the bone. Taxation would be an effective instrument in this direction and the recommendations of the Taxation Enquiry Commission and Prof. Kaldor's proposals should be fully implemented. Once the conspicuous consumption of the rich is curtailed and their savings are utilised for the purposes of economic development, we would have made much greater advance towards a real egalitarian society than we otherwise would. Finally, physical controls, including rationing and allocations, can be used to prevent consumption from increasing beyond a particular level and for economising scarce materials or scarce productive resources.

Discussion : —

One of the points raised in the paper was that deficit financing would generate saving and unless this was taken cognizance of, the financial estimates of the Plan might be upset. Quite a few members disagreed with this and said that saving, if at all caused by deficit financing, would be indirect and might even be negligible.

The dangers implicit in a scheme of heavy deficit financing were thoroughly discussed. It was felt that the dangers were not sufficiently recognised either in the Plan or in the paper. Some members said that inflation was inevitable in an under-developed country which undertook deficit financing and that with a heavy doze of deficit financing, the government would be unable to check the inflation. Others, however, said that with appropriate measures it should be possible to limit the price-rise to the "functional" level without allowing it to become "inflationary". The view was expressed that in deficit-financing a Plan, what really mattered was not so much the volume of deficit finance as the manner of doing it. The limit to deficit financing, it was said, was set by the volume of consumer goods available in the country. If deficit financing was properly timed, and effective steps taken to increase quickly the production of consumer goods, the development process could be adequately accelerated and inflationary rise in prices prevented. This view was generally agreed to.

The consensus of opinion was favourable to a measure of deficit financing as one of the means of implementing the Second Five Year Plan, although some feared that the amount of Rs. 1200 crores was beyond the safe limit.

USE OF SECONDARY DATA

By

D. BRIGHT SINGH

The Meaning and Significance of Secondary Data

For purposes of this paper the term primary data is interpreted to mean the original findings of direct investigations carried out to meet a direct and immediate requirement. The same material, whether published or unpublished, when used by a subsequent research worker or investigator becomes Secondary Data.

Source materials of this secondary type are useful in many ways: (1) They provide the necessary background knowledge about the problem to be investigated. (2) A knowledge of the work already done on a particular subject helps avoid unnecessary duplication of effort. (3) Furthermore, it furnishes valuable information about techniques of research to the fresh investigators.

Types of Secondary Data

It is possible to group secondary data into three broad categories of documents. (a) Personal documents (autobiographies, diaries, letters, etc.), (b) published or unpublished official data and (c) other contemporaneous literature. *Personal document* is a spontaneous first person description by an individual of his own actions, experiences and beliefs. Till recently, under the influence of the behaviourist school of Psychology, personal documents were considered to be of very limited value for sociological use. But of late, with the revelation by Freud and others that the subjective world is not necessarily inaccessible to scientific probing, personal documents are coming into their own as valuable material for sociological investigations. The most impressive developments in this line have been in public opinion and market research. *Published or official data* comprise (a) records which have been defined as "documents intended to convey instructions regarding a transaction or to aid the memory of the persons involved in the transaction"; for example, government instructions or commands, proceedings in parliament committees, courts, societies, etc., business and legal papers and all official statistics; and (b) reports. These are written after the event and are intended primarily to

create an impression. Newspaper reports, official histories and statements come under this category. *Other literature* includes accounts of contemporary problems and writings based on original data or investigation. Scientific treatises, articles in the learned journals, all reference books—dictionaries, encyclopaedias, year books and directories fall in this group.

Use of Secondary Data

The first step in the use of secondary data is to find out the materials available relating to the subject of study and to get access to them. The exploration of resources itself becomes a study. The careful investigator gets to know of the available source materials from lists and catalogues in libraries as well as from the lead of advisers and specialists in the subject. The latter is particularly important in so far as many useful reports and findings are not published and therefore not listed in libraries. Apart from this, the research worker benefits immensely by consulting expert members of committees or boards dealing with social and economic problems in which he is interested. But before he consults the specialists, it is necessary for the scholar to have a clear idea of his subject. This helps him not only to realise the true significance of his problems, but also to elicit information by indicating his problems clearly and by asking pertinent and relevant questions. When once the research worker gets into touch with some of the more important documents he will be led on to other sources by the references in the earlier documents which he comes across, so that his problem would be not one of finding adequate materials but of keeping himself off by-ways which lead him farther and farther away from the subject of his study. As Mrs. B. Webb has pointed out, these excrescences of the primary study are quite often the most fascinating part of the whole and therefore it is very necessary on the part of the investigator to guard himself against this temptation. The major source of the secondary data is however the well-equipped libraries. The student should familiarise himself with the books and materials available in the libraries, the arrangement of books, the system of cataloguing, etc. Articles in journals cannot be found from catalogues in libraries. But there are special scientific indexes which give the necessary information.

Second. It is good to maintain an order in the use of secondary data. As far as possible, it is well to begin with such of the docu-

ments as discover the outer framework of the subject and then proceed to an examination of those which have a direct and intimate bearing on the subject.

Third. Before making use of the data it is important to ascertain the authenticity of the documents. This involves two things: first, it is necessary to determine whether the document is what it purports to be; second, it is to be known whether the author was well placed and competent to describe the facts contained in it. These tests are very essential in the case of historical documents.

Fourth. The documents are to be critically examined. Though public documents are impersonal, yet they may also be be prejudiced and inaccurate. The preamble of a statute, for example, may set forth reasons for its enactment which are wholly untrue. The title of an Act may conceal its real significance and so become a defence of the law makers. Similarly, proclamations and public announcements are not always to be taken at their face value. They may be partisan statements or part of a skilful official propaganda. Contents of newspapers are also to be subjected to a severe critical test. But some statements like market reports, banking and foreign exchange statistics have perforce to be authentic.

A critical approach to the study of secondary data is necessary because quite often distortions enter during the process of translating private thoughts into permanent records. Such distortions spring in the main from deliberate propagandist intention of the authors, literary dishonesty and also from the fact that every contributor is a prisoner of his own particular culture. This is particularly so in the case of personal documents. Thus autobiographies suffer from conscious stylisation and misleading statements due to the author's attempt to select and display only those experiences which were significant to him. Diaries relate only to the dramatic phase of a life and leave large gaps, while most of the letters have some propagandist intention. In most cases, no internal test exists to verify the authenticity of a document. Reliance has therefore to be placed on external tests and corroboration with other contemporary statements. It thus follows that generalizations based on personal documents have only limited value. Further, documents inevitably suffer from lack of homogeneity and are therefore not satisfactory for purposes of statistical infe-

rence. They provide an invaluable aid to the exploration of data, but they cannot be relied upon to any great extent in deciding whether any particular feature is of common occurrence. As a measure of safety it is worthwhile to confine oneself as far as possible to original documents and not depend on abstracts or summaries.

Fifth. While it is necessary to adopt a critical attitude in the study of secondary data, it is equally important for the research worker to approach them with an open mind. The user of the document, being remote from the objects of his study, is quite often tempted to stretch his material to suit his notions or thesis. In the 19th century there were two conflicting views regarding the interpretation and use of historical data. One school of writers believed in the objective presentation of by-gone events. Against this objective or scientific school another group of writers held the view that the task of writers using historical material was one of interpreting past ages and explaining their significance to contemporary readers even at the risk of substituting fiction for fact. Today it is realised that the strictly objective method is not suitable for transmitting an understanding of the motives and activities of other generations. Moreover, the fact remains that the ideal of true objectivity, however possible for the natural scientist, is beyond the powers of any historian or social scientist to attain. Nor is rigid objectivity of this type necessary for the social scientist. The very fact that the investigator in social problems has to choose problems which are relevant for his studies, indicates that he cannot adopt in full the abstract ideal of pursuing knowledge for its own sake. This would mean that the pure social scientist cannot pick his problems according to their interest but has to choose the immaterial and futile issues along with the relevant and important points, because then only can he be sure of his objectivity. Nevertheless, in the exploitation of the documentary material, the research worker has to get over his prejudices if his method is to be a valid scientific one.

Two methods are usually suggested to get over personal prejudice and bias. The one is the classical method by which the Social Scientist before commencing his investigation is to search his own mind and expose his own biases so that when he pursues his study, he would be aware of his feelings and thus make an allowance for them. The second method is for the investigator to base his conclusions more on factual data than on his own

impressions. Presentation of information in numerical quantitative terms, besides conferring a certain degree of exactness to the statements, reduces the possibilities of personal prejudices creeping in. For example, the economic growth of a country is illustrated with statistics of population, output, etc. But the statistical method is itself beset with many pitfalls.

Discussion :

The discussion opened with a criticism of the basis on which distinction was made in the paper between secondary and primary data. It was pointed out that while a very broad interpretation was given to the term secondary data, the meaning of primary data was sought to be unduly restricted. It was suggested that it would be useful to have another class of data which could be called "tertiary data". The reports published by the governments it was said, should be treated as primary and not secondary data.

The basis of distinction adopted in the paper between primary and secondary data was, however, defended by some members. It was said that from the statistician's point of view the data collected at first hand would be treated as primary, and the same data after processing would become secondary data. The Leader of the discussion pointed out that no clear-cut line of distinction could be drawn between primary and secondary data and that the distinction made in the paper was only for the sake of convenience of presentation.

One member argued that the fifth point in the paper requiring the social investigator to adopt an open mind in the study and analysis of secondary data could not be accepted, because such an attitude would make it difficult for the investigator to arrive at any positive conclusion or to put forward any thesis. To this the reply was made that an open mind was not a blank mind and that the scientific investigator should be unprejudiced and should be able to appreciate points of view opposed to his. Such an attitude, far from hindering, would actually facilitate the formulation of a definite thesis.

COMMUNITY DEVELOPMENT PROGRAMME—AN ASSESSMENT

By

V. VENKAPPA SHETTY

There was a time when the rural economy of India was strong and self-sufficient. But in later years, partly due to political upheaval and social unrest and partly due to economic causes, the village economy began to disintegrate. The advent of foreign rule hastened this process of decay and degeneration. Whatever be the causes, the result is that today our rural areas present a sorry spectacle. The main characteristics of rural India may be summarised as of extremely low productivity of agriculture and of chronic under-employment and unemployment. Besides, the Indian farmer has to fight against ignorance, illiteracy, disease and a host of other handicaps. India is essentially peasant India. Eighty per cent of the total population live in her innumerable villages. It is easy to understand that economic development of India is impossible without a proper and prior development of the rural sector. But it should not be forgotten that the problems of our rural sector are not merely low productivity of agriculture and high level of unemployment and under-employment, even though they are the most important problems. On the other hand, it is a human problem of the 70 million families living in our vast countryside.

The Community Development Programme was inaugurated on October 2, 1952, as a method to initiate a process of transformation of the socio-economic life of the villages. "The purpose of the Community Projects", says a Draft Outline of Community Projects, "shall be to serve as a pilot in the establishment for the men, women and children covered by the project areas, of the 'Right to live'; food—the principal item in the wherewithals—for this purpose receiving the primary emphasis in the initial stages of the programme". Since the programme aims at an all-round development (economic, social, cultural, etc.) of the rural areas, the following items are rightly given top priority: Agriculture, Animal Husbandry, Irrigation, Cottage and Small Scale Industries, Co-operation, Education, Health, Social Education, etc.

Some believe that there is nothing new in this programme and cite the examples of the Sarvodaya Scheme in Bombay, the Firka Development Scheme in Madras, the Grow More Food Campaign of the Government of India, etc. But, whereas these various attempts failed to make much progress due to lack of co-ordination between different development departments, failure to rouse the enthusiasm of the people, inconsistency in efforts and many other such reasons, the present scheme not only makes up the drawbacks but also attacks the problems of the rural areas from an entirely different angle. A few salient features of the Community Development Programme may briefly be described below.

1. First of all, the Programme is based on true democratic principles. It is a programme for the people in so far as they are the final beneficiaries; it is a programme by the people and of the people in so far as they have the opportunity to decide among themselves what their urgent needs are and how best they can be satisfied. Mr. M. L. Wilson (Ford Foundation expert), after making a thorough study of the working of the Community Projects in India, has said emphatically that it is going to be a people's programme. Now of course the scheme is sponsored by the Government, but the time will come soon when the people themselves take the initiative and look to Government only for assistance and encouragement.

2. This Programme provides a multi-faced attack on the manifold problems of rural India—poverty, ignorance, unemployment, disease, etc. No scheme can succeed in changing the face of our rural areas unless it takes into consideration the life of the farmer as an integrated whole. The Community Development Programme gives equal importance to both economic and social problems.

3. The basic aim of the Programme is to instil enthusiasm in the people to improve their living conditions and create an urge in them to work hard and live better. Adequate provision has been made for the people to participate in both planning and execution of the programme. Advisory Committees have been set up starting from the village upto the district level, in which non-official leaders, such as representatives of Panchayats, members of District Boards, members of Parliament and State Legislature, etc., take part at different stages. The services of

local bodies are also sought wherever possible in enlisting the participation of the people in the execution of the programme.

4. The magnitude of the Programme is another important feature. No other country has adopted such a bold and ambitious plan to rebuild the rural sector. By the end of 1961 the entire country will be covered by the National Extension Service and about 40% of the villages will be taken up for intensive development under Community Projects. Such a vast scheme will undoubtedly have a favourable influence on the outlook of the rural masses. Moreover, it will be possible for the Government to plan for development under Community Projects and National Extension Service as part of the Development Plan for the country as a whole. The second Evaluation Report rightly remarks, "never was a more hopeful outlook for building democracy from below available as when the Community Projects went into action in October 1952".

5. Perhaps the most important feature of the Community Development Programme is the provision for the mobilization of voluntary labour available in the rural areas. This has got a special significance in the context of the Second Five Year Plan, as the utilization of free labour helps the Government not only to reduce the expenditure on development works but also to keep down the rising inflationary tendencies.

The Community Development Programme appears to be an excellent plan for rural development. But it is vital to remember that the programme is not an end in itself but only a means to an important end—national prosperity, and the value of any scheme should be judged not by its theoretical soundness but by its practical importance. The programme has already passed through a period of nearly four years and it is time for us to take stock of its achievements. The programme was first started in 55 Projects covering about 20,000 villages and today work is going on in no less than 120,000 villages with a population of nearly 80 million. But to look from another angle, out of a sum of Rs. 10 crores sanctioned under the First Five Year Plan, only 40% has been spent upto September 1955. This extraordinarily slow rate of expenditure should be explained in terms of initial handicaps, such as the absence of original survey, lack of experience and trained personnel.

In the field of agriculture, practices such as the use of improved seeds, fertilizers, implements and adoption of suitable cropping and rotational systems, etc. have become very popular among the farmers. New lands have been brought under cultivation. Under the scheme of irrigation loans have been granted liberally for the construction of wells, purchasing of pumping sets, improvement of canals, etc. But critics point out that the greatest defect of the Community Development Programme is that it has completely neglected such an important problem as land reform and aimed only at short-term improvements of agriculture. No doubt, land system is the backbone of agriculture and especially in India the urgency for suitable land reform measures cannot be exaggerated. But it is wrong to say that the Community Development Programme has not cared for this problem at all. The Programme, on the other hand, has taken into consideration the economic as well as the social aspects of the problem. A system of co-operative farming is being slowly sponsored under the Community Projects Programme.

The most outstanding achievements under the Animal Husbandry Scheme are the establishment of key villages and the popularisation of poultry rearing. Here again it is pointed out that the number of bulls supplied to farmers is inadequate. New roads have been constructed providing communication to remote villages. About 28,000 miles of Kacha and Pucca roads have been constructed upto September 1955. People's participation has been more striking here than in any other field. Progress in the fields of health, education, social education, etc. is no less significant. 12,000 new schools have been opened all over India and about 4,000 ordinary schools have already been converted into basic type. For healthier and better social life and education for the grown-ups, adult education centres and community recreation facilities like radios, films, libraries, etc., have been provided. However, the experience in this sphere of activity has not been very encouraging. It will take some time for the illiterate people of our rural areas to understand the significance of such measures. On the whole, as the latest Evaluation Report rightly points out, in terms of the provision of basic amenities needed by the people, a distinct advance has been made during the Project period.

But there are certain vital drawbacks in the programme which cannot be ignored. Lack of trained personnel has been a serious handicap. It is no exaggeration to say that the success of the

scheme depends to a great extent on the quality of the personnel chosen. At present, project officers are drawn mainly from the Revenue Department and they lack the necessary experience and the amount of zeal and faith required to work this programme. Again, progress in the fields of co-operation and cottage industries is not very satisfactory. The programme has not succeeded to a great extent in solving the problem of unemployment. Similarly, in the case of co-operation, only 28,000 new co-operative societies have been started, whereas the area under operation comprises 120,000 villages. Another drawback is that at present the village level worker is required to serve too large an area—six to ten villages, and hence he is unable to have a close contact with the farmers which is so very essential for the success of the scheme.

However, the Second Five Year Plan promises certain reassuring and hopeful features. Special emphasis is given under the Plan to the development of village and cottage industries, co-operative activities, tribal areas, etc. To meet the dearth of extension personnel, a total of 71 extension training centres and 95 basic agricultural schools will be in operation during the Second Plan period. An important step has been recently taken to start 26 pilot projects for the intensive development of village and small industries.

Thus, in conclusion it may be said that the Community Development Programme has made the right approach to the innumerable problems of rural India. Progress has been slow in many fields due to a number of initial handicaps which may be overcome before long. It is idle to think that such a formidably difficult problem of rural reconstruction can be achieved within a period of four years. The bitter experience of the past will be of immense use in the coming years. It may be rightly hoped that the programme will make a great headway under the Second Plan and lay a strong foundation for the economy of the nation as a whole.

Discussion :

The discussion commenced with an examination of the difference of the Community Development Programme from the various previous attempts made in India for rural uplift. While a member pointed out that the Community Development Programme was the indispensable link to the Irrigation Programme

launched in the First Plan period, it was stressed by another that the Programme differed from the previous attempts in that it was sponsored on an all-India basis, it was thoroughly comprehensive in scope and that it rested mainly on evoking the initiative of the rural people for development work. It was in short helping the rural people to help themselves.

The difference between the National Extension Service and the Community Projects was discussed and it was said that the Community Projects were more intensive in scope and the NES was a sort of preparing the ground for later intensive community development.

While it was agreed that any expenditure for rural reconstruction was a worthwhile national investment and the allotment of Rs. 200 crores for the programme in the Second Plan was approved, a couple of members expressed the view that the scheme should have been attempted in select villages and its results assessed before a country-wide programme was launched. On the content of the programme, it was generally agreed that the emphasis should be on a sociological and psychological revolution rather than on merely raising agricultural production or conferring economic benefits in general. In this context, the personnel to run the Community Development Organisation came for consideration. The need for a sociologist in each development block was stressed by many. For co-ordinating the work in each project area, local socio-political leaders were favoured by some, while a few preferred regular government executives who were capable of getting things done.

The importance of proper and scientific evaluation of the work of the Programme received emphasis at the Seminar. Mobile evaluation units were preferred to evaluators living in the project areas and working side by side with the project executives. Mobile evaluating teams who would visit a project area at periodic intervals would be able to assess the improvements better and would also have the benefit of studying other project areas. The evaluation, it was urged, should not only assess statistically the physical improvements effected but also try to measure the changes in social attitudes.

ROLE OF OBSERVATION IN RESEARCH

By

T. P. SUBRAMONIAN

Observation is an indispensable process in any scientific study. It precedes the formulation and testing of hypotheses. The three processes together make up the Scientific Method. Observation is not only the indispensable preliminary in scientific research, but is also necessary for its final validation. In fact, at every stage of scientific research, observation plays some part or other.

Observations at first hand are the most satisfactory. Second-hand knowledge is somebody else's observation. Though such knowledge is often accepted by us in various studies, it should not be entirely relied upon in research. Its limitations must be clearly understood.

"The primary research instrument would seem to be the observing human intelligence trying to make sense out of the experience."¹ The bulk of valuable original research has sprung from careful initial first-hand observations. As the Webbs put it, "an indispensable part of the study of any social institution, wherever this can be obtained, is deliberate and sustained personal observation of its actual operation".² Even if a social institution itself may be, in its wholeness, invisible and intangible, "the units, items, parts or particular manifestations of the institution will often be open to close observation", from which the investigator may learn a lot. For example, study of Trade Unionism, Private Enterprise, Caste System.

II

In the process of observation, certain difficulties may be met with. The difficulties are a little greater in social sciences than in natural sciences on account of the difference in the nature of the respective data. The difficulties may be either (a) general or (b) particular, depending upon the type of observation employed.

1. John Dollard, Quoted in John Madge: *The Tools of Social Science*, p. 117.

2. Webb, S. and B.: *Methods of Social Study*, p. 158.

The observer must be fully aware of the "general" difficulties.

(i) Observation is necessary for collection of data. The data of the social sciences are largely sensory and partly arising from psychological experience. But our sense-organs are not entirely reliable. Sometimes they operate in a "variable, erratic and selective manner". What one perceives on a particular occasion may depend on one's state of mind and body at the time. Again, certain things are liable to be more readily noticed than others.

(ii) Many social phenomena are not directly perceptible. Details dispersed in space and time may have to be brought together for observation.

(iii) Dealing with human phenomena, the social scientist may get emotionally involved in the subject of study; and this might hinder correct observation. One might take undue notice of facts and events supporting one's vague hypotheses or inclinations and fail to observe things contrary to them. At the same time, to rid oneself of all views and prejudices would be well nigh impossible. Though a fair degree of objectivity is necessary, and possible of achievement with proper effort, absolute detachment would be impossible. Such absolute detachment may facilitate complete and correct observations, but it may not lead one anywhere.

(iv) Observation is often intermingled with inference. The human mind is incapable of understanding the significance of a fresh observation without reference to the inferences formed from previous observations. We may see much but observe only a little. A well-formed frame of reference helps observation as well as hinders it. Without a frame of reference, one may see much but identify little. But with a rigid frame of reference, one sees only those things that will fit into it.

III

Observations are of various types. Uncontrolled observation is the simplest. In this, the techniques are far from being standardised, and the variables in the situation are not sought to be controlled. Much knowledge that people have about social relations is derived from observation of this type. While this is the basis of all research, it plays a part even in advanced stages. Uncontrolled observation may be either "participant" or "non-participant", according as whether the observer participates in the situation or not.

In participant observation, the investigator disguises himself so effectively as to be accepted as part of the situation he seeks to study.³ A researcher who enquires into the life of dock labourers may, for instance, join the group in a disguised manner and observe their economic and social conditions. It is not strictly necessary for the social scientist to take up the same activities as members of the group. He can disguise himself under some other role, say a tea-vendor or health inspector and at the same time carry out his investigations. The members of the community should be unaware of the real purpose of the investigator. The idea is that the natural behaviour of the subjects should not be disturbed, so that correct observation may be ensured. Moreover, when accepted as a member of the group, the investigator will have access to a number of items of information to which as an outsider he will not. His experience would be deeper and the data collected would be abundant.

However, this method is not without disadvantages. In as much as the investigator becomes a participant, his range of experience becomes narrower, albeit deeper. He joins the situation at a particular level or sub-group; and while gaining access to it, he may not get the data pertaining to the other levels or sub-groups. Participation may thwart objectivity. Emotional identification with the subject or the investigator's own self-consciousness might come in conflict with the ideal of objectivity. It is said that the presence of the observer, however much disguised, will distort the situation and change the behaviour of the subjects. But this view does not appear to be correct, as it only means that the disguise is not perfect or effective. A major handicap of participant observation is that the experience of the investigator is unique and his successor in the same line of investigation will not be able to go through the same experience. Techniques cannot be clearly formulated nor can data be standardised. The process of observation is also very slow, and the observer is denied the opportunity of setting up an experiment to study the reactions.

To overcome the drawbacks of participant observation, a lessening of the degree of participation is suggested. Non-participant observation in the purest sense is difficult. The observer may participate a little in some activities and observe the major situa-

tions as a detached non-participant. In effect, it is quasi-participation. He has no greater freedom and can obviate many of the defects pointed out above. He can observe from various angles, and can attempt some standardisation of data. Being an outsider, the dangers of emotional involvement are much less. The people observed may also feel safe in confiding things to a stranger!

IV

Simple uncontrolled observation is useful in exploratory studies. But for a more systematic and selective collection of data and for verification of hypotheses, it may not suffice and the need for controlled observation may be felt. Controls may be imposed either on the observer or on the object. In social sciences, as it is difficult to impose effective controls on the objects, greater emphasis is placed on the imposition of controls over the observer. The purpose of such controls is to increase precision, minimise bias, ensure reliability and systematise the procedure so that the work may be undertaken by more than one at the same time and also over a period of time.

The "controlled" observer reports how he made his observations, under that conditions, when and so on, so that other scientists may know the limitations of his data and repeat the observations. The formal interview, the schedule or the questionnaire which lists the items to be observed and recorded, limitation of the field of observation through sampling — all these are controls over the observer which systematize the process of observation. Under controlled observation, the objects may be either ignorant of the process of observation or quite aware of it. In the latter case, the purpose of the investigation should be made clear to the objects and their co-operation should be enlisted. After an initial period of uneasiness, the group will take the presence of the investigator as quite natural. Much depends on the tact of the investigator.

Under controlled observation, small-scale experiments can also be set afoot. In Economics many such experiments can be launched by the State or by private agencies. The effects of improvement of a machine on labour productivity can be observed by means of a small experiment. The impact of land reform on agricultural productivity can be scientifically observed in a small experiment. The results may be tested in different areas before a wholesale reform is launched. An experiment being a means

of controlling the objects observed, the social sciences do admit of some degree of experimentation.

V

Conclusion

Observation is indispensable for insight. While simple, casual observation may be useful in initial exploration, controlled observation is necessary in later stages of research. The scope of controlled observation is being increasingly realised in Economics and other social science research and new techniques are being evolved. But the success of all scientific study ultimately depends on the observer. Powers of observation can be developed by practice. Proper training of the observer and quantification of data would help obviate the 'general' difficulties in observation.

Discussion

The discussion commenced with a question about the role of theoretical reasoning in economic research. The fear was expressed that mere empiricism and an undue emphasis on observation would mean a neglect of theory and therefore would stifle research. But it was pointed out in reply that theory was not antithetical to observation and that a theoretical background was necessary for fruitful observation. The practicability of participant observation was seriously questioned by some, who said that for a social researcher to go into the community under all forms of disguise would be quixotic. Others however contended that for research into certain types of socio-economic problems, participant observation under effective disguise was essential, and that the method had yielded valuable results. The feasibility of experimentation in social science research and the types of experiments that could be conducted in economic research were discussed.

INDUSTRIALISATION IN INDIA

*The Scope for Small-Scale and Cottage Organisation**By*

V. SWAMINATHAN

Before we examine the role of cottage and small-scale industries in the pattern of India's economic development, we must remind ourselves of the fact that in this country industrialisation is basically a problem of the re-organisation of the country's occupational pattern. The final Report of the National Income Committee (1954) has estimated that agriculture absorbs 72·4% of the working population, while mining, manufacture and hand trades account for 10·9%. In India, industrialisation will inevitably mean a shift of employment from primary production to secondary and tertiary industries. The problem is what form should this process take—whether the form of cottage and small-scale industries or that of large-scale industries. Let us look into the considerations that determine the issue.

The primary consideration is, of course, that of getting the most out of seriously limited investible surpluses. In India the gap between possible capital expenditure and probable requirements is too glaring to be missed. This means that making allowance for transportation, communication, hydro-electric power and social capital, the country must follow a pattern of investment that respects the need for the most effective utilisation of available capital. The return from heavily capitalised industries on account of their more complicated organisation and longer development period, is generally much slower than that from small-scale industries. Obviously, the likelihood of quick returns is an important consideration in determining the order of priorities in countries where the rate of capital formation is slow. In India, while capital and technical skill are relatively scarce, raw materials and man power are relatively abundant. Being so, a more widespread use of available capital in small undertakings which can utilise these resources with relatively small initial investment is more prudent as a policy of wealth creation than concentration in a few heavily capitalised industries.

Apropos this consideration, we have to take note of the concept of 'capital-output ratio', popularly known as the concept of capital turnover. It is used "to measure the social productivity of capital" and "in the estimation of capital requirements for a certain projected rate of capital formation". Now it stands to reason that where alternatives are available as among various types of technology, those types are preferable through which the community obtains the largest capital-output ratio, that is, taking the investment programme as a whole, the maximum social product. In India, for instance, small-scale sugar producing units with 1 to 500 workers have been found to have a capital-output ratio of 0.223. In large-scale organisations working with about 1001-2679 hands, the corresponding figure is 0.129. Soap production units with 1 to 50 workers show a capital-output ratio of 0.137. In the same field, in units having 101-959 employees the corresponding figure is 0.061. Similarly in many other consumer goods industries (wheat, flour, fruit and vegetable processing, paper and matches), small units have been proved to give higher capital-output ratio.

The second consideration is bound up with radical reorientation of Indian agriculture. In the context of rapid industrialisation, the allied problem in agriculture becomes one of rescuing land from excessive population pressure; that is, the problem is to improve techniques in agriculture (and consequently productivity), to equate man power resources more closely to production needs and to transfer a substantial portion of the surplus man power from agricultural to non-agricultural pursuits. However, it may well happen that industry does not absorb human resources as fast as land ejects them; partly because of the time-devouring nature of industrial expansion programmes and partly as a matter of friction in changing from one sphere of technology to another. The creation or extension of home industries as a principal occupation for surplus farm population not only contributes to raising the national per capita productivity and to filling imperfectly met market needs; it creates productive enterprises without entailing large population influx into congested towns.

The desideratum of avoiding the accentuation of congestion leads us on to the much discussed problem of decentralisation. In India, it cannot be denied that uncoordinated economic development has led to a few ganglia of industrial activity leaving behind vast undeveloped agricultural areas. As industries are

much more important wealth producing units than agriculture, such a distribution produces a considerable disparity of wealth producing capacity in different parts of the country. The enormous size of India and the lack of homogeneity in the linguistic and religious structure of the population make decentralisation of industry a necessity. The purpose of regional planning is to secure a most equitable distribution of productive capacity. To some extent, small-scale industries can be adapted to this purpose. If the resources of a particular region are such that large-scale industrialisation cannot be carried beyond a limit, an attempt may be made to develop small and medium scale industries appropriate for the region in order to provide occupation locally and a more equitable distribution of wealth-creating activity.

While it is necessary to reduce overwhelming dependence on agriculture, the most natural way of doing it is to provide non-agricultural productive employment as near the village as possible. The Garden City Movement in England is only a feeble wave of defiance against the social and psychological chaos that undue centralism had wrought by divorcing man from his natural surroundings. The one dominant lesson that emerges from the findings of modern industrial psychology and sociology is that it is neither necessary nor desirable that large masses of people should be uprooted from their homes and hearths and integrated village communities and turned into propertyless wage earners and dessicated into lifeless automatons by the clash and clamour of million horse-power industrialism. A Welfare State cannot be a spectator, much less the author of the enormous human suffering caused by the uprooting and migration of millions of men, women and children that industrialisation of the 19th century Western type necessarily involves. To be able to build up progressively around existing small towns and big villages would reduce not only the direct economic cost of industrialisation but the indirect social and administrative costs. It would not demand heavy investments in public utilities and elaborate social security provisions. Above all, it would not cause a violent quake in the traditional modes of living; rather it would assist the whole population to grow accustomed to conditions of life in a more and more industrialised community through a very smooth process of transition.

Surprisingly enough, people too often think that the change-over from factory production to small-scale organization is a retro-

grade step; for, decentralised small-scale production is readily associated with primitive techniques. The possibility of small units powered by electricity and working with small machines being integrated with large-scale production is overlooked. Henry Ford—yes, no less a person than Henry Ford—discovered after laborious experimentation that mass production is only one stage of industrial organization; for, after a certain stage, “the combination of little plants each making a single part will make the whole cheaper than a vast factory would”. It is worthy of note that a good deal of factory production in Japan and Switzerland is shunted out of the factory at certain stages and carried out under controlled conditions in cottage and small-scale units. Several cottage industries can be effectively reorganised to act as feeders of component parts to large industries.

Also it is little appreciated that recent developments in technology are tending to favour the resurrection of small-scale organization. The gradual displacement of steam by electricity is a case in point. In the past the centripetal effect of steam made industrial plants jostle around the source of power. But now electricity with its centrifugal character has tended to diffuse power out to plants thereby making possible their location in terms of other economic factors, such as markets, sources of raw materials, etc. In as much as these and other economic factors are much more numerous and widely scattered than the important sources of coal, it follows that the rise of electricity would logically result in the establishment of a larger number of decentralized and smaller plants. The efficiency of small units worked by electric motor utilising current either from local turbines or from a central power station, has given small-scale industry a fresh lease of life. The increasing use of internal combustion engines and the motor trucks are a few other instances. Unlike the railway, the motor truck has transformed the inflow of raw materials and the outflow of finished goods from a giant national pattern into smaller, regional and local patterns. This is obviously a trend of great importance to small business which works upon the material drawn from its vicinity and caters to the needs of a small ring of consumers around it. Thus it can be seen that on the side of technology, small industries have launched into new waters.

Another important consideration favouring small-scale industrialization in India runs thus: With large non-monetised back-

ward tracts, India's crying need is for the improvement in the output and consuming capacity of the rural population. No better device can be followed to promote rural employment and the purchasing power of the rural population of India than to revive and revitalise village industries on the basis of improved technology and co-operation. These industries, moreover, open out a boundless sphere for the formation of labour-intensive social capital, for, when reorganizing the living and working conditions of rural people, much construction work can be done with simple raw materials and with the heavy utilisation of unskilled or semi-skilled labour.

After all, in presenting a case for the development of small-scale industries, we must have in our view not primarily the extension of job opportunities but the raising of the living standards of a people mostly living in rural areas. The shaping of a more balanced and integrated economy is a paramount need of our country. It would be a sad reflection upon the moulders of India's economic destiny if the village with its democratic and co-operative organization and ancient industrial culture were to be left in the lurch, struggling for its very existence.

Discussion

The discussion commenced with an attempt to distinguish between small-scale and cottage industries on an academic and scientific basis. It was found that, though the line of demarcation would not be clear and beyond dispute, broadly speaking the distinction would rest on the use or otherwise of hired or wage labour. The question of employment loomed large for some time in the discussion. Some felt that to arrest progress in production technique, even temporarily, to provide greater employment was inimical to economic growth. Others said that improvement must be phased with a view to avoiding excess of technological unemployment. It was argued that the importance given to small industries in the Second Plan was largely dictated by the prevailing scarcity of capital resources and by the urgent need to produce consumer goods in adequate quantities.

The problem of social cost was raised and it was argued that large-scale industries with vast concentrations of personnel would place a heavy burden of social cost on the shoulders of the State. Decentralised small industries would avoid creating many of the

problems and solve the rest themselves. Against this, the view was expressed that small, scattered industries would create social cost of a different kind. Provision of raw materials to distant decentralised units as well as collection and distribution of their products would constitute big problems, the responsibility of solving which would fall on the State. It was a big organisational problem not easy of solution. The votaries of small industries however replied that this problem, though big, was transitional. They further said that looked at from the welfare angle, the small enterprises were to be preferred over the large ones.

An integrated industrial structure co-ordinating the small-scale as well as the large-scale types was favoured by a member as the most suitable for India. It was said that in each manufacturing industry, wherever technical efficiency of a process did not suffer by doing it on a small scale, that process should be organised on a small scale. The example of Cotton Textile Industry was cited, and it was said that, unlike spinning which should be done on a large scale, the process of weaving could well be undertaken by a number of independent cottage-weavers. It was, however, feared by some that if such a technical-efficiency-test were to be applied, many of the existing small industries may not survive. The need for an investigation into each industry for this purpose was stressed.

THE USE OF STATISTICS IN ECONOMIC RESEARCH

By

D. BRIGHT SINGH

Statistics and the Statistical Method

Statistics in the narrower sense is defined as numerical facts systematically collected. But as a special branch of knowledge and as an invaluable aid to scientific research, the term has a wider connotation. Statistics in this sense is used broadly to refer to the whole field of quantitative approach to knowledge, including the gathering of data, statistical measurement, statistical analysis and statistical theory.

Statistical Method means the application of statistical knowledge to investigation in any branch of knowledge. This involves the collection, presentation, analysis and interpretation of numerical data. Statistical Method consists of two parts: (1) statistical analysis and (2) statistical inference. Careful study of statistical data obtained in a manner to secure internal comparability and arranged in well planned tables may be used as a basis for judgment or action. This sort of quantitative treatment, involving classification and summarization, is called statistical analysis and includes the methods of tabulation, graphs, averages, measures of variability, correlation, index numbers and similar quantitative analyses. Judgments based on statistical analysis are called "Statistical Inferences".

The statistical method is possible and is of value wherever a mass of complicated facts exists and wherever these facts are amenable to quantitative expression. The price mechanism and the use of what is called 'the measuring rod of money' make it possible to assess quantitatively many of the economic data. This explains why Statistics is made use of in a greater measure in Economics than in any other Social Science. To the extent that qualitative knowledge can be converted into quantitative units of enumeration (as for example, in Psychology), measurement is possible and the statistical method can be used. It has been claimed that each step which marks the advance of Science is merely

the discovery of a technique for making more and more accurate measurements. Since Statistics deals with quantitative measurement, the extent to which it can be made use of in the analysis of data relating to any particular branch of knowledge may be taken as a fair measure of the truly scientific nature of that subject.

Statistical Method in Economic Theory

Economics is becoming a quantitative science. Rapid progress has been made in the last few years in the more exact formulation of problems, in the more precise definition of units, in the method of standardization and classification and in the technique of analysis and presentation. This has called for and at the same time has facilitated increasing co-operation between the sciences of Economics and Statistics. Such a co-operation is necessary in so far as there is difference in the approach of the Economist and the Statistician to the same problems. The Economist usually looks at the important factors and gets them orientated in correct perspective, but does not define or classify them consistently or measure them accurately; on the other hand, the Statistician often looks at the wrong or unimportant factors but defines, classifies and measures them with meticulous care. While Statisticians are prone to generalize over-hastily from figures observed at particular times and places accidentally chosen, the Economist has the advantage of broader perspective, but is likely to fall into the error of setting out to find statistical substantiation for his preconceived hypotheses. If the economist wants to turn his plausibilities into probabilities, he must express his theory in such terms that facts can be observed and statistics collected and summarized to fit into and to prove or disprove that theory. His theory must be amenable to statistical treatment. In fact, in the formulation of any theory, the Economist requires the aid of Statistics at two stages. A hypothesis can be built up on the basis of statistical data and the hypothesis can be verified by the use of statistics. The successful attempt of many of the eminent economists like Malthus, Jevons, Cassel, Mitchell, Pigou, Taussig and Marshall, to fuse Statistics and Economics in their works has undoubtedly benefited both the Sciences.

Statistical Method in Economic Policy Decisions

To the art of Economics, Statistics is of value because it helps to make forecasts or predictions. Any knowledge can be of prac-

tical benefit only if it helps to choose the best policy that requires action of a particular kind. The economic policy that seems best to a particular society depends on its value judgments. The successful execution of that policy depends upon the extent to which the future trends of the various economic factors can be clearly foreseen. Future economic trends in any particular society or country are determined by two factors—the existing economic structural relations and the movement of the different economic and non-economic variables. In any assessment of a future trend or situation, the behaviour of these variables can be taken care of by Statistics. This is done by a study of their movements in the past and by a projection of their movement into the future. If structural factors do not change, economic theory has not much to do in such forecastings. On the other hand, if there is a change in the economic structural relations, economic theory has to come to the assistance of Statistics in the interpretation of the present and the past as well as in the forecasting of the future trends.

Forecasting of business and economic conditions is based on the principle of probability and the method of averaging. The use of the Statistical Method in this matter in Social Sciences has however been criticised. It is pointed out that the aggregates with which the Statistician deals cover only those attributes common to all the units—those features in which the units are identical one with another. The evidence of a fact that Statistics affords is accordingly limited to such identities. Statistical totals do not afford information on the undivided and untabulated individual or class peculiarities. It thus follows that statistical laws based on such estimates can be useful only if large numbers of occurrences are considered but break down if an individual event is to be predicted. This is certainly a limitation in the use of statistical forecasting in the Social Sciences. Such limitations explain why business or economic predictions have only a probability character. They are only conditional. In Economics as well as in the other Social Sciences, this probabilistic character of predictions is due to the “stochastic” or chance character of the different variables which affect future trends. But the fact that predictions in the Social Sciences are conditional does not mean that they have no value for purposes of policy decisions or furtherance of theoretical knowledge. It is true a particular event cannot be predicted; but by the rule of induction, i.e. by observation of the frequency in the past, an accurate estimate can be

made of the chances of occurrence of a particular event (for example, fall in prices due to increased supply). The concept of probability can be applied in the Social Sciences in the same way as in the Physical Sciences. It would be a mistake to believe that the Social Sciences require a concept of probability different from the statistical one. The validity of this concept in the Physical Sciences and Social Sciences differs only in degree.

The Method of Forecasting :

Forecasting of economic trends is generally done in two ways: (1) the historical analogy; and (2) the cross-cut analysis. The first is based on the assumption that in cyclical fluctuations history tends to repeat itself. In its cruder forms this consists merely in forecasting the course of general business subsequent to some disturbance, from the course of general business that followed a similar disturbance in the past. Cross-cut analysis proceeds on the basis that the business situation is never the same and that each new upswing or downswing is the product of a set of factors different from those previously operative. To understand the given situation, all the factors must be weighed as to their importance and a net appraisal of the situation should be made. The present tendency is to make increasing use of the second method. Till recently, the approach to economic analysis was what may be called the barometer approach, which places great reliance on the various economic indicators in making an estimate of future trends. But the popularity of the present model building approach which involves the establishment of dynamic relationships among various statistical indicators represents a shift in emphasis to the cross-cut analysis.

Misuse of Statistics :

Many of the criticisms regarding the applicability of the statistical method to investigations in the Social Sciences spring from the misuse of statistics. Such misuse commonly results from (1) bias in the presentation of statistical information: Details may be presented in such a way as to create a required impression on the reader. For example, the level of employment in a firm may be fluctuating. To show a large increase in employment in any particular year, the number employed in that year may be compared to one when employment was unusually low. (2) Neglect of important factors: A gifted Statistician can make figures appear

to support his conclusions. For this purpose, some details may be omitted, thereby producing a distorted picture. A joint-stock company may advertise its prospects by showing its large profits and the dividends it distributed over a series of years. The fact that these were good years and all companies benefited may not be mentioned. (3) Use of non-comparable data: Loss of life due to accidents in air travel in a particular year would be less than in railway travel. This does not show greater safety in the first. Comparison should be between proportions. (4) Drawing conclusions from insufficient data: A particular business would have a rapid rise over say five years from the first year of its establishment. The rate of progress of another firm, older and well established, may not be so spectacular over these particular five years. But if the new firm claims that in the next five years it would surpass its older rival, it is a wrong statement arising out of projection on insufficient data. (5) Quite a good number of wrong and misleading statements are made out of simple arithmetical errors in calculation especially in percentages. The price of an article may have fallen from Rs. 100 to Rs. 25. If the decline is calculated on the basis of the original price, it is 75%; if it calculated on the basis of the new price, it is 300% — an absurdity.

Need for Care in Using and Interpreting Statistics :

It is therefore worthwhile for the research worker when he is making use of statistics to keep these following points in mind :—

(1) Have a clear idea of the purpose for which statistical information is required and have certain definite questions in mind — such as, what is the relation of this part to its whole ? what is the trend or central tendency in all these changing units ? what effect, if any, has this changing unit upon that one or upon a group of units ? Such questions are the necessary first steps towards arranging statistical material in an understandable and useful form.

(2) Find out how far the sources of a given statistical data are authoritative and free from any bias.

(3) Accuracy in calculations is to be verified and checked. It is necessary to make sure that the definitions of the units which go to make the total (for example, the unemployed, profit, income, etc.) are exact. Persons or things grouped together in a total or sub-total should be homogeneous. When dealing with averages, rates and percentages, it is important that the numerators and

denominators are homogeneous in themselves and that the terms of the denominators have a reasonable relation to those of the numerators. If two quantities are compared, consider whether they are really comparable. Comparisons made between two similar measurements at different dates in different places (for example, death rate in one State in India in 1951 and that in another State in a different year) have no meaning.

(4) Above all, it is of the greatest importance to keep in mind the limitations of statistics. A table of figures does not in itself afford positive proof or disproof of any assertion or generalisation.

Discussion

The discussion started on the temptation in economic research to collect and analyse convenient statistical data with which one might prove preconceived hypotheses, and the supreme need to guard oneself against such temptations. Other possibilities of misusing the statistical method in economic research were discussed and it was repeatedly emphasised that these were not inherent defects of the statistical method but were only possible misapplications of it. The relative merits of the historical analogy and the cross-cut analysis as methods of forecasting economic trends were also discussed.

When it was said that in policy formulation, statistical methods were not of much real use, as decisions were made on value judgments and assumptions, it was replied that even assumptions and value judgments should be based on some kind of statistical data. It was felt by most members that assembling and analysing statistical data were indispensable preliminaries in planning. It was however agreed that the limitations of the statistical method must be clearly understood by anyone engaged in research.

THE BHOODAN MOVEMENT

By

S. RHENIUS

That the Bhoodan movement contains much philosophy and little economics is the verdict of the conservative economist. Sunk as he is in orthodox profundity, Bhoodan's novelty appeals to him as little as its simplicity. Hence his refusal to consider it as a sound economic mechanism. However, to quote its author, "Bhoodan is not just a visionary ideal but an urgent and practical programme". The progress of the movement proves that this is no mere assertion.

Viewed as a type of land reform, it must be acknowledged that in objectives, in methods and in effects Bhoodan compares most favourably with its contemporaries in India today.

Social justice and economic efficiency are the twin objectives of all recent land reforms in our country. For the concept of social justice to become a reality, it must be accepted by the masses as a vital force in their lives. In India the masses are practically synonymous with the rural population. Hence it is imperative that there be a radical change in the outlook of the rural people and the creation of a new psychology. Economic means to develop our agriculture are only too well known. It is not the want of such knowledge that constitutes the problem but the want of the proper atmosphere. Bhave also realises that for land reforms to gain popular support there must be a revolutionary change in attitudes among rich and poor alike. The rich must be made aware of their duty to society and the poor of the importance of self-help and the need to "pull themselves up by their own sandal-strings". In short, the slumbering conscience of a new-born nation has to be awakened. Is it to be done by centralised planning at New Delhi or by the dusty pilgrimages of Vinoba and his band of workers through the villages of India?

As regards the other objective of national policy, namely, economic efficiency, we find that Bhave is as concerned with raising agricultural productivity as with raising national morale. His

whole mission—to enable the labourer to enjoy the fruits of his labour—is based partly on the importance he attaches to personal interest as an incentive to production. To provide land to the 50 million landless workers in the country is as much a part of his programme as of State policy.

It is when we turn to the methods adopted to gain the objectives that we notice the essential difference between the State and the individual. The State depends on legislation. Bhave resorts to persuasion. However, it must be pointed out here that Bhave has at no time contemplated the total substitution of philosophy for law as an instrument of land reform. In fact, he has more than once declared that for his mission to be a perfect success, it must enjoy the protection of the law. All that he claims is that by revolutionising public thought his philosophy would pave the way for legislation, while the distribution of land gifts would appease the acute land hunger in the countryside. If therefore he has achieved more than he claims and legislators have claimed more than they have achieved, it was never the intention of either party to do so!

That Bhoodan has succeeded where legislation has failed becomes evident when we study the effects of each on our economy. Regarding legislation, the following extract from the Draft Second Five Year Plan will tell its own tale. Referring to land reforms it says: “(i) The abolition of intermediary rights has been completed over the *greater* part of the country; (ii) security of tenure has been assured and rents reduced in *several* States; (iii) rights have been transferred from owners to tenants, though the *process has been slow*”. The same Draft admits that very little has been done to provide land for the landless agricultural workers.

And for this record of achievements what has been the price paid? The reward that Bhoodan offers to its donors is a saint's blessing. The compensation and rehabilitation allowances payable by the State to intermediaries is estimated at Rs. 435 crores—excluding interest charges! To this must be added the cost of the tremendous volume of administrative work involved. Besides, the cost is not to be counted in terms of money alone, for there is the incalculable cost in terms of deterioration in public morale. On the one hand, the various land reforms have provided ample scope for graft and corruption among the administrative person-

nel in rural areas. On the other, tenancy laws have encouraged landlords to exert undue pressure on the tenants, resulting in large-scale evictions of the latter and the so-called "voluntary surrenders" of holdings by them.

Of course, Bhavé too is accused of applying pressure of a sort, namely, moral pressure. The complaint is that he plays upon the emotions of the people and that nothing based on emotion will be of permanent value. It is too early in the history of Bhoodan to predict whether the movement will have permanent value or not. But in this connection it will be pertinent to pose certain questions. The sentimental attachment with which landlords in India cling to their ancestral estates is well known. That being so, could it have been just a moment's emotion which induced them to give away as Bhoodan that which they and their forefathers had cherished for generations? Again, Bhavé has converted to his way of thinking businessmen and philanthropists, artists and capitalists and in fact all types and classes of people. If it is just emotion that moved them all, could it have been the same emotion that moved such diverse personalities? Or again, the chief feather in the Bhavéan cap is his conversion of both Congressmen and Communists. Do politicians usually allow themselves to be governed by emotions? Finally, non-violence is an indispensable part of the Bhoodan creed. Much ridiculed when first introduced by Gandhiji, it has now become a permanent feature of political life at home and is gaining strength abroad. Need we then fear that it will be no more than a passing phase of our economic policies?

While as a spiritual concept Bhoodan is considered to be imperfect, as an economic concept it is declared to be impracticable. To begin with, doubts are raised regarding the extent and quality of the lands donated. It is true that what has been collected so far falls far short of the target of 50 million acres that Bhavé has set for himself. It is also true that if the movement is to be a one man crusade throughout rural India, progress will necessarily be slow. Yet, it must be said to his credit that, while the State is still contemplating alternative methods of fixing ceilings on land holdings for the purpose of providing land for the landless, Bhavé is already accomplishing the task and in a much simpler way. As for the quality of donated land, available statistics classify 30% as waste land and the rest as fairly good land. But even as

regards the 30%, there is every reason to hope that with the expansion of the various rural development schemes, what was waste land to the donor will become reclaimed land to the donee. The cost of reclamation is not likely to be low, but in the present context of national food supply, the value of every fresh acre brought under cultivation will far exceed the cost.

A more serious criticism is that Bhoodan increases fragmentation of holdings. In considering this criticism we must bear in mind the economic significance of fragmentation. So long as the units of operation in an estate are left intact, the mere splitting up of an individual's total estate will not affect economic efficiency. And fragmentation being so common in this country, it is as likely as not that what the landlord donates as Bhoodan is an already fragmented part of his scattered estate which had been cultivated as a compact unit by a tenant. In such cases, by substituting a labourer for a tenant, Bhoodan causes only a change in the cultivator, not in the unit of cultivation. Even where the donated plot, being large, is divided among several labourers, Bhavé advocates co-operative farming as a means of safeguarding agricultural productivity. Similarly, co-operation is to be the remedy for any uneconomic holding that Bhoodan might create.

The growth of co-operative farms on a voluntary basis, though fostered by Bhoodan, must necessarily be a slow process. To speed it up, State assistance is essential. In fact, Bhavé admits his dependence on State aid at several stages of his work. Thus from the time a donation is converted into a legal transaction upto the point when the labourer actually begins cultivating the land he has received, and even after, either administrative or financial help or both from the State will be required.

Perhaps the Planning Commission is convinced that such help could and should be given. For otherwise, the Bhoodan movement would not have been considered worth investigation by the Panel on Land Reforms. The establishment of Bhoodan Committees under the aegis of State governments also augurs well for the movement.

Discussion

After explaining the genesis and purpose of the Bhoodan Movement, Miss Rhenius defended the movement on economic, social and moral grounds. Her paper, however, provoked a great

deal of criticism which was levelled from various angles. At the outset, the doubt was expressed whether the Bhoodan Movement was based on right premises. It assumed the existence of an acute land hunger in the country, and this assumption was questioned. It was argued that the movement would produce an adverse psychological effect on the rural economy. The distribution of a large number of small gifts of land would increase the intensity of the sentiment of ownership, which would come in the way of later attempts by the State to introduce land reform. The Movement, critics further said, was guilty of committing the two-fold error of assuming complete divisibility of agricultural land and ignoring the economies of scale. Introduction of technological improvements presupposed the existence of large farms, and in so far as the Bhoodan Movement aimed at cutting up the big farms and creating a multitude of small proprietary holdings, it would render impossible any progress in production technique. x p.

These arguments were however countered by supporters of the Movement. According to them, the psychological effect of the Movement would be beneficial and in fact was the strongest point in favour of it. The sentiment of ownership would actually be lessened, for Bhoodan was not mere alms-giving, but a social obligation, a contribution to the common good. Bhoodan was based on the principle that "land is neither mine nor yours, but a gift of God"; as such, the supporters of the Movement failed to see how it could intensify the sentiment of ownership. As for the fear expressed that Bhoodan would reduce the size of farms and thus hinder technological improvement, its advocates replied that it would not. Under present conditions, they said, large holdings were not being worked as large operating units. On account of the prevalence of tenancy system, large holdings were actually being cultivated in small bits by numerous tenants and hence the unit of operation was small. The reduction in the size of the large holdings would not therefore reduce the size of the operating unit. As for technological improvements, the advocates of Bhoodan said that such improvement under Indian conditions could best be brought about by co-operative farming, which was more feasible with a number of small peasant proprietors than either with tenants or with big landlords. On this point, however, there was difference of opinion, that is, whether co-operative farming had greater chance of success under present conditions or after redistribution effected by Bhoodan. A view was express-

ed that the lands donated under Bhoodan should be vested in the hands of the State rather than distributed to landless labourers, and that the State could employ the landless labourers on the donated farms.

One member pointed out that it was wrong to try to settle the landless labour in agriculture when the pressure on land was already high. According to him, the aim should be to shift such landless labour to non-agricultural occupations. To this the reply was given that in view of the large magnitude of overt unemployment and the substantial additions being made to it by natural increase in population, there would be no dearth of labour supply for the secondary and tertiary sectors. The effort to reorganise the occupational pattern could go hand in hand with the effort to settle landless labour in agriculture.

The view that the Bhoodan Movement was only a sign of the condition of distress prevailing in the country was expressed by a member. He said that in so far as the Movement helped to focuss attention on this problem, it was helpful, but more than that, it was not. The ultimate solution lay in a comprehensive attempt to raise the national standard of living.

MECHANIZATION OF INDIAN AGRICULTURE

By

H. J. K. SUGANTHAN

Progress of humanity in the material sense has been marked by the measure of man's control and mastery over the use of nature's resources through mechanical appliances. Mechanization in agriculture is only partly symbolic of that continuous process of man's conquest over nature. Technically speaking, mechanization of agriculture would mean the use of any type of tools and implements in agriculture and as such it began when man first used the earlier type of implements whether worked by man or animal. Mechanization is here taken to mean the substitution of mechanical for human or animal power in the various activities of agriculture. The most vivid example of such mechanization is the tractor.

This substitution of mechanical for human or animal power in the realm of agriculture has largely taken place in the advanced countries like U.S.A., U.S.S.R. and U.K.—to mention a few—where the full incidence of the Industrial Revolution is being felt in agriculture. In these countries, "the improvement of agricultural methods and techniques, and particularly the introduction of mechanical power on the farm, has already had farreaching economic and social effects, which in the long run may be just as significant as those brought about by the Industrial Revolution 200 years ago".* The U.S.S.R., for example, is known as the country where machine methods in agriculture are introduced and popularized on an unprecedented scale and with astounding rapidity during the two decades following the Revolution. Collective farming—an advanced stage of co-operative farming—has made large scale mechanization of agriculture feasible. With the success of the collective farms—manifested by their rapid growth from 1,600 in 1928 to 21,700 in 1945—

* Desmond L. W. Anker: "Some Effects of Farm Mechanization" (*International Labour Review*, June 1955).

the number of the State Machine Tractor Stations (M.T.S.) almost doubled and the number of tractors commanded by them rose to three times during 1934-39. The post-Stalin leadership has also taken steps to increase capital investment in agriculture, mainly for machinery and other equipment for machine-tractor stations and State farms. In the world as a whole, the number of tractors increased five-fold during 1930-53 a sign indicating the fact that machinery is capturing the globe. In individual countries the growth has been still more pronounced: the U.S. today has some five million agricultural tractors compared with just over one million in the middle of the thirties, in U.K. the number increased from 20,000 in 1930 to 60,000 just before the war and is almost 400,000 today. In these countries mechanization has permitted an increase in the productivity of labour, which is the ratio between output and input of labour. In the U.S., for example, where statistical data are more readily available than in many other countries, it is estimated that productivity per agricultural worker has almost trebled since 1890 and more than doubled since 1930, it is now half as high again as it was in 1940. Use of machinery in agriculture has been the chief factor in this development. But at the other end in countries like India, China and broadly in the greater part of Asia and Africa the response to mechanization even at present is poor. As a matter of fact, the low wages and low living standards in these countries are ascribed to the inefficient methods of farming and to lack of technical progress in agriculture.

The rapidity with which mechanization has been making its headway and the tremendous success which has attended it in the agriculture of Western countries, as shown in the preceding section, should fire our imagination and kindle enthusiasm in us with regard to mechanizing our agriculture. The advance, establishment and results in U.S.A., U.K. and U.S.S.R. of mechanization of agriculture are ample proof that it is both a practical and economic proposition there. With modification both in design and tempo to suit our agriculture, mechanization would help solving one of our main national problems, the effective feeding of the now under-fed masses.

In face of the stupendous progress made in farm modernization and mechanization of agriculture in advanced countries, there has been, unfortunately, very little change since the times of yore

in our agricultural implements and in farming methods. Our farmers "still rely even in this machine age, on the century-old wooden plough to turn the land, the crude sickle to harvest crops and the wind for winnowing the cereals". As a result, the productivity of Indian agriculture is pitifully low and the standard of living miserably poor. Therefore for India to live as a respectable State in the comity of nations, she has but to mechanize her agriculture. It is indeed a sorry state of affairs that no definite policy has been laid down in this regard.

This leads us to examine the scope for mechanization of agriculture in our country. There is a lot of prejudice against the introduction of machinery in agriculture and pessimists frown at the extensive use of mechanical power in agriculture, as they fear that it may lead to colossal unemployment in rural areas. It is often contended, in fact many times taken for granted, that although all that is said about mechanization may be all right with reference to other countries, it is definitely impracticable, unsuited and still more harmful to Indian conditions. Well, this is only taking an extreme view of the picture. This can be made clear by answering the question "Will it be practical wisdom to mechanize our agriculture immediately?". The answer is simple: even if it is desired to mechanize our agriculture immediately, it is not possible in view of so many impediments—lack of capital, lack of cheap fuel, lack of technical skill, lack of machines to suit our requirements and lack of co-operative instinct and rational thinking combined with the prevalence of small and scattered holdings and the high pressure of population on land. All these retarding forces are formidable though not actually insurmountable. It is indisputable that the scope for mechanization in our agriculture, which at present is limited, can be widened and large-scale introduction of machinery in agriculture made possible, provided of course the Government is willing to exploit all possibilities of mechanizing our agriculture to the utmost extent possible.

The main object of the tractor scheme at present is the reclamation of waste lands, for which purpose the tractors will be in operation only for a part of the year. In other words, "utilization availability" of the tractors is very low. How are they, then, going to be utilized for the rest of the year when there is no ploughing work left for them? What is the type of farming to

be practised in future? These are the questions which strike the thinking public.

In the Scientific Monograph No. 9 of the I.C.A.R., it is stated: "As a tractor should be used at least nine months in a year in order to employ it economically, the scope for tractors will be enlarged if they can be employed for a greater portion of the year on ploughing, harrowing, sowing, inter-culturing and belt work". It is necessary therefore to put the tractor power in use for other works when it is not active in the fields. It should, however, be realised that the use of tractors alone will not materially help in increasing food production. If the vast areas of land being opened up at present are allowed to be cultivated by the cultivators in the manner in which they wish, it is likely that the value of money spent on the scheme may not be fully realized. Therefore, only modern methods of farming suitable to the country should be practised.

Existence of toy-sized holdings is a great handicap in carrying out mechanized farming; but independent India cannot afford to tolerate any factor which will limit food production. Therefore to make full use of the tractors in India—where average holding consists of 5 acres as compared to 1,600 in U.S.S.R., 247 in Canada and 145 in U.S.A.—twenty to twentyfive such holdings should combine together to form a co-operative farm to be run by a co-operative cultivation society. The scattered holdings should be consolidated "by co-operation if possible and by compulsion if necessary". In the absence of co-operative farming, use of tractors can be made through what is known as "custom work". In both these cases of rationalising agriculture, Government should have to play a predominant role—Government assistance in this respect is indispensable.

For the tractors to become popular and for mechanization of agriculture to become successful, certain *fundamental* prerequisites are imperative. For instance, Government should establish tractor stations throughout the country where tractors can be repaired and spare parts made available. Facilities should be made available for technical skill—the lack of which is now a stumbling block on the way to mechanization—for farmers at these stations. Added to these, the Government should also open a number of research stations in selected areas in which research should be carried on to invent implements suitable for the various

operations, and for conditions obtaining in those areas. Machines should preferably be "small, durable, efficient and easy to manage". Factories will have to be opened to make such types of tractors and implements available in large numbers. The opening of the tractor-manufacturing factory at Bombay, capable of turning out 500 tractors a year, is an encouraging step in this direction.

With the onward march of industrialisation, promotion of small and cottage industries and development of co-operatives as envisaged in the Second Five Year Plan, combined with the evergrowing realization, of the necessity for increased production to meet the rocketing demand of the rising population, it is not difficult to speculate that mechanization of agriculture might go far indeed in our country provided, of course, it is introduced with caution and consideration.

Discussion

A large part of the discussion centred round the question of the displacement of labour by mechanization, resulting in large scale unemployment. It was agreed that the danger was acute in countries like India which already suffered from heavy pressure of population on land. Further, so long as labour was cheap and abundant and capital was scarce and dear, the agriculturist would not think in terms of mechanization, which was, in effect, substitution of capital for labour. The principle of least-cost combination of factors in Indian agriculture would work in favour of labour-intensive methods of production. It was pointed out that besides the above factors, other factors like the small size and fragmented character of holdings and the prevalence of the tenancy system acted as deterrents to mechanization in India.

One member expressed the fear that mechanization would substantially increase output, reduce prices, and affect the income of primary producers. He added that the maintenance of stable prices required expansion of effective demand for food, and that this depended on the creation of higher levels of employment in the secondary and tertiary sectors of the economy.

It was said that mechanization should be introduced only in suitable regions and in suitable processes of agricultural production and distribution. For instance, mechanization was suitable for dry cultivation, but not so for wet cultivation.

The problem of cattle was also considered towards the end of the discussion. With a large cattle population, serving as source of power, mechanization might not be worthwhile, said some members. While some said that in a developing economy cattle should be thought of more in terms of milk and meat, and less in terms of power, others said that disposal of surplus cattle would be difficult on account of prevailing sentiment.

The consensus of opinion was against wholesale mechanization of agriculture in India.

THE INTERVIEW AS A RESEARCH TECHNIQUE

By

M. H. GOPAL

Social sciences have to make use of various devices, of which the interview is very important. "By the *method of the interview*", writes Beatrice Webb, "I mean an instrument of research and discovery through the process of skilled interrogation. As a device for investigation, it is peculiar to the sociologist. It is his compensation for inability to use the chemist's test tube or the bacteriologist's microscope." In a way, it is the tool *par excellence* of the field worker.

The interview is *conversation with a purpose* just as observation is *seeing with a purpose*. It is more than a mere oral exchange of information. It is an important means of gathering facts within a distinct field where arises the necessity to come into contact with individuals to get access to data—facts and opinions—and to receive them *directly* from the people. There is untold wealth of information never put into writing and not reachable through bibliographical or written sources. If the source is accessible to the investigator, the interview is the device to tap it; and if it is not easily reachable, the questionnaire is the means. Apart from accessibility, the controlling factor in the success of the interview is the reaction of the personalities involved, whereas in the questionnaire, it is the skill in the formulation of the questions that matters.

The interview, as a research tool, has certain advantages. Being always direct, it is the only way by which certain kinds of information can be obtained. It is as trustworthy a means of getting facts as personal observation is. Being highly flexible, it permits of maximum variation in the direction of the inquiry and in this respect scores over the questionnaire. People may not be able or willing to answer even the shortest questionnaire, but will talk and freely too, owing to the informality of the occasion. The interview helps to supplement personal information and check on experience and ideas. The interviewer uses his tool in the same way as does a physician when he talks to a patient to describe

how he feels and what he thinks is the matter with him. "The contact of minds, a hint here, a suggestion there, leads to the birth of ideas which might not have been conceived but for the stimulation of the discussion" (Eigelberger). An off-hand remark may suggest a new angle of approach or a solution.

The flexibility and other advantages of the interview depend largely on the approach and experience of the interviewer. If he can control the interview tactfully, lots of information and attitudes can be drawn out, specially if the direction of enquiry can be imperceptibly changed. But this may lead to losing the perspective and running off at a tangent. Apart from the fact that the usefulness of the device depends on the quality of the interviewer, other limiting factors are time, space and expense. In the average investigation, there is time only for a limited use of the interview and so the opportunity for errors is increased. The interview is also limited in its use to a particular locality; and since personal contact is essential, a lot more of expense than in the questionnaire is involved. More than all, a great weakness is in the inaccuracy and off-hand character of many of the statements, often perhaps with a good doze of exaggeration.

The interview can freely be used in the following types of study: (1) social survey and community studies; (2) social work; (3) particular studies of social attitudes of persons and groups; and (4) life history of persons and groups.

The objectives which determine the kind of data and the procedure in their collection may be classified under three heads: (1) *diagnostic*, i.e. to obtain information regarding the life or attitudes of the interviewee or to clear up the general picture for determining some focal point; (2) *therapeutic*, i.e. to obtain data for working out a programme or to help the development of the personality of the interviewee or aiding him in social adjustment; and (3) *research*, i.e. to collect data not objectively stated but necessary to understand a social situation for scientific analysis and interpretation.

The interview may be confined to one type or class of persons or more than one type, and the technique varies according to the type. Broadly, there are three types of interviewees: (1) the man in a position of authority, sometimes called *the Potentate*; (2) the one with special knowledge, i.e. *the expert*; and (3) one of a class of

people to be investigated, i.e. *the masses*. For example, in investigating industrial labour, the boss or manager of a factory is the *potentate*, the trade union chiefs and the labour officers, etc. are the *experts*, and the actual workers in all their hierarchy, the *people*. In community projects, the heads or sub-heads are the potentates, the consultants the experts, and the villagers the masses. By and large, the potentate helps with permission, the expert with his specialised knowledge, and the masses with facts and feelings. Although the technique described below applies to all the three types, a few special hints may be noted.

The essential thing in interviewing the boss is to avoid friction with him and to try to convert the investigation into a joint effort. To do this, start with a regular series of motivating interviews, first explaining the purpose and the project so as to gain the understanding and the sympathy of the potentate; next, explain the details so as to arouse the curiosity of the boss; sometimes in this process, the details will have to be modified; and finally, in later interviews, test facts and secure corroboration so as to act as a corrective to arm-chair planning.

The experts, specially on social problems, tend to differ among themselves and so their examination reveals areas of conflict and obscurity. The expert is the starting point of scientific enquiry and, as he feels he is an authority, avoid giving him the impression that his opinion is *only one* of the many aspects to be considered in arriving at the truth.

It is interviewing the masses or the people that really forms the principal application of the tool. A knowledge of the individual and individual behaviour is essential to build up confidence and insight. Richness of impressions and precision in data should be the objectives. In a mass interview, richness is often sacrificed for quantitative data, while in the counselling technique the opposite is true. One should be a good listener and not merely a drill sergeant. Because of the limited time factor, speed often conflicts with depth or penetration, i.e. intimate relationship.

Not all techniques in interviewing are equally useful in all cases. Thus, in counselling interviews, i.e. therapeutic, where collection of data is not the objective, the *non-directive* type of interview is ideal. This consists in a friendly, receptive and non-didactive attitude, requiring lot of restraint on the part of the interviewer. The interviewer's primary duty is to help the

informant to unburden himself. Patient listening, non-display of authority, absence of advice and argument and ability to adopt temporarily the beliefs and attitudes of each of the informant characterise this technique. So great is the skill needed in this therapeutic approach that interviewers sometimes undergo a course in personal psycho-analysis.

A technique more useful to the social scientist is the *framed interview* where the interview is directed to particular aspects, e.g. in urban surveys. Range and depth become the tests of the quality of the interview, range indicated by the data confirming or refuting the hypothesis, and depth by the intensity of personal feeling brought out.

A different approach becomes necessary when life histories are to be elicited and here the *free association technique* is advisable. This consists in regarding the informant as representing a group, emphasising configuration in time, i.e. regarding experience from childhood through to adulthood as a related continuous process, and conceptualising the life history material. This approach gives not only valuable biographical material but also direct insight into the social situation.

A more interesting technique employed in economic investigations is that of the *informal interview*. "One of my first interviews", observes E. W. Blake in *The Unemployed Man*, "gave me an example of the value of the indirect conversation as opposed to the quicker question-and-answer method", for, the problem of unemployment could be seen through the eyes of the British unemployed. Recently, the informal interview has been resurrected as an independent and dependable tool for scientific enquiry. Relying on this approach in his *Labour, Life and Poverty*, Prof. Zweig remarks: "I dropped the idea of a questionnaire or formal verbal questions put forward in the course of speech; instead I had casual talks with working class men on an absolutely equal footing and in friendly intercourse The enquiry became to me one of my greatest experiences of life. I learned more about life in the course of a few months than I had in many years before, sitting in libraries and teaching at universities."

This informal technique demands the study and observation of people *before* starting to interview them. It avoids the crudities of the mass interview technique and ensures greater truthfulness.

ness than the questionnaire survey. But it is difficult to get a true sample of information, and it demands great skill and time in interviewing. It may also not guarantee deep penetration into the informant's mind.

Yet another approach is that of the *mass interview*. It is marked by speed but not depth. It is of such a routine nature that it can be carried out by not necessarily creative workers and can even be mechanised. It simplifies procedure at the expense of enrichment. It is applicable to subjects which lend themselves to an objective approach, with minimum information, requiring a simple, definite and precise answer, without bias, and with questions put in precise form. The form of the question, therefore, becomes important—not too vague or obscure in meaning, not having stereotyped answers or with technical or unfamiliar words, etc. Multiple questioning, the adoption of a scaling device, and scalogram analysis are supporting devices of this technique. Sometimes a pilot survey designed primarily as an exercise in methods of asking questions and in recording answers would be of use. It is important to record all types of observation arising in the interview, to leave factual questions to the end of the interview, to have coding devices for fixing categories of information and to present results in sociometric diagrams.

The great danger in the mass interview is bias which should be minimised by using a second source of information for verification, by assessing the plausibility of answers (e.g. through personal competence, direct knowledge, interest, etc. of the informant), by minimising the interception between the interviewer and the interviewee, etc.

Being of a low emotional content, the mass interview aids the easy accumulation of information and ensures statistical adequacy.

Whatever the type of interview or the technique employed, some background factors to be borne in mind relate to the purpose for which data are to be secured, the place, time and conditions of the interview, the social forces in the community, such as the public and antagonistic agencies, etc. Certain steps have to be taken in *preparing for the interview*, e.g. training of field workers, consultation of available documents, arranging the schedule, etc., and in *establishing rapport* as well as in securing

and recording the data, e.g. meeting difficult situations, closing the interview, etc.

The research value of the interview particularly for those seeking first-hand data, e.g. social workers and psychologists, is very significant, specially in terms of background, characteristics of the interviewee, subtle half-truths, etc. If the data are to be of real value, the interviewer should put himself as far as possible in the place of the other person; participate in his experience; see life, at least for the moment, as the other person sees it; enter into his hopes and plans and be sympathetic with their realisation. Value also depends on the training and habits of the interviewer in being objective and on his skill in directing the interview and establishing responsive relationships. The interview should be most adequately and carefully planned and the results analysed on the basis of the information received, the part of the interviewer in determining the information given and his own subjective interpretation.

Not every one can be a successful interviewer, for success demands certain personal and social traits. As Stuart A. Rice observes, "Some persons are too rigid, too compulsive and too impatient to make such investigations. Many attempts to secure inside information are futile simply because the person doing the work has no flair for the proper manner of approach". (*Methods in Social Science—A Case Book*). "The primary requisite of the seeker for personal documents is a sense of the dramatic in all human life, a sympathy broad enough to encompass the manifold diverse manifestations of human nature, even those that are commonly regarded as shocking or even outrageous Both this dramatic sense and this sympathetic attitude indispensable for success in securing personal documents naturally develop under favourable conditions but are also susceptible to special training for research work." (E. W. Baggess in *Sociology and Social Research*).

Sensitivity to social proprieties (good manners, the daily ritual, etc. in the area), mental alertness to deal with changing situations and to take quick decisions; ability to attract people; the development of an attitude of expectancy (i.e. anticipation of each successive stage); and adaptation of manners and dress to suit the particular situation are essential. "To learn how to interview well, actual practice is indispensable, of course; but this is a

slow and wasteful process unless the learner thinks constructively about what he is doing and systematises his experience. Thus it pays, after an interview, to review it critically, to note its excellent features so that they may be readily used again as occasion requires and to select one or two weak spots to be corrected. Was time wasted in preliminaries? If so, plan your next approach with care, and get down to business more promptly. Did the interview get out of hand? Think of the ways in which to hold the next one to the line without loss of necessary spontaneity Before each new interview it is well to think out some one way in which to improve on earlier performance." (Bingham and Moore: *How to Interview*).

Some Do's and Don'ts in Interviewing Technique :

1. Gain and deserve the informant's confidence.
2. Establish a pleasant association.
3. Render your informant a real service. Be convinced yourself that your project carries real meaning to the informant.
4. Help the informant to feel at ease and ready to talk. Allow him time to get accustomed to his surroundings and gain a little poise. Aim to make him feel that he is an equal, who can exchange ideas and opinions with you. Begin with pleasant topics. Ask some questions which will enable the informant to show pride in his knowledge. Every one likes to be recognised.
5. Do not start asking questions directly, but wait until you think the informant is ready to give the desired information and give it accurately.
6. Listen.
7. Keep on the subject.
8. Be straightforward and frank, rather than shrewd and clever.
9. Avoid the role of teacher; let the informant be the teacher.
10. Take pains to accent your questions so that they are easily understood.
11. Avoid implying the answer to your question.

12. Help the informant to realise his responsibility for the facts.
13. Avoid impertinence.
14. Keep the question on hand in mind until adequate information is obtained on each one; and then, concentrate on the next one.
15. Give the informant opportunity to qualify his answers.
16. Be on the alert for constant errors that may grow out of succeeding interviews.
17. Adjust the speed of the interview to the mental alertness and speed of the person you are interviewing.
18. Do not dwadle. An interview is *not* a social visit.
19. Keep control of the interview. Without being domineering, do not allow the informant to run away with the interview, but tactfully keep him aware of the definite purpose which should be accomplished in a limited time.
20. The truth which the interviewer wants, the informant too must want.

Discussion :

After some clarification of certain concepts, the discussion turned on the relative merits of the Interview method and the Mailed Questionnaire method in socio-economic enquiries. It was said that these were complementary and not competitive tools in the hands of the social researcher. It was further said that the choice of the particular method would be guided by such factors as the objective of the survey, the type of data to be collected, the responsiveness of the interviewees, etc. When a distinction was sought to be made between the Interview proper and the mere questioning of the respondent by an investigator with the aid of a well-defined questionnaire, there was difference of opinion as to what exactly constituted an interview. While one member contended that any purposive conversation for the collection of data with or without the aid of a printed questionnaire was an interview, some others felt that all such conversations could not be called interviews. They would give the term interview only to those skilled interrogations for collecting such data as would not be obtained by a mailed questionnaire even granting a high

degree of ability and willingness to respond on the part of the respondent.

The applicability of the Interview method under Indian conditions was questioned by a member, who contended that factors like lack of social consciousness, unwillingness to reveal personal data, suspicions and distrust of the motives of the investigator, illiteracy and general backwardness of the people, etc., rendered the data collected by the Interview largely unreliable. To this the answer was given that these factors affected not only the Interview method but all other methods open to a social researcher, and that the Interview method should be applied with great tactfulness and skill and the best data collected under the given circumstances.

A POPULATION POLICY FOR INDIA

By

SARAH K. CORNELIUS

Population and Resources are the two factors in the balance of economic progress. Too much of the one or too little of the other upsets the balance. With this in mind let us examine the Indian problem.

Present Population Trends

The variations in the total population between 1901 and 1951 can be studied from the following table: —

Year		Total Popula- tion (Millions)	Increase (+) or decrease (—) over previous decade (Millions)	Percentage increase (+) or decrease (—)
1901	..	238.4	—	—
1911	..	252.2	+13.7	+ 5.75
1921	..	251.4	— 0.8	— 0.32
1931	..	279.1	+27.7	+11.02
1941	..	316.8	+37.7	+13.51
1951	..	361.3	+44.5	+14.05

(Source: Census of India, 1951, Part I-A, p. 181)

The table indicates the rapidity in the growth of population. In the first decade, total population increased by about 5.75 per cent. A small decline of 0.32 per cent was evident in 1911-21 decade due primarily to the influenza epidemic. Since then there has been a steady and fairly high increase, the rate of growth rising from 11.02 per cent to 13.51 per cent and 14.05 per cent, through the third, fourth and fifth decades. The percentage rate of increase though high is not abnormal, it being quite close to the world's average, e.g. U.S.A. 13.5%, Japan 14%, Italy 8%, etc.

What, however, is rather disturbing is the huge increment on top of the very large existing population.

Future Trends

From the point of view of projecting future trends, let us look into the birth rate and death rate statistics. The decennial figures indicate that the death rate which was 48 per 1,000 during 1911-21 declined sharply to 35 during 1931-40 and further to 27 during 1941-50. This decline may be attributed to improved public health measures, transport facilities, famine control and medical aid.

Birth rate, however, has not declined at the same rate. From 47 per 1,000 in 1911-20 it declined slightly to 43 in 1931-40 and to 40 during 1941-50. Although the enforcement of the Child Marriage Restraint Act raising the age of marriage and eradication of polygamy will result in a slight decline of the birth rate, it is not likely to show a significant fall in the next two decades unless contraception and voluntary limitation on child bearing are practised on a very large scale. The controlling factor in population growth, then, has been the fluctuating mortality. It has been calculated that with an improvement in health conditions, the lives of 3 million infants can be saved and population will increase at the rate of 8 millions a year instead of 5 millions. In the event of such a lag between mortality and fertility, the rate of increase will be 2% and not 1.25%, with the population doubling itself in 35 years.

The Census Commissioner has concluded, on the basis of a study of the data in the 1951 Census and the data of the last 60 years, that India's population will increase from about 36 crores in 1951 to about 41 crores in 1961, 46 crores in 1971 and 52 crores in 1981. Too long demographic forecasts are hazardous, as they are dependent on many unknown and uncertain socio-economic and other variables. But estimates for at least two decades, i.e., upto 1971, can be usefully employed as a working hypothesis for formulating policies.

Population has been growing unchecked on the one hand; on the other, we have resources exploited, partly exploited and unexploited. Our developmental plans are forging ahead with higher and higher productivity targets in agriculture and industries. But with what success in relation to growth of population?

Agricultural productivity and Population

It has been estimated that an agricultural production of the order of 750 lakh tons is required to feed and clothe 36 crores of people at the present level of consumption. Therefore the target of additional agricultural production in 1961, 1971 and 1981, if we are to overcome existing shortages and maintain the present level of consumption, will be 150, 260 and 380 lakh tons (annual) respectively or in terms of percentages of the level of productivity prevailing round 1951, i.e. 700 lakhs of tons (annual), we may say, the increase required is of the order of 21% before 1961, 37% before 1971 and 54% before 1981. Can our agricultural productivity be raised by so much?

The Census Commissioner, after careful examination of the effects of increase in area under cultivation, larger irrigation facilities and better fertilizers, estimated an increase of 240 lakhs of (annual) tons by 1981. This increase will fall short of our needs before 1971. It will be sufficient to overcome the present shortage and meet our needs when population touches the figure of 45 crores round about 1969. By that time three successive five year plans will be over and we should be embarking on the fourth five year plan. This just indicates that while larger numbers can be supported at the existing levels of consumption, a continued rapid growth of population will retard raising of the standards of nutrition.

Employment and Population

The Progress Report of the First Five Year Plan reports that during the five year period of the Plan, additional direct employment due to developmental schemes would have been of the order of 4.5 million. "In spite of an increase of this order, the problem of unemployment has continued to be difficult". While employment has been increasing, unemployment, too, has been increasing. This shows that jobs have not increased faster than additions to the labour force. Even though the Second Plan envisages employment opportunities for 8 million people during the period, the same rate of job creation should continue at the end of the Plan period to absorb the additions to the labour force at the present rate of growth of population. A gigantic task indeed!

Plan Targets and Population

If we are to achieve our targets of raising productivity in agriculture and industries and providing greater employment and rais-

ing the standards of living all-round we have to adopt more scientific methods of raising output through mechanisation, which, again, means displacement of labour. Considerations of employment of growing numbers prevent us from adopting the most productive developmental methods. Taking into consideration the factors enumerated, we may conclude that there is the definite need for formulating a population policy for India if economic development is to achieve its targets.

Factors in Population Policy

Economic expansion lays no doubt the foundation for a better life, but a general raising of the level of living has no general and automatic effect on population development as some economists hold. The social factors involved in population developments cover a wide range and should be a matter of great importance in population planning. The important factors are: (1) Development of agricultural resources (important in so far as the family pattern is kept intact while resources for feeding the family are increased); (2) development of industrial resources (important in that it relates payment to individual workers only making large families "poor in the midst of plenty"); (3) development of social conditions (health and hygiene reduce mortality and increase population); (4) development of education and cultural participation (leading families to adjust their size rationally to conditions of resources); and (5) development of family welfare (safeguards the family's standard of living, tending to keep population from decreasing).

Through variations of interplay of these factors different population trends are developed. The greatest chance for India entering on a period of development and planning and with the experience of history to draw upon, would be a gradual and co-ordinated programme in which all the elements would combine for the progress of the whole.

Agriculture. Development of agriculture is essential in that 70% of India's population are dependent on it. Then again, since imports of food on a substantial scale are subject to some basic limitations, the food supply will have to be augmented by enlarging internal production as far as possible. Increase in agricultural production should be emphasized and got by (a) more extensive irrigation, (b) intensive farming, (c) better seeds and fertilizers, (d) diversion of land from non-food crops to food crops, (e) better conservation and use of existing resources, such as, soil, and aboli-

tion of waste of all kinds, and (f) a change in the ideas on land tenures and a rational viewing of a change in existing patterns of food consumption, e.g. introducing fish and poultry proteins which would relieve pressure on land. Increased productivity and greater prosperity of the agricultural sector constitute the imperative forerunner of rapid and fruitful industrialisation.

Industrialisation. Industrialisation is one of the suggested remedies for solving the population problem. Rapid industrialisation by creating more capital and expanding secondary and tertiary sources of employment will reduce pressure on land, increase national income, make increased investment in and higher productivity of agriculture possible and create an abundance of badly needed commodities.

Industrialisation, it is held, will also encourage the development of new patterns of living, which will reduce fertility because the necessary concomitants of industrialisation are city life, employment of women outside the house, later marriages and education.

Industrial development, however, will have to be planned with family economy rather than individual economy, as the yardstick of improvement.

There ought, then, to be a proper dovetailing of agricultural, agro-industrial and large-scale industrial operations. A development of cottage and small-scale industries in the rural areas is highly desirable. Even if it is argued that it will hamper the most economic use of resources, a more gradual and cumulative development rather than a rapid disruptive one should be encouraged.

Social Education. In the West industrialisation preceded the spread of education. Ignorance prevented the agrarian population from using modern techniques to adapt the size of their families to the material conditions and particularly to the competitive economy where the standard of living was visibly lowered by each addition to the family, with the result they became a cheap supply of labour for industry. If, on the other hand, the planning government should succeed in giving a basic practical education to their rural populations, technical and economic modernisation can take place at the same time as sufficient advances in hygiene and education, so that a harmonious adjustment of mortality and

fertility can occur. This would help us skip the intermediate stage, most feared by pessimists, of reduced mortality with continued high fertility, which results in unprecedented population growth.

Family Planning. The problem of rapid growth, I believe, can only be tackled by rationalising not only production but also reproduction. A restriction of births by family planning could easily be introduced through education and wide and effective propaganda and making available cheap and simple contraceptives. As the majority of religions in India have no serious objection to this, an extensive practice of planned parenthood can be counted on to reduce the high birth rate and this is very necessary if our most ambitious developmental plans are to culminate in fruitful results of higher standards of living and all-round prosperity.

Discussion

After examining population trends in India in relation to availability of resources, Miss Cornelius pleaded for a well-planned policy of population adjustment. At the outset of the discussion, the view was expressed that the popular emphasis on population control in underdeveloped countries was misleading and a plea was made for a shifting of the emphasis to the other side of the picture, viz. the need for economic growth. According to the member who expressed the view, economic development was the only and the ultimate solution to any imbalance seen in the economy. He argued that deliberate attempts to control population would not bear any lasting fruit and that what was needed was a gradual and natural change in the people's attitude to child bearing. On the other hand, it was pointed out that the very process of economic growth was being blocked by the twin obstacles of a very large population and a high rate of growth resulting in substantial annual additions to the existing numbers. Secondly, deliberate and persistent propaganda would be able to change attitudes to child bearing.

Some practical measures were suggested for population control and their effectiveness discussed. These included raising the age of marriage and offering incentives to late marriages. It was opined that the attitude of the people, especially in rural areas, was quite favourable to the idea of family planning and that what was needed was only the right approach to them and making available to them cheap and efficient methods of contraception.

THE HYPOTHESIS AND ITS FORMULATION

By

M. H. GOPAL

What is a hypothesis ?

Research comprises partly discovering facts, partly relating them to one another and partly explaining situations and happenings. Assembling, ordering and relating facts and evolving generalisations on the basis of this analysis constitute a theory. In so organising facts, some deductions may be made, though their accuracy remains to be proved; and some indication may be needed to guide what facts ought to be gathered. These deductions and indications are hypotheses. A hypothesis may be defined as a tentative supposition based on cursory observations of known and available facts, and adopted provisionally to explain certain elements and to guide in the investigation of others.

A possible solution to a problem is a *hypothesis*. It is tentative and not a definitely adopted conclusion. If it is a more complex idea testable by many years of work with some preliminary evidence, it becomes a *theory*. A theory verified on a large scale establishing a regular relationship in a certain sphere which we are justified in believing as true and adopt as the basis of further inferences is a *law*. If the law is so basic that much of other knowledge in the science tends to be organised about it and takes a form deducible from it, it becomes an *axiom*, i.e. "a principle so well grounded that only persistent facts quite irreconcilable with it could compel its abandonment or radical modification". (Burrt : *Right Thinking*).

Thus the doctrine of the moon's gravitation, when it first occurred to Newton's mind, was a *hypothesis*; the idea of universal gravitation, when confirmed by evidence from the moon's orbit, a *theory*; when the latter became verified by a study of the motions of many kinds of bodies, it stood as a *law*; and when seen to be so central in astronomy and mechanics that other knowledge in them could be fruitfully organised about it, an *axiom*.

In other words, the logical relationship between facts is stated by a theory. From this theory, other propositions can be deduced that should be true if the first relationship holds. These deduced propositions become hypotheses. The distinction between a theory and a hypothesis is largely one of degree and not kind. "In practice, a theory is an elaborate hypothesis which deals with more types of facts than does the simple hypothesis". (W. H. George : *The Scientist in Action*). When the hypothesis is verified and proved, it becomes a part of theory. Thus, a hypothesis is a suggested explanation after a careful comparison of known facts, in full knowledge of explanations offered and with a mind open to a change of view if the facts disclosed by the enquiry warrant a different explanation. Its definite purpose is to include in the investigation all available and pertinent data to prove or disprove the hypothesis.

Its Role

Sometimes a hypothesis formed early in the investigation is called a 'working hypothesis'. A hypothesis of this character is a desirable, and even necessary, condition for successful and sound research. As a question put in an answerable form and a proposition amenable to testing, it acts as a guide to the discovery of new knowledge; for without it, research is unfocussed and becomes a random empirical wandering. It gives point to an enquiry and directs the lines of the investigation in the gathering of facts as in following the relationships between them. "The function of a hypothesis", observes Prof. Northrop, "is to direct our search for order among facts. The suggestions formulated in any hypothesis may be solutions to the problem. Whether they are is the task of the enquiry" (*The Logic of the Sciences and the Humanities*, p. 12). Without a good hypothesis, much useless data may be collected in the hope that nothing essential should be omitted or useful data overlooked, which should have been included if the enquiry had been more carefully defined. Blind gathering of data means waste of time and effort, and rarely leads to the discovery of unexpected relations between facts.

Is a hypothesis always necessary?

While a hypothesis is useful in research, it may not be indispensable. In natural sciences, the need for a hypothesis is usually obvious, though in fundamental research in them, hypothesis may

be so general as not to be obvious. Some useful facts may be found and in an organised way with no hypothesis other than the one which might be dragged in. But the major part of research is not handled in this way. Many scientific social studies too have been successfully carried out without any particular hypothesis, e.g. the famous social investigation — *Middletown* — by R. S. and H. M. Lynd. This apparent lack of working hypothesis does not, however, mean the absence of definitely formulated objectives or of basic assumptions upon which the study is built.

Descriptive research projects are not so dependent on hypotheses and their testing as problem-solving projects are. That is, in fact-determining types, the step of hypothesis making is relatively unimportant. Even in these projects, certain hypotheses are made somewhere along the line, e.g. in assuming the logical boundary line between two areas. "In general", observe Robertson and Wright, "hypothesis making is an essential of scientific agricultural economic enquiry in its most respected form" (*Research Procedure*). This is equally true of all social research.

Types of hypotheses

Hypotheses are developed at different levels of concreteness from commonsense statements to complex, abstract variables. To start with, there are two broad types. *The crude type* is of a low order of abstraction, and largely suggests the kind of *data* to be gathered and does not lead to any higher theoretical result. Such a hypothesis can be obtained by repeating a previous piece of work and duplicating those conditions exactly.

The refined type depends on the level of increasing abstraction and is broadly at three levels: (1) *The simple level hypothesis* states the existence of empirical uniformities. This may be formulated (a) by an objective examination of commonsense propositions, e.g. distribution of business establishments in an urban area; or size of families on unemployment relief; and (b) by describing behaviour patterns of specific groups, e.g. first year college students behave in a boisterous way. These simple level hypotheses merely indicate uniformity in social behaviour. They do not involve much of testing the hypothesis; they only help to build up facts, putting in precise terms what every one knows, and lead to observation of simple differences and relationships. Even this mere addition of facts, however helps the growth of science,

(2) At a higher level of abstraction are hypotheses of the *complex ideal type*. While the simple hypotheses largely state empirical uniformities, the complex types test the logically derived relationships between them, by creating a complex referent in society, thus leading to particular coincidences of observations. For example, the distribution pattern of industrial concentration, land values or business types in a city may be analysed in their relationship to specific areas, influences and so on, leading perhaps to a tentative conclusion that concentric growth circles characterise the development of a city. This is a conclusion which may not be borne out by the structure of other cities and, therefore, may continue to remain a hypothesis.

This type of hypothesis creates tools and problems for further research in otherwise very complex areas of investigation. Its main function is to provide constructs for use in further hypothesising. Its formulation is often a "painstaking, grubbing labour process".

(3) At an yet higher level of abstraction are hypotheses concerned with the *relation of analytical variables*, formulating relationships between changes in one property and those in another. The number of variables being theoretically unlimited, innumerable opportunities for new research are created. For example, in studying family planning and human fertility, wealth, region, religion, custom, tradition and so on, are the influencing variables; the more numerous the variables, the more abstract the measurement of the relationship between fertility and any one or more of the factors, i.e. the more abstract, the hypothesis.

How a hypothesis originates

Hypotheses originate in a variety of ways: for example, from a *particular culture complex*. Thus "the American emphasis on personal happiness has had considerable effect on social science in U.S.A. Happiness in one way or another has been correlated with income, education, etc.... The cultural emphasis upon happiness has been productive of an almost limitless range of hypotheses for American Social Science" (Goode and Hatt: *Methods of Social Research*). The emphasis on religion and custom is the Indian parallel to this. Herein lies the importance of Sociology in the study of research methods.

Another related source of hypothesis is *folk-wisdom*, i.e. commonsense and popular propositions which would indicate the direction of the hypothesis and serve as a source of scientific investigation.

Hypotheses may also develop from the *science itself*. Existing theory gives direction to research by stating what is already known and logical deduction from these leads to new problems. This emphasises how and why a researcher should acquire the folkways of this particular discipline. The student's range of hypotheses from this source is limited by the direction of his learning and experience. Continuing discussion among co-workers would indicate important areas and problems and suggest relevant hypotheses.

A fourth source of hypotheses is *analogy*. Casual observation of another science may start ideas in our own. Thus, the concept of segregation in plant ecology gave the sociologist the hypothesis that similar types or activities may be concentrated in the same area. Darwin's notion of the struggle for the survival of the species is said to have been suggested to him by Malthus' population theory that the physical environment was always snapping at the heels of any species. Hypotheses on the basis of analogies are a bit risky to formulate, unless the models and ideas of other sciences have been carefully examined for the parallel circumstances.

Yet another source is the observation of *deviant cases*, i.e. those which do not fit into the existing rule or pattern. A patient analysis of these exceptions might suggest directions for investigation leading to new theories. Finally *personal experience and individual reactions* may give rise to hypotheses. For, a few can perceive, where many cannot, interesting patterns from jumbles of facts. Thus, Thorstein Veblen's socio-economic theories, e.g. of the leisure classes, originated because as an alien he brought to bear his experience on the capitalist environment he was in. Often, the scientist may not be seeking the particular hypothesis, but his training may help him to understand and use the strategic fact when it appears.

Criteria of useful hypotheses

Whatever their origin, all hypotheses may not be useful. Good ideas must be sifted from not so useful ones. To facilitate the

process of selection of usable hypotheses, some criteria are generally applied :

(1) *Conceptual clarity*, i.e. the concepts used should be clearly defined in commonly accepted and communicable form, i.e. with reference to usage in previous research. This stresses the need for discussing concepts with co-workers.

(2) *Necessity for empirical referents*. No usable hypothesis can embody moral judgments. Use concepts that describe facts and not express attitudes. Avoid 'ought', 'should', 'bad', etc.

(3) *Specificity*. That is, the hypothesis must spell out all operations and predictions indicated by it. Specificity gives conceptual clarity and assures that research is practical and significant. It avoids the use of selective evidence, thereby increasing the validity of the results. A hypothesis in general terms or grandiose in scope should be avoided. To attain greater specificity, break up into *sub-hypotheses*. This process clarifies the relationship between data sought and the conclusions, in addition to making the specific research task more manageable. Further, *concepts and indexes* should be *defined*. Thus, if the hypothesis is:—Urbanization is accompanied by a decline in fertility, *define* urbanization, fertility, etc.; *define* the segments affected; and clarify where, when and under what conditions.

(4) *Relating the hypothesis to available techniques*. A knowledge of techniques to test the hypothesis is essential to formulate usable questions. Not that techniques are always necessary, for, as in the case of Marxian socio-economic hypotheses, a purpose is served, though techniques are not available for testing the sweeping statements; the purpose is that they stimulate the *growth* of techniques so that the research frontiers and tools continually expand because of the challenge.

(5) *Relation to a body of theory*. Science is a cumulative process. When research is systematically based on a body of existing theory, a real contribution to knowledge is more likely to result. "To be worth doing, a hypothesis must not only be carefully stated, but it should possess theoretical relevance".

When to make a hypothesis

The first hypothesis, perhaps of the working type, will have to be made in the planning stage of a research project, before 'mass production' begins. The original hypothesis may undergo changes in the various steps and stages of the project. New ones may be

suggested by the data that were not thought of in the beginning. The testing of relationships involves a hypothesis which may be in the form of a question. In some research projects, e.g., pioneer studies, hypotheses regarding relationships may be made in the *analysing stage*, i.e., later than the planning stage. "Even in the most carefully planned research projects, some hypotheses are not likely to be formed until the evidence, obtained to test other hypotheses, is being analysed. Development of a hypothesis in this late stage carries no connotation of insufficient advance planning. In fact, continued failure to develop some hypothesis in the later stages of research might indicate lack of the imagination necessary for the greatest success in research. Sometimes, hypotheses developed in the course of analysing evidence necessitates the collection of additional data to collect them". (Robertson & Wright: *Research Procedure*).

In clarifying a perplexing problem, the researcher accumulates relevant data, formulates hypotheses of possible explanations or significant probabilities, deduces implications from them to guide verifying observations or experiments and carry out verification. In this process, it may become necessary to retrace one's steps in the course of the enquiry, supplement data, revise hypotheses rendering them more precise, draw further implications and conduct new experiments. It is rare for any important hypothesis to be confirmed exactly as it was formulated. Usually, the verified solution takes its definitive form only when the enquiry is nearing its end. Further, even if confirmed, a hypothesis is still subject to revision and is tentative until new data and new hypotheses replace it.

Formulation

By and large, sound research demands good, precise and testable hypotheses whose formulation is a central, if not a crucial, step to take, demanding a great deal of thought. Such formulation does not occur automatically. Sometimes it may be preceded by false starts and vague statements; sometimes a number of possible hypotheses have to be considered and discarded as not in line with the facts of the situation. "The analysis of the problem which initiates enquiry is quite a different methodological procedure from the act of the imagination which proposes a hypothesis to solve the problem after it has been fully analysed and the

relevant facts with respect to it have been thereby located and then determined". (Northrop, *op. cit.*)

A mere selection of an area of study—territorial or problem area—is not a hypothesis (e.g., juvenile delinquency). Nor is the replication of previous studies and of their hypotheses adequate. Even the study of empirical regularities (e.g., acceptance of family planning practices in X area), which suggest data to be gathered, are not true hypotheses; for, they may be of a low order of abstraction, as they merely predict that *some type* of patterning will appear, without predicting *what that* pattern will be like.

The formulation of a hypothesis is often a creative art, requiring considerable attention. Some of the important desiderata for good hypothesising may be noted :—

1. Clear the mind of traditional beliefs, because the very presence of a problem means that the traditional answers are inadequate.
2. Concentrate on the character of the problem, since such analysis guides to relevant facts and to relevant hypotheses.
3. Acquire *knowledge* of a clear *theoretical framework* to clarify the relation of the hypothesis to theory.
4. Develop ability to utilise the framework logically.
5. Build up familiarity with research techniques in phrasing the hypothesis properly, so as to avoid vague terms and concepts.
6. Specify the validity tests to be applied to the hypothesis.
7. Avoid value judgments, i.e., do not assume conclusive, established detailed facts.
8. Select the suitable technique among the alternatives used.
9. Study the previous attempts in the same direction.
10. Cover literature on the subject. If this is not possible, your hypothesis covers too much ground.
11. Test if major deductions are possible from your hypothesis.
12. Test your hypothesis by some other theoretical model. For, your hypothesis must be derivable from and based on a set of related propositions.

13. Avoid temptation to choose 'interesting' matter or an isolated survey.
14. Choose problems helping to refute, qualify or support existing theories.

The process of analysing a problem before and after a hypothesis is formulated may be illustrated thus. Galilei's *problem* was to know how and why a projectile moved. His analysis took him to the roots of the definition of force. The traditional Aristotelian definition was found inadequate and a new and correct definition in terms of the motion of any object whatever, was needed.

This analysis of the problem led Galilei to the constituents of the situation, i.e. factors governing motion, viz. (1) weight of the ball, (2) distance of its fall and (3) time taken to fall. This led to three relevant hypotheses, viz.: (1) force is proportional to weight; (2) it is proportional to distance; (3) it is proportional to the time taken by the force to act. That is, the analysis of the initial problem guided him to its roots, i.e. a more general and basic problem, which led to the simple phenomena in which the factors showed themselves.

Each hypothesis was put to empirical test and two were found wanting. The third was proved and it led to a new definition of force: Force is that which produces change of velocity or acceleration. Finally, the implications of this definition were noted.

This analysis of the problem from the initiation of the enquiry to the solution indicates the following steps: —

- I. Discovery by analysis of the basic theoretical root of the problem.
- II. Selection of the simplest phenomena exhibiting the factors involved.
- III. Inductive observation of these relevant factors.
- IV. Projection of relevant hypotheses suggested by relevant facts.
- V. Deduction of logical consequences from these hypotheses, thereby permitting an experimental test.
- VI. Clarification of the initial problem in the light of the verified hypothesis.

- VII. Generalisation of the solution by means of a pursuit of the logical implications of the new concepts and theory with respect to other subject matter and applications.

Discussion :

The author explained in some detail with the aid of illustrative examples the meaning of hypothesis, its role in research, the different types of hypotheses and the criteria of useful hypotheses. He also gave a number of hints on the formulation of hypotheses in practice.

The discussion was more in the form of elucidating certain aspects of the paper and clarification of certain doubts arising from the paper rather than in the shape of direct controversy. Though a few members initially doubted the necessity of definite formulation of hypothesis in the process of research, it soon became clear that even if a definite formulation might be regarded unnecessary, a vague hypothesis would be present in the mind of any reasearch worker. It was better to be aware of it so that wandering of the mind might be avoided. It was agreed that there could be a plurality of hypotheses for a particular research problem, but these should not, of course, be mutually exclusive.

The role of hypothesis was then tested with reference to one or two of the research topics on which the students were working.

FOREIGN AID AND ECONOMIC GROWTH IN UNDERDEVELOPED COUNTRIES

By

K. V. NAMBIAR

A country is generally said to be underdeveloped when capital investment is small, per capita productivity is low, and the standard of living of a large part of the people is at or near the subsistence level. By the evidence of per capita incomes alone many countries, including the whole of Asia, containing possibly two-thirds of the world's population would fall in the category of the underdeveloped. The main problem of economic development in these countries is to increase production. Rapid increases in production are dependent on capital investment and the availability of technical skill, which are usually lacking in underdeveloped countries. These deficiencies can be made good only through foreign aid. Hence from the point of view of the economic development of underdeveloped countries, the problem of securing the necessary foreign aid, whether from international institutions, national governments or private sources, is of first rate importance.

Underdeveloped countries need both public and private foreign aid. Inter-governmental aid, technical and financial, is essential for developing the "social" capital resources (transportation, power and sanitation) which are complementary to the growth of private investment, but which cannot be financed by private enterprise. The development of these "social" capital resources increases the capital absorptive power of underdeveloped countries, which is at present a factor limiting development. But, though government investment from surplus countries has got a great part to play in economic development, private capital supplied by the world business community remains the principal source of development funds. Rapid industrialisation of underdeveloped countries depends ultimately on the availability of necessary private capital. Thus, both public and private capital are essential if foreign aid is to have the best chance of producing good results.

As a source of development finance, foreign aid carries with it some great advantages. These may be listed as follows :

1. Foreign aid through grants, loans and investments which assist in providing technical services, equipment and supplies can greatly lessen the strains and hardships of the crucial early years of development. The use of foreign rather than domestic funds is important particularly in the early stages of economic growth, since, before export industries have developed, foreign currency required for the purchase of foreign capital equipment is likely to be in short supply.

2. The availability of foreign aid would reduce the need to hold down consumption in order to accumulate capital for development. For underdeveloped countries to achieve a rapid rise in economic productivity is a hard task; to do it by democratic methods is in some ways harder still. In a democratic community a government must take more care of its citizens' present wants and cannot impose too ruthless a sacrifice on one generation in the interests of others as yet unborn.

3. Foreign aid would act as an anti-inflationary force during the development period. In many developing countries, it is difficult to encourage capital formation without inflation. Foreign aid in the form of capital goods would indeed be the principal anti-inflationary force operating at the time of economic development.

4. The availability of foreign aid would reduce the necessity of resorting to deficit financing. The purpose of employing any means to finance the budget deficit for economic development is to place real resources at the disposal of government in addition to those which can be secured by regular government revenue. Among the means, use of foreign assets and foreign loans are most advantageous as they increase the present disposable resources without creating additional effective demand which is not met by the increase of goods and services.

5. The flow of private capital is usually accompanied by necessary technical skill which is quite essential for successful development. The very fact of underdevelopment connotes an insufficiency of talents necessary to translate development concepts into practical propositions ready for execution. This serious deficiency can be made good only through the importation of private capital from abroad.

6. Yet another advantage of foreign aid is that it acts as a catalytic agent for domestic capital formation. It not only supplements but also stimulates internal capital formation. Thus the rate of economic growth could be considerably accelerated with foreign aid.

As estimated by the United Nations experts, an annual net investment of 19 billion dollars would be necessary to increase national incomes in underdeveloped countries by 2 per cent annually, whereas net savings in these countries are only of the order of 5 billion dollars. Great, therefore, as is the necessity for foreign aid, the fact remains that the flow of foreign capital into these countries has been a trickle rather than a broad stream, hopelessly inadequate by comparison with the numerous ambitious schemes that have been proposed. This is so because conditions in many of the underdeveloped countries are not conducive to the flow of foreign capital.

Many countries have turned to government planning, control of investment and ownership of basic industries in one form or another in disregard of the effect on the attraction of foreign capital. While some amount of public interference is unavoidable and is also desirable, excess of public interference might stop the flow of private capital which is so essential for economic development. To induce the movements of capital it is necessary to dispel certain fears, such as arbitrary behaviour by the administrative authorities, nationalisation, expropriation, etc., and also provide certain incentives, such as equitable treatment of foreign investment, removal of exchange restrictions, exempting foreign earned incomes from double taxation, liberalisation of restrictions on the transfer abroad of profits, etc.

The "climate" which foreign capital needs in order to function effectively includes such basic utilities as education, public health, efficient administration, roads, irrigation and agricultural extension services the development of which has been inadequate in the underdeveloped countries. The development of these basic utilities is essential to increase the capital absorptive power of these countries. To facilitate the flow of foreign capital, there is, therefore, the need to create proper economic, social and political environments.

Ultimately, the problem is one of reconciling the objectives of underdeveloped countries with the interests of foreign investors,

which is no easy task. It is a very complex problem and the solution involves action on many fronts both at the domestic and international levels. Underdeveloped countries have to reshape some of their fundamental social institutions. As the United Nations experts have observed: "Ancient philosophies have to be scrapped, old social institutions have to disintegrate; bonds of caste, creed and race have to burst". These are as much obstacles to economic development as they are symptoms of underdevelopment. They also have to establish and learn to operate many new institutions unfamiliar to them but essential for modern productivity.

In stimulating the flow of foreign capital and thus helping underdeveloped countries to step up the pace of economic development, international economic organisations can play a key role. It is gratifying to see that the International Bank for Reconstruction and Development, which was originally conceived solely as a financial institution, is slowly coming to grips with the problems of economic development. The establishment of the International Finance Corporation, an affiliate of the Bank, is an encouraging step in the right direction. It is hoped that this new institution would become an effective instrument in furthering economic development by promoting the growth of private capital in underdeveloped countries.

Foreign aid channelled through multinational organizations under the auspices of the United Nations has got its own conspicuous advantages. It is best that aid is obtained through an international organization in which the local government is itself a free and equal member. The fierce spirit of nationalism and intense fear of domination could be exorcised. Moreover, multinational agencies can draw on a greater variety of experience and technical personnel than can any single country. But the greatest merit of multilateral aid given under the auspices of the United Nations lies in the fact that it helps to build up the prestige of the United Nations and the loyalty of the peoples of the world to it, thus strengthening an institution on which mankind's best hopes for future peace and security depend.

Foreign aid is indispensable for bringing about rapid economic development in underdeveloped countries. Economic development throughout the world and the resulting reduction in the economic and political tensions which arise from hunger and poverty

would benefit all. Expansion in worldwide economic activity would assure expanding markets for industrial exports and help support high levels of economic activity in the developed countries. This would help prevent business depressions which hitherto have recurringly spread around the world like an epidemic producing starvation in the midst of plenty even in wealthiest countries. Investing to assure development and to raise standards of living around the world can benefit all the citizens of all the countries, developed and underdeveloped.

Discussion :

The discussion commenced with criticisms levelled at each one of the several advantages of foreign aid that were claimed in the paper. The author had claimed that foreign aid would greatly lessen the strains and hardships of the crucial early years of development. But it was pointed out in criticism that the servicing and amortization of foreign loans might really turn out to be an even heavier strain, unless in the meanwhile export industries were developed, which would provide a surplus in the balance of payments of the borrowing country. Whereas the paper claimed that the availability of foreign aid would reduce the need to hold down consumption to facilitate capital formation, critics said that some restriction on consumption could not be avoided in any country that was planning for economic growth. Others, however, said that in a poor and underdeveloped country, where consumption standards were already very low, there was little scope for their further reduction. To this the reply was given that reduction of consumption should be confined to the conspicuous type of it.

The question of deficit financing also engaged the attention of the members. It was said that some amount of deficit financing could not be avoided, under any circumstances, by an underdeveloped economy planning for growth.

The dangers of strings that might be attached to external capital by the lending country were considered. One member felt that it was legitimate on the part of a lending agency to stipulate certain conditions and that it was unrealistic for any country to expect external capital without any conditions attached. Some others, however, said it was a moral obligation on the part of an advanced economy to assist an underdeveloped country. A third group said that a borrowing country cannot and should not sacrifice certain

values and fundamental principles merely in order to create favourable conditions for the foreign capitalist.

The opinion was expressed that foreign capital should necessarily be channelled through international agencies to avoid complications. Private foreign capital could however be encouraged to come in in conjunction with the local government, as in the case of the new British Steel Plant in India.

The consensus of opinion was in favour of the utilisation of foreign capital but not in favour of an unconditional acceptance of it.

16-11-1956

TARIFF POLICY AND ECONOMIC GROWTH

(A Study in relation to India's First Five Year Plan)

By

R. PARTHASARATHY

Section I

Tariff Policy is defined in the dictionary of tariff information as the regulation of foreign trade "designed to promote domestic production by counteracting, overcoming, or preventing foreign competition, either by diminishing the power of foreign competitor or by creating against him a barrier of defence or by strengthening domestic resources". The complexion of the tariff structure of any country must be judged in the context of the whole range of commercial policy. For instance, a national economy may maintain a high level of import duties while at the same time do away with import quotas and exchange control, or a country may combine low tariffs with some measure of import quotas, exchange licensing and State trading which may be protective in effect. Noted economists like Gottfried Haberler are of the opinion that tariff system is a liberal method of commercial policy conformable to a free competitive enterprise economy, while quotas are non-conformable measures which disrupt the market mechanism and lead necessarily to further interventions. As regards the relative merits of quota system and rigorous exchange control, Prof. Jacob Viner opines that the former "involves much less of a break with the free market economy, much less departure from orthodox monetary practices, much less interference with private business, a much lighter and simpler administrative burden". It would thus be clear that the content and effect of a given tariff policy must be viewed in the broad setting of a country's foreign trade policy.

Given the basic relationship of tariff policy to other policies pursued by the State (e.g. fiscal policy, monetary policy, and commercial policy), the question arises — what, then, is the role of tariffs in generating forces of development? The great German economist Frederick List in his classic treatise *The Nationalist System of Political Economy* was cryptic when he stated that "the power of

producing wealth is...infinitely more important than wealth itself", and that what is of decisive significance is the effective organisation and promotion of "*union of the productive powers of the nation*", behind scientifically designed tariff walls. To List, the term "productive powers" meant "not merely a country's physical productive equipment, its endowment with land, labour, capital, but in addition its technology (mental capital), its system of transport and communications, the alertness and intelligence of its citizens, their thriftiness and their social institutions". An ardent nationalist as he was, Frederick List made a powerful plea for "diversification of the occupational structure" of a developing economy* through the cumulative process of multifaceted development. It is often ignored in recent literature on the theory of developmental protection that the Listian concept of tariff policy is radically different from the classical version of the infant industry argument, wherein tariffs are treated as an exceptional rather than a normal instrument of commercial policy. The Listian theory of tariffs is based on a vigorous advocacy of State participation in the economic development of a nation and as such becomes truly meaningful in the modern context of economic planning. Broadly speaking, the aim of tariff protection in an underdeveloped economy is to operate along with other instruments of State action with a view to release the forces of development. Once the process of balanced growth gets a big initial start, then there would be a steady growth of external economies and a steady increase in the rate of capital formation.

Section II

The failure to dovetail tariffs into a scheme of overall economic planning is writ large in the tardy industrialization of India in the inter-war period (1919-1939). The policy of discriminating protection as formulated by the first Fiscal Commission (1921) on the whole failed to foster a balanced industrial structure. On the

* List recognized three different stages of economic development:

1. The primary producing economy exemplifying agriculture as the major industry—an economy which is the earliest and least civilized.
2. A developing economy with improved agriculture, growing commerce and rising manufactures.
3. A mature economy—fully developed and thoroughly industrialised.

eve of the Second World War, all that the Indian economy could boast of was the existence of a few well-established consumer goods industries. As for capital goods industries, they were practically non-existent except the small venture of the Tatas at Jamshedpur. *Thus, the fundamental deficiency of the inter-war tariff policy was the absence of effective deployment of tariffs as a tool of planned industrialization.* The second Fiscal Commission (1950), fully aware as they were of the major drawback in the triple formula, frankly stated their views on the subject of tariffs and economic planning thus: "Our entire outlook is based on a fundamental shift in thought that has taken place in recent years on the subject of protection in relation to a country's industrial development. *The emphasis has been now transferred from the negative idea of safeguards against foreign competition to the positive conception of the fullest utilisation of our resources*". "The approach now is empirical...the object of which is not merely to foster particular branches of production, but to induce such a change in the demographic and industrial structure as will transform the economic environment and raise the level of productivity in the country as a whole. In such a perspective, protection becomes a means to an end — which is national welfare". *In short, the Commission regarded tariff protection as a tool of economic planning.* The Commission asserted that if the tariff policy is unrelated to an overall plan of economic development, there may be "unequal distribution of burdens and uncoordinated growth of industries". Once the principle of planning within a framework of mixed economy is accepted, in an under-developed country, then the business of tariff policy is (1) to accelerate a fuller and planned utilisation of man-power and other material resources in a series of inter-related industries, and (2) to accelerate the rate of growth of emerging export industries behind tariff walls with a view to maximise the much needed foreign exchange earnings for financing import of capital plants and technical know-how.

It is odd to note that there is no clear conception of the basic relationship of tariff protection and economic planning in the final report of India's First Five Year Plan submitted to the Parliament in December 1952. Tariff policy, during the period of the first Plan, continued to be halting and erratic in its operation. The frequent emphasis laid by the second Fiscal Commission in their report on the utility of tariffs as an instrument of planning, does not seem to have made any impression on the Indian planners.

Among others, the following are a few major criticisms of India's tariff policy under the first Plan which I wish to place before this Seminar.

(1) It is surprising to find that no attempt has been made under the Plan to grant tariff protection to industries *on the basis of a scheme of priorities*. The problem of industrialization, in an underdeveloped country, is essentially one of matching real resources with desired lines of development on the basis of carefully defined inter-industry relationship. An examination of the report on First Five Year Plan reveals that among other things, the approach of the Planning Commission to the problem of industrial development has been most disappointing. It appears that the Commission has not realised the importance of drawing up a well-conceived properly integrated pattern of heavy and light metal industries on the basis of a thoroughgoing and detailed inquiry into possible lines of development in the unexplored as well as comparatively newer regions of mechanical (including structural) and electrical engineering, metallurgical and chemical industries.* The absence of such a clearly defined pattern has been

* Refer "Progress in Production Techniques and the Structure of Capital Goods Industries" by R. Balakrishna (Indian Economic Journal, July 1956, p. 5).

1. *Metallurgical industries:* (a) alloy, tool and special steels, (b) aluminium, (c) antimony, (d) ferro-silican, (e) non-ferrous metals.
2. *Engineering industries:* A. *Mechanical engineering:* (a) bicycles, (b) brass lamp holders, (c) cotton and hair beltings, (d) cotton textile machinery, (e) grinding wheels, (f) hurricane lanterns, (g) machine screws, (h) oil pressure lamps, (i) sewing machines, (j) steel baling loops, (k) wood screws, (l) Zip fastener, (m) machine tools, (n) steel belt lacing, (o) ball-bearing and steel balls, (p) automobile leaf springs (q) automobile sparking plugs, (r) automobile hand type inflators.
- B. *Electrical engineering industries:* (1) dry batteries, (2) electric motors, (3) motor vehicle battery, (4) power and distribution transformer industry.
3. *Chemical industries:* (1) biochromates, (2) calcium chloride, (3) calcium lactate, (4) photographic chemicals, (5) fountain pen ink, (6) glucose, (7) hydro-quinone, (8) plastics, (9) sheet glass, (10) soda ash, (11) stearic and oleic acids, (12) titanium oxide, (13) dye stuffs, (14) caustic soda, (15) phosphoric acid and phosphates, (16) potassium permanganate.

responsible for the continuance of lop-sided development of the economy and for the continuance of uncertainty in the minds of private entrepreneurs, financiers and businessmen. The demand for tariff protection has been spreading like a disease among all types of embryo industries and in the absence of a scheme of priorities the Tariff Commission has been granting protection or assistance to a number of diverse and unrelated industries; so much so, the theory of balanced growth has been thrown overboard. India's industrial structure under the first Five Year Plan would have been much more diversified and integrated and the pace of progress much more rapid had the Government of India pursued a policy of affording protection to a series of related industries which have an immediate bearing on the present stage of economic development. It is a pity the Second Five Year Plan, despite its well-conceived emphasis on the production of steel, machine tools, aluminium, soda ash, dyestuffs and heavy electrical industry, does not seem to visualise a self-consistent pattern of heavy, metallurgical and light metal industries with clearly defined inter-industry relationship. This lamentable lacuna may as well upset the applecart in so far as the intended high rate of development may be considerably scaled down in a way which may shock the planners beyond their wits.

(2) Secondly, the planners in an attempt to strengthen the 'export drive' and maximise foreign exchange receipts, have failed to exploit fully the potentialities of some of the major protected industries. Since the commencement of the Plan, there has been a growing demand for Indian manufactures like sewing machines, bicycles, hurricane lanterns and similar products. It is regrettable that India has missed a great opportunity to expand her market in these goods in the Far East and Middle East before Japan could stabilize herself. Again, the numerous bilateral agreements that were concluded during the first Plan period have not taken into account the rate of growth of the protected industries. All in all production targets and export targets of the protected manufactures under the first Plan have been fixed in an

4. *Other industries:* (1) buttons, (2) coated abrasives, (3) cocoa powder and chocolate, (4) pencils, (5) pickers, (6) plywood and tea-chests, (7) preserved fruits, (8) sericulture, (9) starch industry, (10) sago industry, (11) artificial silk and cotton and artificial silk mixed fabrics industry.

arbitrary manner without a careful scrutiny of their installed capacity and the percentage of idle capacity at the commencement of the plan period. The failure to sedulously build up foreign markets has been primarily responsible for many a protected industry to stagnate once the imports have been replaced (e.g. fountain pen ink, buttons, pencils).

(3) A third deficiency of the tariff policy under the first Plan is the failure of the tariff making authority to study movements in the prices of protected commodities and their effects on the price trends of non-protected commodities. So far no relative study of the percentage increases in the prices of protected and non-protected industries has been made either by the Tariff Commission or by the Planning Commission. It is clear that tariff protection brings about a considerable increase in the retail market prices of protected goods; but in a developing economy the planners can never know the extent to which a rise in the prices of imported goods adds to the inflationary pressure on the economy, unless price trends in the protected sector are studied and related to the price movements in the non-protected group of industries. For instance, no attempt has been made to determine the magnitude of effect of a rise in the prices of cotton textile machinery on textile production or textile prices. Similarly, we do not have any data to know the effect of price fluctuations in the soda ash industry on the output of different items in the chemical industry. Nor are we aware of the cumulative repercussions engendered by the periodical revision of the prices of steel, cement and tin plates by the tariff making authority. Again, we have not been able to determine the extent to which fluctuations in the prices of tea-chests have been influencing the wholesale and retail prices of tea in the foreign markets. The absence of a separate index number to indicate the movement of prices in the protected industries relative to the changes in price trends of non-protected industries has been, indeed, a severe handicap to the policy makers in coordinating the price structure of protected goods with that of non-protected commodities.

(4) Yet another undesirable feature of the working of tariff protection under the first Plan is the inability of the Tariff Commission to enforce the obligations imposed on protected industries. The follow-up programme of the Commission, once protection is granted to an industry, is quite perfunctory. It would

have immensely facilitated better planning and coordination of the protected industries if each industry had a development council since the commencement of the Plan period. The Industrial (Development and Regulation) Act of 1951 provides an adequate machinery for the State to regulate the private industries including the protected ones; but unfortunately the Planning Commission has not applied its mind to the task of utilising the new administrative machinery with a view to regulate *all the protected industries*. Equally neglected has been the problem of quality control of protected industries during the Plan period. Unless the grant of protection is accompanied by a stricter supervision by the Tariff Commission and Development Councils, of the standardisation process of the protected goods, the consumer's prejudice is likely to continue as a serious obstacle to any programme of expansion in the protected industries. In the first Plan, briefly speaking, *no specific steps* seem to have been taken to improve technological standard and technical efficiency. For instance, no essay has been made to introduce statistical quality control on a uniform basis among protected manufactures with a view to minimise waste and to facilitate the production of 'economic products'. There still continues to be a hiatus between the needs of industries and the pure theoretical researches carried on in the scientific field. That apart, the need for collaboration between the scientist, the technologist, the engineer, the industrialist, the economist and the statistician in drawing up plans for industry has not been sufficiently appreciated. In the case of statistical quality control, partnership between the technologist-cum-statistician or engineer-cum-statistician and the captains of industry is inescapable. Surprisingly enough, we find that neither the Tariff Commission nor the Planning Commission has applied itself seriously to the question of introducing statistical quality control in protected industries, to begin with, primarily as a tool for improving industrial efficiency.

These are but a few criticisms of India's tariff policy under the first Five Year Plan. There are certain other shortcomings of the policy which I feel unable to discuss in view of lack of space. Suffice it to say that India's commercial policy under the Plan was niggardly, halting and inadequate. A great opportunity for pursuing a vigorous policy of developmental protection with a view to stabilise a number of growing export industries has been wasted. The story of the first Plan, so far as commercial policy

is concerned, has been repeated in the second Five Year Plan as well. It is my contention that the Achelles heel of the second Plan is not its financial policy, but its foreign trade policy. Had the planners visualised a higher rate of annual investment in the protected industries, the estimates of their foreign exchange earnings would have been higher. To that extent the problem of external financing would not be rearing its ugly head. Never before was there a need for acute thinking in this country on the question of re-formulating commercial policy and tariffs as an aspect thereof. Let us fervently hope that wiser counsels will prevail.

Discussion :

The conclusions arrived at in the paper regarding Indian tariff policy did not receive acceptance in the Seminar. One member pointed out how even in the first Five Year Plan there was adequate recognition of the role of tariff policy and read out extracts from the Chapter on Commercial Policy. The second Five Year Plan, with its accent on industrial development, had fully accepted tariff policy as an instrument of planned development. It was further said that the recommendations of the Fiscal Commission were meant to be implemented progressively and not overnight. The author had complained that there was no self-consistent pattern of industrial development under the Second Plan. This was refuted by members who said that the basic strategies of the Second Plan did provide a consistent and balanced industrial structure. However, one member said all these were outside the scope of a paper on tariff policy and contended that the author's complaints were more against the overall economic policy of the Government rather than against tariff policy in particular. The author, however, maintained that it would not be possible to discuss the tariff policy in isolation.

PRIMARY DATA—THEIR ORGANISATION AND INTERPRETATION

By

M. H. GOPAL

“Data may be primary or secondary or both. Primary data are those assembled for the specific purpose of solving a particular research problem. Secondary data are those already recorded for some other purpose but used in the research project”. (Robertson and Wright: *Research Procedure*). For example, a farm management survey results in primary data; analysis of seasonal price variations from the official *Agricultural Bulletin* involves secondary data. Both kinds of data, however, are used in research, though their relative importance may vary in different projects.

The process of research is in three distinguishable stages—formulation of a hypothesis, collection of data and their organisation and interpretation, culminating in a report. Planning the collection of facts and the actual collection itself provide only *the means* of verifying the hypothesis. For, “science is built with facts as a house is built with stones, but a collection of facts is no more science than a heap of stones is a house”. The accumulation of facts is the exploratory process, though this and the organisation of data—the next stage—are not really mutually exclusive. Sifting, classifying, analysing and even interpretation begin with and run through the collection of facts while the collection process itself is carried on till the report is drawn up. Thus, accumulation, analysis and synthesis go hand in hand from the inception of the study, only the emphasis on the one or the other varies at different stages.

Organisation of data is at three levels—analysis, synthesis and reporting. Analysis comprises the successive stages of checking, defining, classifying and tabulating. Of these, the first and last are a part of the statistical technique of representing the data, while the other two relate to the application of logical methods. Synthesis brings together the analysed facts and comprises the

stages of interpretation, suggestion and inference and the development of the conclusion. The final process of reporting communicates the research results and consists of the writing and documentation of the work. Underlying all these is the fundamental process of thinking in its four-fold aspects of reverie, spontaneous thinking, rationalisation and reflective creative thought.

The analysis of the data and the drawing of conclusions for presentation are the ends towards which the entire research study is directed. The volume and type of analysis varies greatly in different types of studies, but thorough and careful analysis of the data is essential for successful research. The simplicity or complexity of the analysing process is directly related to that of the hypothesis and the volume and variety of data, e.g. a simple hypothesis like "small families have small homes" would simplify collection and analysis. So also if the relevant factors are few and defined in advance. Where multitude of factors operate, e.g. race, tradition, income, education, etc., or some of them are unknown, analysis becomes complicated. Sometimes, when the results of the analysis indicate something not anticipated in the hypothesis, use of data gathered for another purpose becomes necessary, giving rise to 'secondary analysis'.

After data have been secured, they have to be got ready for tabulation and the first step in this direction is *checking*. It is desirable to re-check the records to ascertain the completeness, reasonableness and accuracy of calculations and observations. Better to go back to the original source to clear up a doubt or omit the data altogether than tabulate a record with an obvious major error. Before the records are ready for statistical analysis, a large amount of calculation is needed, and many arbitrary decisions as to procedure usually need to be made. Initial questions should be answered, e.g. on a study of milk supply to a city—Should costs of milk include delivery? How to adjust for cow depreciation? etc. The answers influence the accuracy and usefulness of the records in analysis.

Any separable, observable fact serves as a datum for research. But, since 'facts are not born free and equal', it is essential that they are sifted and weighed from several standpoints as to whether they have a definite bearing on the objectives of the study. Assign a scheme of values to them. Discard masses of detail and bring out outstanding facts. Decide which data are suitable for general background and which for expository and explanatory purposes,

their representative character, reliability and impartiality of the source, etc. Check data for uniformity of view point, procedure, definition of units and presentation of findings.

The next initial step is to prepare an *outline* to clarify and economise thinking and to suggest new perspective for judging the bearings and significance of the component parts of the data. A careful re-reading of the data is essential to understand the total situations studied and of the various aspects of the facts in relation to each other and to the total study. The outline should not be prepared with only scattered facts in our minds. "A carefully made outline aids in determining whether the basic facts stand out in the proper relationships to each other, whether there are serious gaps in the data and whether the writer has assimilated his facts." (P. W. Jones : *Scientific Social Surveys*, 511). It is desirable to discuss the tentative outline with someone with an insight into the study and who would frankly point out omissions, errors, over-emphasis, etc.—though such critics are hard to find.

With an outline to guide, the systematic process of classification may be commenced. In order effectively to relate the facts to each other and to the general body of knowledge on the subject, the exact significance of the facts in question have to be known and this is done through *definition* and *classification*. The purpose of the former is to establish clearly the meaning and of the latter, the systematic arrangement of facts. Careful and considered classification may reduce the whole problem to such familiar terms as to make the solution obvious.

Definition pigeonholes each fact into the group it belongs to, setting out its distinctive qualities. *New* facts must be defined clearly enough to bring out their bearing on the problem. Definitions should cover all items properly coming under the term and exclude those which do not, e.g. to define a balance-sheet merely as a financial statement is incomplete, since there are other financial statements also. The definition should be clearer and simpler than the term, brief and in positive rather than in negative terms.

Classification discloses the range within which facts operate. It resolves the whole body of data into components, such as place, time, circumstances, quality, magnitude, function, sequence, etc. The successful use of all the steps subsequent to classification depends on the care bestowed on the grouping and arrangement of

facts. "Performed consciously or unconsciously, the act of classification is indispensable to and accompanies every scientific inference.... The success of an investigation and the worth of a conclusion are in direct proportion to the fidelity to this principle and the exhaustiveness with which the process is carried out." (F. Cramer: *The Method of Darwin—A Study in Scientific Method*, 88). In social sciences it is all the more important because of the many factors affecting a given situation and because of the wide variations in measurements. Classification is, thus, the culmination of the analysis which began with the collection of facts.

A few guide posts in classification may be noted. First, select the basis for classification; and the basis depends on the purpose for which it is required. The basis may be the subject matter, the source of information, etc. Next, make a complete listing of the facts, as classification can be effective only after a considerable number of facts are gathered. Form broad general divisions based on their inherent qualities, bearing in mind that classification is only a means to an end and must serve a useful purpose. Every fact pertinent to the investigation must be included. Each division must be mutually exclusive. Prefer simple and natural groupings to complex ones. Assign a logical order to the divisions. And provide for flexibility for new facts; and one way of doing it is to have division sufficiently elastic to accommodate diverse facts, e.g. vertebrates and invertebrates.

Tabulation is the next step in analysis. When facts are numerous, dissimilar or numerically expressed, they have to be summarised from a quantitative standpoint and expressed in a way enabling evaluation both quantitatively and qualitatively. This technique of representing data is the function of statistical devices. Broadly, it takes the forms of tabulation and averages, the former reducing data to a logical order according to certain units of measurement, and the latter representing in a single expression large aggregates having common characteristics but differing in quantitative value.

Whereas classification reduces facts qualitatively, i.e. in accordance with their essential characteristics, tabulation is essentially quantitative in approach. The former implies familiarity with logical processes and the latter with statistical methods. Correct tabulation furnishes definite bases for comparing related facts and indicates trends, causal relationships and profitable lines of action.

The order and arrangement of the tables should follow the purpose of the tabulation. They, therefore, vary with a change in purpose. Before attempting to tabulate data, carefully examine them in order to determine the relationship of the different parts. Where the data are not numerous, tabulation direct from the form is possible, but when they are many and varied, other means may have to be used, e.g. tabulation cards, on which data are classified and entered. Sorting and listing may be done by hand or through a machine.

The designs of the tables are varied. From the standpoint of form, they may be *single*, showing one classification (e.g. the total volume of output by years); *double* (e.g. output by years and classes of products); *triple* (e.g. output, classes and plants); or even more complicated. In terms of content, tables may be designed on the basis of *time* (e.g. output record tabulated horizontally and vertically) or of variation of the elements (e.g. frequency tables).'

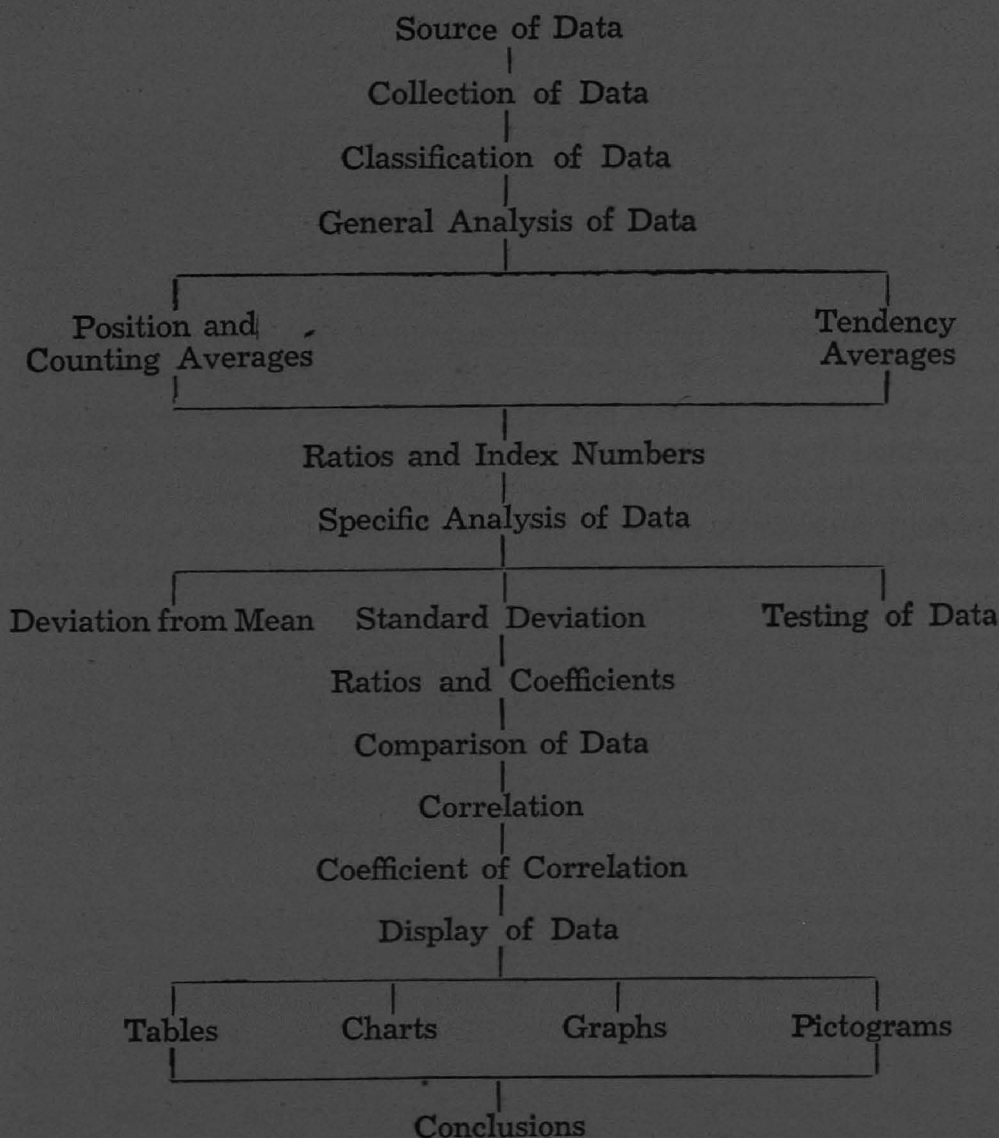
One or two broad hints may be noted here. Every tabulation surface must faithfully record the classification which it is intended to depict. Every purpose has its own best suited form of tabulation. Avoid, therefore, indiscriminate choice of forms. Put in only relevant data and be concise to be effective. The tables should carry on their faces both their justification and their explanation. Effective tabulation presupposes planned investigation, collection and classification. Common mistakes can be avoided through simple rules: — Summarise facts only with a definite understanding of the units of measurement in which they are to be expressed. Note whether the facts are properly comparable. Do not disregard details or improperly use averages or place too great an emphasis on totals. Acquire an adequate knowledge of the technique of preparing tables.

When there are large aggregates of numerical data having common characteristics but differing slightly in quantitative value, averages are resorted to. The main distinction between the ordinary conception of an average and that of the scientist is based on the way it is determined. The first is an estimate, while the second is mathematically computed. Averages are of many types, each being best suited for a particular purpose — the arithmetic mean, weighted average, median, mode, etc.

The use of averages is based on the law of probability and goes a long way in explaining phenomena. Averages are, in fact, simi-

lar to generalisation. Their application begins the process of interpreting the data. They must, however, be used with judgment and caution.

The statistical process of analysis can be indicated by the following chart. (Elmer: *Social Research*).



Tabulation presents the picture of the problem and may even suggest some conclusions. But the discovery of the solution comes first through *inference*, which sometimes explains facts and sometimes suggests a new way of handling the investigation. Inference

is a way of looking round to find an explanation to conform to the observed facts. "The observation in question contributes a part; our general body of knowledge contributes the rest; and the combination of the two produces a new idea. This is the creative feature which characterises inference." (Eigelberner: *Investigation of Business Problems*).

Inference is very much like solving a crossword puzzle. One need not wait until one has gathered *all* the facts to begin to infer. The formulation of the hypothesis, for example, is itself an inference. Inferences are largely drawn from the constructive imagination of the individual and the store of facts and methods the investigator commands from previous experience. A questioning attitude, insatiable curiosity properly directed and a freshness of view point should, therefore, be cultivated. Constructive imagination creates new mental concepts of the facts and observations. It must at all times keep in touch with the facts. It is not what fancy creates but what the known facts necessitate. "Bounded and conditioned by co-operant reason, imagination becomes the mightiest instrument of the scientific investigation.... In fact, without this power, our knowledge of nature would be a mere tabulation of co-existences and sequences". (Tyndell: *The Scientific Use of the Imagination*).

Development of ideas about the observed facts calls for initiative and originality, for, the researcher has to see *about*, *beyond* and *into* the facts. To take known facts and form out of them new ideas and create additional knowledge, a working knowledge of the subject is essential, and even *during* the investigation, such knowledge must be cultivated.

Given constructive imagination and practical experience, inferences can be formed through the systematic trying out of new combinations of known facts, through generalisation and through analogy. Force your attention on the subject; question everything; write down ideas as they occur; talk the problem over with someone; persist in the effort to develop suggestions — these would build up the ability to create ideas. Generalisation is another means of forming inferences. Study of selected instances leads to generalisations, which are probabilities, and not certainties.

All inferences, however, must be subjected to orderly inspection through reasoning, which in turn leads to the formation of other inferences and finally results in a conclusion.

It is at this stage that logic enters research technique. Inference, which is a probability, must be weighed and considered through reasoning to become a certainty, i.e. the conclusion. Reasoning is a constructive process viewing a suggestion from all sides to find out the consequences of accepting it. "Deliberation", writes John Dewey in *How We Think*, "is an experiment in finding out what the various lines of possible action are really like".

The ability to solve problems depends upon the ability to estimate the relative value of inferences and reasoning is the determinant of these values. It is applied inductively and deductively. Inductive reasoning is the method of testing the soundness of inferences through comparing and observing a number of instances, and from this observation, developing a general law explaining most of the facts. It tries to find the causal relationship. It is the form of inference particularly valuable in investigation work, for it separates complex data into its different elements to discover the essential relations between various observed facts; and it is this type of reasoning that the researcher should cultivate.

The procedure of inductive reasoning applicable in research was developed by J. S. Mill under five heads: the Method of Agreement; the Method of Difference; the Method of Agreement and Difference; the Method of Concomitant Variations; and the Method of Residues. As these concepts pertain to the field of logic, they are passed over here.

Deductive reasoning, another logical device in thinking, is used in verifying hypotheses. This device points out a number of fallacies which an investigator should avoid if his conclusions are to be sound. Failure to properly define terms, inaccurate observation, and inaccurate reasoning processes, such as begging the question and hasty generalisation, are some of the pitfalls to guard against. In developing an inference into a conclusion, the investigator should enquire whether the facts are sufficient to warrant the inference; if another inference is not logically possible; if important facts have not been left out; if the relation between facts and inference is fundamental or merely incidental; and if the inference is only partly but not wholly true. If deductive reasoning suggests that the conclusion is not sound, go back to gather more facts, form additional inferences and apply further inductive and deductive methods.

The culminating feature of an investigation is the report "to convey to interested persons the whole result of the study, in sufficient detail and so arranged as to enable the reader to comprehend the data and to determine for himself the validity of the conclusions" (*Technique of Marketing Research*). The main approach in the report depends on the nature of the problem and on the readers of the work. A scientific report is written for scientists and so presumes a basic understanding of the concepts, problems and techniques. Where techniques are deviated from or a new approach is used, the details of these deviations must be stated.

"Preparing material for publication is partly an art. Some persons have a gift in that direction that other persons cannot acquire. But writing for publication is partly a science. Even a person without a natural gift can prepare a creditable publication if he follows recognised principles."

A research publication should contain valuable information if it is to make a contribution. It must be accurate in facts and sound in conclusions, and must be prepared from the standpoint of the reader, for a report is a process of communication. There should be unity in the report, i.e. the problem should be clearly outlined and everything pertinent to the issue included in it. It must be coherent by being carefully divided into parts and the parts logically arranged. Clarity and effectiveness of presentation are important for checking the data, following the logic and ascertaining the significance of the work. The report must be long enough to cover the subject properly but not so long as to become tedious. Only a small portion of the collected data merits publication. In research bulletins, better start with interesting conclusions and then bring in the necessary information. Relegate large tables and matter meant for occasional reference to the appendix. Introduce small tables in the write-up. Avoid repeating facts given in a table. Tables should speak for themselves. The text should merely call attention to the tables and interpret them.

Before starting to write, plan the outline of the manuscript to facilitate progress and to help logical presentation. The report gains in effectiveness by a rational clear-cut organisation of the body of the manuscript. Substantiate important or controversial statements by documentation. If information is only of a supplementary character, better put it in the footnote.

It is the language and style that need great attention, for the common fault is to make writing too difficult rather than too simple. Look at a sentence like this: —“These concepts can hold only for ranges of variation of circumstances not too large to invalidate the assumption that for practical purposes the particular constant relations between the values of analytical elements which these type concepts in the concrete case represent, will not be so unreal as to exceed an acceptable margin of error”. (Quoted in Goode and Hatt: *Methods in Social Research*). Could it not be simpler and clearer?

Some social scientists fail to communicate easily not because of the abstract and technical terms they use or depth of thought or the logic of their arguments, but because of the lack of mastery over non-technical language and of a *complex* that scholarship needs complex writing. Profundity of thought and simplicity of expression should be the goal. An American publication suggests: “If you want people to read what you write and to read it easily, aim at this standard:

1. Shorten your sentences to an average of 17 words.
2. Shorten your words to 150 syllables per 100 words.
3. Use about 6 personal references for 100 words”.

Simple words are more effective. Seventy-three per cent of the words in Lincoln's Gettysburg address are of one syllable. In technical publications, as all research ones are, technical words no doubt save time and carry more precise meaning. But often, a simple non-technical word can equally well convey the meaning. Thus, one could express an idea in the following two ways: (1) “The regression coefficient of labour income on acres was \$14”; (2) “On an average, for every acre of increase in size of farm, there was an increase of \$14 in labour income”. Make your choice. Avoid wordiness, which is a common fault of researchers. Why write “The author wishes to acknowledge” instead of “The author acknowledges”. To write shortly is to write precisely and sweetly. Clarity of thinking is essential to clarity of writing. “Concise language indicates a careful mind. It is impossible to believe that scientists and technicians who write foggily think clearly. Obscurity, pomposity, jargon, superfluous terminology are all marks of the shallow mind”. If one wants to gloss over a difficult point, to avoid accepting an intellectual challenge and to cover up igno-

rance, there is nothing so handy as technical jargon and complex expressions.

The whole process of investigation—collection, organisation and presentation—requires patience in analysis, objectivity in judgment and enterprise in thought. The final step in social research is not only the solution of the problem on hand but also the discovery of new problems needing further and more intensive study.

Discussion :

The author dwelt on the various stages in the collection and processing of and reporting on primary data and spoke of the precautions to be taken at each stage to avoid pitfalls and to obtain the best results.

The basis adopted by the author to distinguish primary from secondary data was questioned by some. It was said that any data collected directly from the source would be primary data, irrespective of whether the collection was made for a specific purpose or not. It was also said that data that was primary for one might become secondary to someone else later.

On the "organisation" of data, the paper was criticised by some members. The question was raised whether the three processes, analysis, synthesis and reporting, were mutually exclusive; the author replied that they were not mutually exclusive, although at each stage one of the three would be the dominant process and the others would be subordinate to it.

With some discussion on the constituent elements of each of these processes, viz. analysis, synthesis and reporting, the Seminar closed.

VILLAGE SURVEYS

By

C. W. B. ZACHARIAS

The survey of villages undertaken by the Agricultural Economics Research Centre has, as its objective, the study of change in rural economy. The intention, therefore, is to have repeat surveys of the same villages at intervals of five years. Since all the villages in the region cannot possibly be surveyed, a few are selected from each State every year. The selection is purposive, and not random, since the aim is to get all the different types of villages included in the sample.

The criteria adopted for selection are:

(1) Location, (2) Geographical features, (3) Size, (4) Land Tenure system, (5) Cropping pattern and economic activity, (6) Irrigational facilities, (7) Stage of development, (8) Administrative set-up, (9) Educational, medical, recreational facilities, etc.

The method employed is to send a trained Investigator to stay in the village and gather data relating to the village as a whole and the different households in the village.

The selected village is a revenue village with all the hamlets attached to it under one Karnam, and the whole village is treated as a separate socio-economic entity and surveyed in all its aspects. Limitation of time and of staff naturally restrict the scope of the enquiry, but most of those aspects which are interwoven and which are likely to undergo change are studied. These changes may be induced or spontaneous, endogenous or exogenous or the combined result of all factors operating, and so the aspects are selected from all these points of view.

The sources of village data are principally:

- (1) records maintained by the village officers, and by the institutions existing in the village, supplemented by the records in the taluk office and other Government offices of the taluk.
- (2) general discussion carried on with village folk.

- (3) inferences drawn from household information, and
- (4) the personal observation of the Investigator.

Household information is gathered by the Investigator through interrogation of the households on the basis of prepared questionnaires and schedules.

In addition to the village schedule, there are at present in use a general household schedule applicable to all households in the village and separate schedules for different classes of households, such as, cultivators, artisans and craftsmen, traders, labourers, transport workers and professional people. In respect of each household the general schedule and the class schedule have to be filled in. In order to fill up these schedules data will have to be gathered not only of the household as a whole, but also of all the members. Thus, there is a complete enumeration of all the people of the village.

Data collected from the households relate to both facts and opinions or attitudes. Facts are needed to get a clear picture of the existing state of affairs in the villages, and opinions and attitudes will tell us of the way in which the village people react to Governmental measures of various kinds and social and political and even religious movements. The aim is not merely to make an assessment of the physical, social and economic structure of the villages and the activities carried on within, but also to have gleanings, to the extent possible, of the mental make-up of the people. This latter is important for policy making by the Government and other agencies at work and also for gaining an insight into the factors that make for change in rural economy.

The survey reveals the existing state of the village and also makes an assessment in some respects of the trends which have existed in the recent past. If recorded data are available relating to the past they are collected alongside of current data, and the questionnaire is so framed as to elicit from the people some account of their past affairs without putting too great a strain on their memory. The economic activities studied are confined to the previous year and those points where attempts are made to go beyond this period are clearly those where vivid recollection can be postulated. The collected data will be both quantitative and qualitative in character. Much stress has to be laid upon quantitative measurement, for much of the change noticed in course of time will be of the quantitative type, in averages, in

proportions and in aggregates, and unless quantitative comparisons are possible, proper assessment of change cannot be made.

The questionnaires and schedules used have to be prepared with great care in order to get precise information on all points considered essential for the study and at the same time to minimize the strain put on those interrogated. The questions put should be simple and direct, capable of eliciting a categorical answer which can be marked off on the schedule with a tick or immediately recorded without much effort. This procedure makes the work of the Investigator easy, speeds up the work of interrogation, puts the person interrogated at ease and gets the matter collected ready for mechanical tabulation. In the case of those questions to which various answers can be given, the possible answers should be enumerated and codified, and the entry made on the schedule should be the letter or number of the code. For each person interrogated there should be a separate schedule or questionnaire kept ready, so that as soon as the interrogation is over, the answers would all be recorded and the work would be complete and ready for despatch to headquarters.

Since rural folk are mostly illiterate and slow of understanding, the Investigator must be prepared to explain the questions with patience and tact and if need be to put supplementary questions to elicit the proper and precise answers. Evasion on the part of those questioned and reluctance to divulge information on private affairs is an ever present difficulty in all rural enquiries and will have to be overcome by explaining the purpose and harmless character of the enquiry and by more searching questioning if the Investigator suspects that false and inaccurate statements are being made.

Unlike most other kinds of rural enquiries, village surveys, as carried out here, require the collection of much data from each household and all at one time, if possible, to minimize the work of the Investigator, and this has to be done without wearying the householder or generating hostility on his part. Successful termination of the interviews with the first few householders will make later interviews with other householders easier, and if the villagers find that every household is subjected to this searching enquiry and not only a few selected households, all would acquiesce in it with greater readiness. This is one advantage which a complete enumeration has over the study of a sample. It is often found that the monied people of the village are more reti-

cent about their private affairs and view with suspicion enquiries of this kind, and so the first requirement is the enlisting of the co-operation of the leaders of the village, the richer classes and the village officers. The kind of contact established with the villagers in general, the general attitude of the Investigator, the period of stay in the village and his conduct during that period will all count in generating that cordiality with the people which is essential for successful investigation work. The personal qualities of the Investigator have indeed an important role to play in work of this sort.

Collection and recording of data will have to be based on a preliminary classification. This classification will be made in the prepared schedules and in the codes drawn up and will have to be strictly adhered to by the Investigator. All the concepts and terms used in the schedules should be properly defined and communicated to the Investigator in written instructions in order that uniformity may be ensured and errors avoided altogether. Definitions should be clear and unambiguous and should as far as possible conform to the generally accepted definitions. They should cover all those phenomena coming within the concept and categorically exclude those which do not come in. In rural areas where much spatial variation is encountered definitions should be carefully formulated so as to comprehend all the different cases.

Much classification of persons and phenomena may have to be done by the Investigator on the spot, adhering to the concepts and definitions given to him, and in doing so, if doubtful cases arise he would be well advised to refer the matter to headquarters for instructions on the point.

Occasionally through the inability or unwillingness of the householders to impart information some data may be missed, and in such cases the Investigator should leave those columns blank rather than enter what he considers to be an approximation. Many such cases should not, however, be allowed to arise, for the Investigator should try all means to elicit the information before admitting failure. Manipulation of data is another great danger attending all these investigations because of the very difficulty involved, and that should be specially guarded against. An Investigator who is seen to manipulate should not be continued in the work.

Less deliberate, but nonetheless equally damaging to the enquiry, are the unconscious personal bias of the Investigator and the response bias of the person interviewed. The Investigator's bias, apart from other preconceived notions, usually proceeds from the similar or approximately similar answers received in a succession of interviews and the resultant premature formulation in his mind of a standard against which the subsequent responses are tested, and the response bias in the person interrogated arises from many factors, among which fear, suspicion, ignorance, mental confusion, inherent humility or erroneous sense of dignity, reticence to lay bare private affairs and impatience with the interrogation are perhaps the major ones. The first type of bias should be eliminated through the cultivation of complete objectivity, and the second by all the means at the Investigator's disposal to allay fear and suspicion and generate trustfulness in the villagers.

In these and other ways complete reliability of data should be ensured. Special difficulties may be experienced in securing accurate data relating to age, values of land and property and home-grown and home-utilized products, the magnitude of financial assets, lending and borrowing transactions, volume of production, the rate of consumption, the stock position and the like, in some cases through lack of knowledge or memory on the part of the householders and in others through extreme reticence to part with information. Valuation, once the quantities or numbers are known, can be effected by the Investigator himself on the basis of previously laid down principles and the village information gathered, but for the solution of the other difficulties no rough and ready method can be prescribed. The Investigator should freely draw on his resourcefulness and ingenuity.

All householders can be expected to be fully alive to the existing state of affairs and of the immediate past, and if the investigation is confined to a study of that state and the completed activities of the previous year, difficulties of the first type may not be encountered.

The data gathered are analysed principally from the point of view of the indicators of change. This has to be observed even in the case of the first survey for bringing into relief those features of village economy important for the study of change. The data would indicate the fact of change rather than the causes or processes of change except incidentally and inferentially, since the

surveys are discontinuous, taking place only at intervals of 5 years. Still such data as give an insight into the causes or processes of change would be invaluable for policy making and the furtherance of measures designed to give meaning and direction to change.

The fact of change would signify the nature and direction of change. Broadly two kinds of changes may be distinguished: (1) fundamental changes which alter the nature and character of rural economy and either reduce or enlarge the difference between it and the urban economy and (2) changes which raise or lower the level of the economy without altering its essential nature. These two types are not watertight; there may be some overlapping, a particular change falling into both types. But a theoretical distinction between the two can be made.

These changes may be noticed in all spheres, physical, economic and social. Among the physical changes falling into the first type are all those developments which tend to reduce the isolation and remoteness of the village and provide the amenities associated with urban life. In the economic sphere this will be indicated by greater monetization of the economy, transformation of subsistence economy into an exchange economy, growth of specialisation in production and occupation, mechanization of processes, application of scientific knowledge to productive technique and improvements in organization. On the social side they will be represented by increasing contact with the outside world, increasing enjoyment of educational and recreational facilities, maintenance of better sanitary and hygienic conditions, greater political awareness, development of community or group organization, and progress of social reform.

For all these there are definite indicators, and if the analysis is conducted with reference to these, it would be possible to see the extent to which these changes have been effected.

The changes which fall into the other group are alterations in the physical basis of the village, changes in the factors of production, changes in the quantum of wealth produced, in the volume of trade, in the level of employment, in the level of income and of the standard of life, changes in the financial and economic status of the people, improvement or deterioration in productive activity or administrative arrangements and changes in social, religious and dietary habits.

In the re-surveys special attention will be paid to these aspects in order that a proper assessment of the nature and degree of change may be made.

Discussion :

The author explained the methodology of socio-economic surveys in rural areas in India with special reference to the surveys conducted by the AERC. He spoke in detail about the special difficulties confronting an investigator in a rural survey and the methods he should adopt in overcoming these difficulties.

In the discussion that ensued, a question was raised about the objective of the AERC village surveys. It was explained that the main objective was to study the changes in village life between two points of time. Every village surveyed would be subjected to a re-survey after a period of five years, which would reveal the changes during the intervening period. It was pointed out that this would reveal the fact of change but not the causes of the change. Mr. Zacharias admitted that the causes of the change were more important than the fact of change, but enquiry into the former bristled with unsurmountable difficulties. The changes would be assessed by reference to various indicators and their significance was explained and their validity discussed. The indicators would not show the causes of the changes.

The relative importance of quantitative and qualitative changes was discussed and it was said that qualitative changes were amenable to easier discovery than quantitative changes.

The merits of purposive selection—the method adopted by the AERC for the selection of villages—vis-a-vis random sampling were discussed and the reasons for resorting to the former were explained.

SURVEY METHOD IN ECONOMIC RESEARCH

By

D. BRIGHT SINGH

The Survey Method

Research in most of the social problems requires the systematic collection of data from populations or samples of populations. One important device of gathering data is the Survey Method. Surveys depend on direct contact with those persons whose characteristics, behaviours or attitudes are relevant for a specific investigation. The main function of the survey method is therefore the questioning of human beings on the results and underlying bases of their actions. When these studies are concerned with large or widely dispersed groups of people, they are called General Surveys; but when they deal with only a fraction of a total population (or universe), a fraction representative of the total, they are called Sample Surveys.

Personal interview is the essence of the survey method. There are some types of survey objectives which require successive interviews with the same individuals. The re-interview design is used when it is necessary to follow the activities or attitudes of the same individuals through a specified time period, e.g. planning and the purchase of durable consumption goods like automobiles, houses, etc. The objective of such a study is to analyse the nature of the planning and decision making preceding a purchase and this is possible only by following through on the stated plans of particular consumers.

Samples which are interviewed repeatedly over an extended period of time are usually referred to as panels. The panel method has the advantage of making possible the description of how the composition of the various economic and social units of society change through time. This type of study would be appropriate, for example, to an analysis of the extent to which the top bracket of income earners in a country is comprised of people belonging to the same group or class from year to year.

The Usefulness of Survey Method in Basic and Applied Research

To a large extent economic research involves the testing of hypotheses suggested by theory, and collection of data relating to our economic institutions by means of empirical studies which help in making generalizations about economic behaviour. Such generalizations indicate the relationship between economic variables and show how one set of variables influences another. If this interrelationship is traced through deeply enough, it helps us to understand the causal forces that determine the behaviour of the variables. This type of analysis and study is essential for the final stage of research, that is, prediction.

There are two types of economic research—applied and basic. The survey method is useful in both. When data are collected, which policy makers in business or in government service require for immediate practical purposes, it is customary to speak of applied research. The survey technique has been widely used by businessmen in America in their research on markets, consumer preferences, buying habits and the like. Similarly, governments also make use of this method of applied research to ascertain the attitudes of the people, their response to government programmes of development and to find out ways of improving such programmes. In basic research, the survey method has been used particularly for the testing of a variety of hypotheses, for example, in studies of the relation of economic experiences and expectations to spending and saving behaviour, in the analysis of the extent to which attitudes and decisions of groups as well as of individuals affect the economy, etc. It should however be remembered that the distinction between basic and applied research is not clear cut. It is quite possible that what is called basic research may have more significant practical uses than a great deal of applied research. A study of the reactions of businessmen and consumers to the prospects of an inflationary trend in prices adds to our basic knowledge of economic behaviour and should therefore be termed basic research. But very important anti-inflationary policies can be based upon such findings.

The remaining part of this paper deals with the usefulness of survey methods in basic research.

Why Survey Method is Particularly Suitable for Basic Research?

The answer to this question lies in certain special features of the survey method. Some of the data which can be collected by

the survey method can be gathered by other devices as well. If the data which we require are of the type that can supply answers to questions like 'how many?' or 'how much?' then the census method, which is easier, relatively cheaper and definitely much less time consuming, would adequately meet our need. It is also possible to get such information from government reports and other published or unpublished documents. But if our question is of the type 'who', 'how', and 'why', then we require a particular kind of data which the survey method alone can furnish. The usual statistics do not meet special needs. For example, statistical materials are sparse and incomplete on the economic activity of consumers. This is mainly due to the fact that households do not generally maintain and publish accounts of their behaviour as do business firms. But consumer behaviour is an important factor affecting the economy and the gaps in our information relating to this field of activity can be covered only by means of personal interview surveys. Much of the economic theory of consumption has been built up on very flimsy empirical foundations and it is quite likely that with the availability of more detailed factual data, a great deal of reconstruction of theory would become both necessary and possible.

The survey method is most suitable where analysis of psychological factors is required. The broad area of 'psychological data' includes many interesting questions concerning economic activity and is the one in which there are least likely to be data available from non-survey sources. An important survey objective is to study the opinions and attitudes of people in the matter of economic and social issues and to determine the reasons for particular groups of people holding particular opinions. Attitudes may be defined as generalized view points of approval or disapproval and an examination of attitudes would therefore involve questions and inquiries, such as those relating to an individual's preference for a particular pattern of consumption, dislike of certain taxes, reaction to rise in prices or the levy of an import duty or excise tax, etc. Information on people's attitudes regarding specific public issues alone would not meet the needs of the survey analyst. What is often more important to him is to investigate patterns of attitudes and interrelations among different attitudes. Apart from a study of attitudes, the survey research would also help in enquiring into the motives and expectations of individuals. The 'motive' concept stands not only for the stated reasons for a particular

type of behaviour, but also for the forces impelling to action. Expectations represent an individual's opinions and attitudes about what will happen as well as his intentions and plans.

It is this quality of the survey method, namely, its suitability for the collection and analysis of psychological data, that makes it a potent tool in theoretical or basic research. This can be illustrated with reference to the analysis of consumer behaviour and business cycle research.

Survey Method in Consumer Behaviour Analysis

Variations in the levels of economic activity are reflected in national incomes. The total national spending in any period of time is made up of spendings by consumers, by businessmen and by the government. An objective analysis is possible in the case of the last. As for the first and second, delving into psychological factors—motives, expectations and attitudes—is necessary. This is particularly so in the case of the first.

In any scheme of business cycle research an analysis of consumer behaviour on the basis of survey data is important because—

- (1) in a developed economy the spendable income of consumers is high. Consumers possess substantial assets and there is a wide variety of postponable expenditures. This would mean that there is not only great scope for, but also great significance in, decisions regarding consumption and savings. These decisions vitally affect the economy.
- (2) fluctuations in saving and spending are determined by many psychological factors. To facilitate analysis, it is possible to draw a distinction between variable outlays and variable savings on the one hand and habitual outlays and habitual savings on the other. Changes in the latter are a function of income and of other traditional economic and demographic variables, while fluctuations in outlays of choice (or variable outlays) are dependent to a great extent on consumer attitudes—on changes in motivations, opinions, perceptions and expectations. This, however, does not mean that outlays of choice are not predictable, while habitual outlays are; it only implies that the expla-

natory variables are different and therefore a difference in the method of analysis is necessary. In other words, the direction and magnitude of variable outlays of consumers (which constitute a good proportion of the total spendings in a developed economy) are to be estimated on the basis of personal interviews (survey).

Survey Method in Business Cycle Analysis

In the field of business cycle research, survey methods may be employed to test a number of existing hypotheses of business cycle theory, especially hypotheses about patterns of individual behaviour; for example, consumer decisions to save, to spend on durables, to spend on non-durables, to hold wealth; producer decisions to invest in capital goods, to hold inventories, to employ labour, to supply goods to markets, to incur debt; banker decisions to grant loans, to vary interest charges, to adjust reserves, and so forth. In addition, surveys may be employed to disclose new types of material unavailable by other methods that help us to formulate new hypotheses and observe new behaviour patterns not generally mentioned in existing business cycle literature. The scope of survey method in this respect can be illustrated.

(1) *The relationship between income and savings:* Consumer behaviour in the matter of savings and income in general is estimated by aggregating micro-economic relations. On this principle, if there is a linear relationship between individual savings and individual income, it is likely to be assumed that a similar relationship would exist between aggregate savings and aggregate income. Whether this is true or not can be known only from a study of the behaviour of representative individuals in each income group. The knowledge that marginal propensity to save increases with incomes and that in actual fact the relationship between aggregate savings and aggregate incomes is not linear is based on a study of this kind. The practical significance of this finding can be known from the fact that the type of income redistribution that would be required as part of a business cycle policy depends directly on the nature of this relationship between savings and income.

(2) *The relationship between wealth and savings:* The general assumption of economists is that there is a negative relationship between real value of assets and quantity of real savings. This

would mean that in a time of high prices money value of assets would be high and savings also would be high. From this the conclusion is drawn that a certain degree of flexibility of wages and prices would operate as a built in stabilizer. However, some economists argue that the asset effect on savings is not strong enough to be dependable as a stabilising force in economic fluctuations. Recent surveys show that the absolute value of the asset effect diminishes as we move from lower to higher income spending units. That is to say, at very high levels of income, while increase in incomes leads to a more than proportionate increase in savings, the higher money value of assets restricts savings. If this is so, business cycle control mechanisms must discriminate among individuals and give differential treatment to persons at different income positions. Thus at high levels of income a tax on wealth would not affect savings, but a tax on incomes would, i.e. by reducing incomes.

It is in these spheres of analysis that the survey method would play an important part. It is possible by means of the survey method to measure expectations and to study the effect of expectations on behaviour. This can be done both at the individual level and at the community level. In the former, by interviewing the same respondent at intervals the relationship between individual expectation and actual behaviour can be estimated. In the latter, by comparing frequency distributions of expectations in a community at a particular point of time with their actual behaviour at a later date it is possible to know how community expectations are translated into community behaviour. This makes prediction possible. Thus if most of the consumers expect larger money incomes but not real incomes and feel that in a year when prices tend to rise it is not advisable to buy durable consumption goods, a "buying lull" can be safely predicted. It is true that such predications are possible with the help of historical data, i.e. statistics collected in the past. But with changes in technology, tastes, habits and individual psychology, historical studies quickly become outmoded so far as present behaviour patterns are concerned, and thus cease to be of value for this purpose. On the other hand, survey data provide a possible means of keeping pace with such structural changes.

Discussion

The distinction between basic and applied research was discussed for some time and some members chose to differ from the

author on this point. A greater degree of difference of opinion was witnessed when the concept of 'survey method' was taken up and its implications analysed. The author of the paper explained that the survey method was an intensive study of a selected number of units for the collection of data and that personal interview was the essence of the method. He further said that where psychological data were to be collected and analysed, the survey method was the most suitable. Some however said that the interview was not indispensable under the survey method. Yet others felt that the survey method was a comprehensive concept and that the sample survey, the case study, the mailed questionnaire, etc., were different applications of the survey method. The survey method was to be resorted to when secondary data were, by themselves, not adequate for the purpose of research. The application of the survey method in the analysis of consumer behaviour was discussed in some detail.

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LAND REFORMS IN INDIA

By

T. R. DEVARAJAN

Introduction

Land Reforms in India constitute a socio-economic revolution through peaceful, democratic and non-violent methods. The broad principles guiding land reform legislation in various States are in accordance with the Directive Principles of State Policy as enunciated in the Republican Constitution of India and the objective of a Socialist Pattern of Society. The basic concept of all land reforms is to improve the lot of those cultivators whose legitimate rights had not been so far recognised and to provide incentives and opportunities for better cultivation and higher yields. The significance of land reform programmes need not be over-emphasised in a country like ours, where the problem of making two ears of corn or two blades of grass to grow upon a spot of ground where only one grew before is an urgent one. The objectives of the land policy are: (a) augmentation of agricultural production by a better system of land management; (b) reduction of inequalities in wealth, income and opportunity; (c) diversification of the agricultural economy to ensure a much higher level of efficiency and productivity; (d) provision of security for tenants, including opportunities for them to become owners of the land they cultivate; (e) improvement of the position of agricultural workers; and (f) in general, the raising of living standards in rural areas.

The land reform programmes which the various State Governments have undertaken fall under four broad heads, namely: (1) abolition of intermediaries, (2) tenancy reforms, (3) fixation of ceilings on holdings and (4) reorganisation of agriculture. These broad principles of land reform have been suggested by the Planning Commission and details of application are being carefully worked out by the different States with variations to suit local conditions and needs, as land tenure conditions differ from State to State. Under the Indian Constitution, land reform is among the legislative fields reserved to the States, and is not a subject of Federal legislation.

Zamindari Abolition

In many parts of the country, semi-feudal conditions had prevailed, the land being owned by intermediaries between the State and the actual tiller of the soil. Obviously, the abolition of intermediary rights was the first and inevitable step in the right direction. By and large, intermediaries have been eliminated from the Indian rural scene in all parts of the country by legislative enactments. The implementation of the legislation has by no means been easy. Constitutional and legal objections were raised by the landlords against the validity of the Acts for the abolition of their rights in land in different States from time to time. Article 31 of the Constitution, which provides for compensation in case private property is acquired by the State, had to be amended to remove the legal flaw. Even the validity of the amendments was questioned. Finally, these were declared valid by the Supreme Court in 1951. Compensation is calculated on the basis of 'net income' or 'net assets' or 'basic annual sum'. In certain States, in addition to compensation, rehabilitation grants are given to the intermediaries in the low-income groups. Compensation is payable in cash or in bonds or both. The bonds are redeemable in periods varying from 10 to 40 years. The method of payment depends upon the amount of compensation and the resources of the State. To remove the hardship to the outgoing proprietors, owing to delays in the assessment of compensation and the issue of bonds, most of the States are paying interim compensation. Zamindari abolition is expected to be largely self-financing over a period of years, in that the anticipated increases in land revenue and advance rent collections would suffice to meet annuity liabilities. Thus the elimination of intermediaries is a far-reaching change of lasting social significance and economic value in rural India.

Tenancy Reforms

Tenancy reforms have been designed to (a) scale down rents to one-fourth or one-fifth of the produce, (b) give tenants permanent rights of occupancy subject to the landlord's right to resume a minimum holding for his personal cultivation within a limited time, and (c) enable tenants to acquire ownership of their lands in payment of moderate compensation to the landlord spread over a period of years. The limit of area which can be resumed for personal cultivation is fixed at one family holding subject to a minimum area being left to the tenant. A small owner should be

permitted to resume for personal cultivation one-half of the area owned by him but not less than a basic holding, that is, the minimum area needed for profitable cultivation in conformity with the legislation relating to the prevention of fragmentation. Where, as a result of such resumption, the holding of the tenant becomes smaller than a basic holding, the Government should endeavour to find land for cultivation so as to bring the tenancy to the level of a basic holding. This will be facilitated to some extent when land in excess of a ceiling becomes available. All tenants of non-resumable areas should be brought into direct relationship with the State. The State should undertake the obligation to recover fair rents and pay it to the landlord after deducting the cost of collection. State Governments may buy the landlord's interest in the non-resumable areas on payment of compensation in the form of bonds redeemable over a period of 20 years. The tenant's liability to pay fair rent should continue so long as it may be necessary for enabling the State Government to meet the liability for payment of compensation. Each State may specify, according to the conditions in the different regions, classes of soil, irrigation, etc., the area of land which may constitute a family holding.

Ceilings on Holdings

The fixation of ceilings on agricultural holdings as an aspect of land reform has attracted considerable public attention and controversy. The recommendations of the Plan in this respect are: (1) there should be a limit to future acquisition of land; (2) there should be an absolute limit to the land which any individual may hold; and (3) as an interim measure, each State should enact land management legislation by prescribing the standards of cultivation and the obligations to be observed by all landlords, setting up the necessary machinery for taking over of farms above a certain limit, provided that its break-up would not lead to a fall in production and settling landless agricultural workers in co-operative groups or otherwise.

The question is often raised why there should be a ceiling on land in the absence of a ceiling on all incomes. The answer is that land, in an old and thickly populated country such as ours, is a much sought after and non-reproducible instrument of production. In other words, it is a scarce natural resource. Ownership and cultivation of land determine the economic and social relationship within rural society. There is therefore a strong case for regulation of land ownership, tenures and land utilization. A ceil-

ing on land is not primarily a device for limiting incomes. It is in reality an attempt to see that this scarce factor of production is not monopolised by a few. Of course, a landholder can have other assets, say, a house or Government bonds or industrial shares. What is sought to be limited is his landholding, not his income in the aggregate, though undoubtedly, ceilings on land have a direct effect on incomes. Large holdings in India are relatively few, but they account for a considerable proportion of the total arable land. This disparity cannot be justified when there are large numbers who have less than a basic or minimum holding and others entirely without land.

Regarding the argument that along with a ceiling on landholdings a ceiling should be imposed on urban incomes, one can accept the principle behind it. But different means will have to be employed in the case of urban incomes. A limitation on income through ceilings on all property is not practicable under the present circumstances because the payment of compensation will be an additional strain on the finances of the country. Action has, therefore, to be limited to fields where it is urgent in the overall social interest. Nevertheless, removal of disparities in income and wealth all over the economy cannot and should not be safely delayed any further. Man will not give of his best until structural relations in society conform with reasonable standards of equality. Hence ceiling on landholdings is a special case in which action is justified apart from the general issue of ceiling on incomes.

Reorganisation of Agriculture

The four main aspects of agricultural reorganisation are: (1) consolidation of holdings, (2) land management practices, (3) development of co-operative farming, and (4) development of co-operative village management as the objective towards which the village economy is to be reorganised.

Co-operative farming is in the experimental stages in our country and progress in various States is very slow. Social conservatism and the illiteracy of the peasant account for the slow progress of co-operative farming and necessitate a cautious approach to the problem. The Indian peasant is highly individualistic and has a sentimental attachment towards his land. To him, cultivation is not a business or a paying proposition, but a tradition and a way of life.

Although the main purpose of consolidation of holdings is the reduction in the number of separate fields, the process provides an opportunity for replanning of village land for common use and public utility. Land reserved for common purposes, can, if well managed, make available recurring resources for community development and welfare. Effective arrangements for land management practices by providing standards of efficient cultivation and management will be an important factor in increasing agricultural production and conserving the natural resources of the country.

Conclusion

On the question whether the implementation of the various land reform measures in different States has led to an increase in agricultural production, expert opinion based on a scientific study of facts is yet to be expressed. It is too early to assess the economic consequences, much less the social effects, of these legislative measures which are in the process of implementation. During the transitional stages, there are bound to be dislocations in the structure of the rural economy which might have an adverse effect on agricultural production. But that will only be a temporary phase and not a permanent feature of the economy. With the completion of comprehensive land reform measures in all the States and the introduction of better techniques and improved methods of cultivation and Community Development Schemes, the objectives of increased agricultural production and the prosperity of the countryside will become a *fait accompli*.

Administrative, technical, political, social and financial difficulties stand in the way of land reform programmes in our country. Shortage of trained personnel, absence of reliable statistics, lack of a desire among the rural community to better their lot and the financial burden imposed on the States are some of the major obstacles both to agricultural development and to the successful implementation of land reforms. But these obstacles have to be overcome and they are not insurmountable. Democratic Planning, like Democracy itself, is an exciting adventure. The vastness and complexity of the problem of agrarian reorganisation pose a challenge to the reforming genius and practical wisdom of the Indian planners. Nevertheless, these land reform measures should be pushed with vigour, for the reform of the agrarian structure is fundamental to the well-being of our peasantry.

Discussion

At the outset the principles underlying the land reform programme were questioned. It was argued that the ceiling on land holdings, an important feature of the land reform programme, was a violation of the fundamental rights of man. Further, when not accompanied by ceiling on other types of wealth, it would turn out to be an unjust discrimination against the land-holding classes. It was then pointed out that ceilings on other types of wealth would perhaps follow before long; moreover, land was unique, as it was a non-reproducible instrument of production. The imposition of ceilings on landholding was defended on the ground of social justice as well as economic advantage. The finding of the Agricultural Economic Research Centre that small holdings were better managed than big holdings was quoted. Countering the criticism that the break up of large holdings would block technological improvement and lower productivity, it was said that large holdings in India were not large operating units, but aggregates of tiny, tenant-cultivated units, owned by absentee landlords. The question of compensation was discussed and a divergence of views on the adequacy of the compensation proposed in India was revealed.

The measures taken by State governments to ensure protection to tenants were discussed. It was said that most of these measures were not enforced and that landholders continued their exploitation through legal loopholes which existed in large numbers.

With some discussion on the experiments conducted in India with co-operative farming, the Seminar closed.

THE ROLE OF LOGIC IN ECONOMIC RESEARCH

By

D. BRIGHT SINGH

Logic is defined as the science of reasoned discourse, discourse which expresses thought. But reasoned discourse must be preceded by reasoned thinking, so that logic may be described as both the science of thought and the science of reasoning. In economic research, logic helps (1) in the observation of facts and events, (2) in drawing inferences and in deriving conclusions by means of reasoning, and (3) in detecting and avoiding fallacies in reasoning.

1. *Logic in the observation of facts and events*

Scientific inquiry begins with the observation of data. In observation the scientist has the definite purpose of examining the nature, behaviour and inter-relationship of data. In this preliminary stage, logic plays an important part. The method which logic offers to facilitate analysis of the observed data is the method of arranging them properly and studying them in similar units or groups. This involves definition, division and classification. A definition is a statement of the essential nature of the thing defined or in the language of logic, it is the explicit statement of the connotation of a term (Latta and Macbeath: *The Elements of Logic*, p. 143). At the commencement of a scientific inquiry the knowledge of the objects of study is very limited and therefore definition of them has to be provisional. But as knowledge progresses it helps to make better and more scientific definition which in its turn facilitates further analysis. One of the aims of science is in fact to obtain more and more exact definitions. Division is the analysis of a genus into its various species and sub-species. Division is possible because the units which constitute a genus, while having some characteristics common to all, will also possess some other distinct characteristics common to a smaller group. Classification is a development of division from which it is distinguished mainly in being more elaborate and systematic. The chief object of classification is to reduce numerous varieties of things to unity and order in our minds. In general, the purpose of definition,

division and classification in scientific research is to facilitate our easier understanding and analysis of phenomena.

2. *Logic in the drawing of inferences and conclusions*

In the analysis and interpretation of data and in the drawing of inferences and conclusions, reasoning plays the predominant part. Reasonings have been divided into two main classes—deductive and inductive. A deductive reasoning is one in which we reason from a general principle or law to an individual case or cases. Every deductive reasoning consists of statements one of which is the conclusion of the reasoning, while the others are the premises on which the conclusion depends. Reasoning of this type does not guarantee the truth of the conclusion, but only its consistency with the premises. Deductive logic has therefore been called formal logic or the logic of consistency. An inductive reasoning is one in which we reason from various individual facts or instances to a general principle or law. Since in induction we are concerned with the process whereby the truth of our premises is established, this branch of logic has been called the logic of truth or material logic.

The Inductive Method in Economic Reasoning. Of the four methods of experimental inquiry pertaining to Induction which J. S. Mill formulated, two are of special importance in economic investigation—the method of difference and the method of agreement. Mill stated the canon of difference thus: “If an instance in which the phenomenon under investigation occurs and an instance in which it does not occur have every circumstance in common except one, that one occurring only in the former, the circumstance in which alone the two instances differ, is the effect or the cause or an indispensable part of the cause of the phenomenon”. Identification of cause and effect in this manner is possible in the physical sciences by means of experiments. In the field of Economics it is not difficult to conceive of some forms of experiment, as for example, circumstances affecting efficiency of labour, the effect of specialization on output, the operation of the law of diminishing returns, etc. Tentative measures adopted by statesmen with the express object of gaining insight into their economic and social effects, such as modification of tariffs, prohibition, etc., are also in the nature of social experiments. Also, in the interpretation of historical data and in deriving inferences from them, the method of differentiation can be adopted. Thus Malthus drew an

inference with regard to the effect of government policy on population trends from a study of the history of Norway and Sweden. Although in Malthus' time these countries closely resembled each other in their economic conditions, the rate of growth of population was much higher in Sweden than in Norway. This, Malthus attributed to one difference, namely, that while in Norway preventive checks were adopted, in Sweden these were absent and the government actually favoured an increase in numbers.

Inductive generalizations can be made also from the direct observation of a number of cases in which the same cause is in operation under varying conditions. Such generalizations are of the type coming under Mill's method of agreement. In his words: "If two or more instances in which the phenomenon occurs have only one circumstance in common while two or more instances in which it does not occur have nothing in common save the absence of that circumstance, the circumstance in which alone the two sets of instances differ is the effect or the cause or an indispensable part of the cause of the phenomenon". The basic idea underlying this method is that the investigator, instead of relying for his inferences on the difference between two individual units, should collect information relating to a large number of units and draw generalizations on the basis of points common to them all. Thus in the matter of savings and accumulation of capital, different countries may differ in many respects, but if in some of these countries, people are industrious and hard working and in this group of countries there is large accumulation of capital, the cause is made manifest.

Whether it is agreement or difference, the empirical method in social investigations suffers from a major defect in so far as the causes and effects of social activities are manifest and inter-mixed. The difficulty is increased by the length of time that is generally required if the full effects of causes are to manifest themselves. Furthermore, in certain departments of economic inquiry (e.g. value, exchange and distribution of wealth), direct generalizations of complex economic facts without a prior appeal to underlying principles is untrustworthy. This necessitates the use of the deductive or *a priori* method along with the inductive or *a posteriori*.

The Deductive Method in Economic Reasoning. Deductive reasoning in Economics is based on certain fundamental human

motives. These constitute the premises from which deduction proceeds. In choosing the premises the economist should pay sufficient attention to their generality and their simplicity. The principle that men desire to increase their sum of satisfactions with the smallest possible sacrifice to themselves, the law of diminishing final utility and the like are premises which possess a sufficient degree of universality.

The use of the deductive method in Economics involves a process of abstraction. Thus in the investigation of the economic consequences of any particular circumstance or change, there is the assumption not only that interfering forces are absent, but also that certain positive conditions are realised. For example, in discussing monetary questions, certain regulations as to coinage, legal tender, instruments of credit and so on, are supposed to be in force. For this reason, the laws of causation in Economics are termed to be hypothetical. While this is true, the fact cannot be denied that the economic forces which are called laws have their specific influences. A fall in supply may be followed by a fall and not a rise in prices. This may be due to special reasons, such as an unexpected fall in demand in spite of fall in prices and would not justify any conclusion that the usual law was not in operation.

Neither in the Social Sciences nor in the Physical Sciences does the use of one method exclude the use of the other. The use of both is necessary particularly in the Social Sciences. The premises of deduction are based on findings resulting from induction. And the findings of deduction are checked and verified against concrete data and facts, the collection and use of which greatly partake of the nature of induction.

3. How Logic helps in detecting and avoiding fallacies

Reasoning is involved in the analysis and interpretation of data. But the reasoning may be correct and scientific or fallacious and misleading. A fallacy is defined as a faulty or unsound inference. Fallacies are of two kinds: (a) fallacy due to ambiguity or looseness in the verbal expression, and (b) fallacy in method. The latter, which is more important from the point of view of the science of logic, may be classified as (i) fallacies incident to deduction and (ii) fallacies incident to induction.

(i) *Fallacies incident to deduction*

(a) Fallacy of irrelevant conclusion: Here the reasoning may be valid, but the conclusion arrived at is not exactly what is warranted in the circumstances.

(b) Begging the question: That is, assuming as a premise in some form or other either the very proposition to be proved, or a proposition which can be proved only by means of the latter.

(c) Fallacy of the False Cause: Commonly regarding as a cause that which is not really a cause; an example is the argument 'post hoc ergo propter hoc' — the fallacy which consists in arguing that because one thing follows another, the first is the cause of the second.

(ii) *Fallacies incident to induction*

(a) Fallacies arising from Imperfect Observation, that is, non-observation or overlooking something that ought to have been observed, or mal-observation or wrong interpretation of what has been noted by the senses.

(b) Fallacy of false analogy: a hypothesis may be based on an apparent analogy; or the analogy may be real, but may have been assumed by the inquirer to be more or less extensive than it really is. This often happens in scientific research.

(c) Illicit generalization: or generalization from insufficient data. It is one of the principal pitfalls of the unscientific mind. Many "sweeping statements" come under this category.

A knowledge of fallacies is not in itself an infallible safeguard against error. But the awareness of pitfalls and the knowledge of the possibilities and the sources of error would help the scientific investigator in making a correct assessment of the findings of other inquirers and in presenting his own conclusions in a logical and convincing manner.

Discussion

During the discussion, the application of the inductive and deductive methods in pure and applied research was discussed at some length and various examples were cited to show the part played by the one or the other method in the two types of research.

PART II

SEMINAR PAPERS OF

1957

COMMERCIAL BANKS AND THE RURAL SECTOR

By

M. H. GOPAL

In considering the rate of growth of commercial banks in India, some problems present themselves, specially in relation to the current economic climate of the country and the contemplated socio-economic set up. Below is outlined in brief one such problem which can be put in the phrase *Expansion in Resources vs. Flexibility in Policy*. It raises the questions: what is the immediate objective of the country? What can commercial banks do to help realising it?

The story of commercial banking in India since the first Presidency Bank was started in 1806 has been marked, by and large, on the one hand, by the emphasis on the financing of trade and commerce, mainly in urban areas, accompanied by neglect of the financing of all-round economic development. Thus, even in 1951, less than three per cent of the total advances of the scheduled banks and a little over five per cent of those of the non-scheduled banks were for agricultural purposes, a substantial portion of which was to tea, coffee and rubber plantations. This assistance accounted for less than one per cent of the cultivators' total borrowing. It was marked, on the other hand, by the emphasis on "safety first and profits most" maxim in preference to a constructive and enterprising policy. Some of the more prosperous banks—for example, the Imperial Bank of India—declared dividends varying from 12 to 16 per cent since 1921, considering this rate as "prudent and conservative" (Chairman's address to the share-holders on 31st March, 1955).

These features are, no doubt, traceable largely to the nature of commercial banking itself which has specialised in certain types of business and deals traditionally with certain kinds of economic activity. Perhaps prior to the birth of free India, the accumulation of resources, the declaration of a high rate of dividend, the restriction of operations to short-term transactions and to towns, and sometimes even a conservative loan and deposit policy may have had a great deal of justification.

But the needs of the developing economy of today are different. A wider and more flexible functioning of banks and a closely integrated credit mechanism are essential. *Territorially*, an extension of banking facilities to rural areas, and *functionally*, a broadening of the sphere of action have become necessary. Such a change in approach demands a balancing of adequate flexibility with soundness in banking; of conservatism and prudence with dynamism and enterprise.

This flexibility in outlook has many facets, but I shall refer to only one, and that in relation to capital formation in the rural sector. The accepted economic policy of the country, namely, planned development of the mixed type, requires a high rate of saving and investment, which depend on thrift. To some extent, the State can, through taxation, enforce compulsory saving. But to a large degree, and if the unique treasure of individual freedom is not to disappear, voluntary saving through financial institutions is necessary and it is here that the commercial banks could play a significant role. As the Chairman of the Punjab National Bank told the 107th Annual General Meeting in April 1954: "We have to mop up the idle funds in the country, but if there are no banks except in the cities and towns, much progress in this respect cannot be achieved.....Large funds are available in the rural and semi-urban areas which.....are lost to the development of the country".

While all tools of inducing savings and all varieties of banks have to be harnessed to the maximum extent possible, commercial banks can help by reorienting their policy. No doubt, the rural areas are poor, and, therefore, have at present a low savings margin. But in view of the growing attention to economic development in the country-side, deposits of the time and savings varieties may be attracted from the rural regions by an expansion of sound banking facilities. Thus, a progressive institution can open branches in taluq headquarters and market towns. Sustained propaganda of a truly educative character can popularise the savings habit by neutralising the effects of conservatism and illiteracy with regard to depositing funds in banks. Further, although the interest rates should not vary much between the urban and rural sectors, yet a new type of deposits similar to the Savings Bank accounts, can be introduced. All this should be possible through the greater rationalisation of bank administration in general and of age and salary structure in particular, and through

a little relaxation by the State of the existing restraints, such as the Shop and Establishments Act and the controversial Industrial Tribunal Awards.

Such a change in policy has to face some initial difficulties. It is almost certain that in the early stages of such penetration of banking activities into taluq towns, the net operational returns would be small and even negative; but in the longer run, it is sure to pay its way. Moreover, even an institution motivated by profit should consider its overall position rather than that in a particular area or direction. This policy also demands a close understanding—much closer than what probably prevails today—among commercial banks in zoning out areas of operation, instead of duplicating their services. It also requires a broader and bolder approach by the banks in abandoning the traditional view of being merely a money lending institution and purveyor of credit and in regarding themselves as one of the key services in national development.

The commercial banks could also serve another purpose in the rural sector, and this in the direction of a loan policy. Whatever the advantages of these banks as savings inducing agencies, there would still be three minor problems to be met: first, until the co-operative movement develops widely enough to finance agricultural operations on any appreciable scale, there would have to be an *ad hoc* arrangement. Secondly, the suggested commercial bank-co-operative society-*entente* will take some time, effort and tradition to become effective. Finally, even if the co-operatives expand, they may not be able to satisfy all the financial needs of the former—the long, the intermediate and the short term ones.

In view of these considerations, the commercial-co-operative partnership may assume another aspect. The co-operatives may specialise in long and intermediate term credit, for which they are ideally fitted, and the commercial banks could carry on their short term transactions, which is their chosen field in the urban areas today. There would thus be a two-fold coordination between the banks and the societies in the collection and flow of rural savings as well as in the zoning of the loan policy. Such a division of function in deposits-loan operations would provide the banks with two facets of rural operations—savings collection and short term loans—and the societies, two others—intermediate and long term lendings.

In this connection a recent controversy may be recalled. The 1954 Rural Credit Survey of the Reserve Bank of India recommended that the commercial banks should not be encouraged to extend their deposit receiving activities to rural areas, whereas the Rural Banking Enquiry Committee of 1950 suggested that the banks should expand in the countryside. The Credit Survey's opinion appears to be based partly on the fact that short term financing is largely of the movement and marketing of crops against produce which, in a subsistence economy, is limited in scope. The opinion is to a large extent related to the hope that the salvation of rural India lies in the co-operative movement.

These premises are broadly true except for two considerations. First, the contemplated economic development in the country and the growing contact of the village with the city are rapidly altering the subsistence economy into a market one, and the movement and marketing of goods as well as the monetisation of transactions are growing in importance. Greater facilities for remittance and short term credit would very soon be needed, and the commercial banks have to step in. Further, the co-operative medium is a very desirable ideal but its progress in the last fifty years and the lack of the basic conditions for its success, for example, education, loyalty to the society, business habits, etc., make the medium largely an ideal not realisable in the immediate future. While, therefore, the *ultimate* solution lies in co-operative institutions, the current need has to be met through commercial banks and the money lender. After all, in a planned economy, co-operative and commercial banks can be converted into complementary instruments by bringing about a more integrated credit structure.

Such integration requires State action as well as a great deal of understanding between the two kinds of organisations and particularly greater responsiveness from the commercial banks. The nationalisation of the Imperial Bank of India along with the probable integration of some other commercial banks like the Banks of Mysore and Baroda is a foretaste of things to come. I am not concerned here with the ethics or even the economics of this decision. It is not enough to say, as the Chairman of the Imperial Bank did, that "it is difficult to see what justification there can be for an institution primarily engaged in commercial banking to be merged into a system of co-operative banking for the purpose of revitalising the latter or for expanding rural credit at the possible expense of commercial banking" (Address to the Shareholders — 31st March, 1955).

The justification lies perhaps not only in ideological considerations but in the necessity to set up an effective banking machinery with branches over the whole country in order that remittance facilities, especially for the underdeveloped areas in the country, may be vastly increased and in that process, the development of commercial and co-operative banking fostered more vigorously and extensively throughout the country.

If this process of nationalisation is not to spread, a change in the outlook of the commercial banks about their function in an underdeveloped and planned economy is essential and a shift in policy from a *mere* profit-earning business to a key industry is necessary. The commercial banks should adopt voluntarily this altered approach and the sooner they do it, the better for them. In the words of Mr. B. N. Puri, the General Manager of the Punjab National Bank, "It is necessary for us to march with the time in order to grow with the growing stature of the country There is no ideology greater than the Motherland and no doctrine greater than that of sacrifice". It, therefore, becomes imperative to shift the emphasis from expansion in resources to flexibility in policy.

Discussion

An examination of the basic principles of commercial banking was the starting point of the discussion. It was said that long-term lending by commercial banks on flimsy security would go against these principles. Coming to practical considerations, it was doubted by some members whether an adequate savings margin existed at all in the rural sector. It was, however, said that for a consideration of the paper one would have to assume that there did exist a margin of savings which could be mobilised.

Diverse views were expressed on the agency most suitable to mobilise and tap rural savings. It was said post-office savings banks, which had all the solid security of the State behind them, would be able to command the confidence of the rural people rather than private profit seeking commercial banks. It was pointed out in defence that private commercial banks would show better initiative and drive in extending their deposit coverage. Some members said that co-operative societies with their wide membership and their emphasis on self-help and thrift, would better serve the purpose.

As for financing agriculture, the criticism was that commercial banks were by nature unsuitable for it. While the author argued

that the commercial banks should step in to *create* greater facilities for remittance and short-term credit in the rural areas, a member replied that this was too much to expect of commercial banks; further, commercial banks would step in only if such facilities already *existed* and not with a view to creat such facilities !

One member emphasised the distinction between production finance and marketing finance and said that while the former should be provided by co-operative agencies, the commercial banks could devote themselves to the latter. Another said that long-term finance could best be provided by land mortgage banks.

THE SOCIALIST PATTERN AND THE SECOND PLAN *

By

T. P. SUBRAMONIAN

(I)

An under-developed country aspiring for economic development must plan. A plan can have meaning only if it is directed towards a definite objective. The objective should define the overall pattern of the economy desired. The objective should not be vague or fantastic. It could well be clear, though not specific in details. In the light of the national objective the plan should be formulated. The adequacy of a plan can be tested with reference to its suitability to carry the economy towards the defined objective.

(II)

The overall objective of the Second Five Year Plan is the creation of a socialist pattern of society. Is this an innovation in national thinking? Is it too vague a concept to be the objective of a Plan?

A national Plan for India must conform to the Directive Principles of the Constitution. The Directive Principles call upon the State to promote the welfare of the people by creating a social order in which justice, social, economic and political, will prevail. The Plan would also be in line with the policy resolutions of the party in power. The Congress has been committed to socialist principles for a long time. Its resolutions in recent years have re-asserted these principles. The Avadi session (1954) declared that planning in India should aim at the "establishment of a socialist pattern of society where the means of production are under social ownership and control, production is progressively speeded up and there is equitable distribution of national wealth". In conformity with this the Second Plan lays down that essentially the socialist pattern of society "means that the basic criterion for determining

* A more detailed version of this paper has appeared in *The Economic Weekly* of June 1, 1957. By courtesy of *The Economic Weekly*.

the lines of advance must *not* be *private profit* but *social gain* and that the pattern of development and the structure of socio-economic relations should be so planned that they result not only in appreciable *increases in national income and employment* but also in *greater equality in incomes and wealth*." (Italics mine). Thus the concept of socialist pattern of society is not anything new or revolutionary. It is the natural objective as well as a desirable goal of national planning in India.

The concept, as defined in the Plan, is not too vague to be an objective. For the words italicized above bring out the *main* features of the socialist pattern that is envisaged. These are (i) elimination or control of the profit motive, (ii) higher national income and consequently higher standards of living, (iii) fuller employment and (iv) greater equality in income, wealth and opportunity. Each is as important as the other. If the objective is agreed to, the pursuit of the four lines of advance is inevitable.

(III)

Let us in this paper examine the Plan with reference to two of the four points mentioned above, as these two points are crucial for a socialist economy.

(1) *Control of the Profit Motive*

If the basic criterion for determining the lines of advance must not be private profit but social gain, it is important to eliminate the profit motive from *strategic* sectors of the economy. It means that "*major decisions regarding production, distribution, consumption and investment must be made by agencies informed by social purpose*". (Second Five Year Plan, p. 22). A progressive expansion of the public sector is therefore inescapable.

The investment pattern of the Second Plan largely reflects this principle. Not only does the Second Plan envisage a heavy investment by the public sector, but represents a higher proportion of it than found in the First Plan. Thus the public sector is growing not only absolutely but relatively to the private sector.

The accent of the Second Plan is on industrial development. The major responsibility for this is taken up by the State. This is a significant departure from prevailing trends. A large outlay (Rs. 890 crores) by the public sector is envisaged, and of this the bulk (Rs. 690 crores) is for the development of basic industries.

This would bring to the hands of the State an indirect control of the entire industrial structure.

The Industrial Policy Resolution of 30th April, 1956 contained in the Second Plan is primarily oriented to the objective of creating a socialist pattern. The policy of nationalizing enterprises of basic importance is also dictated by this objective.

(IV)

(2) *Reduction of Inequalities*

The socialist pattern, as described by the Planning Commission, naturally implies greater equality of income, wealth and opportunity than prevails today. The existence of glaring inequality in India today and its many harmful effects are too obvious to need mention. The Second Plan aims to reduce these inequalities. Fiscal measures and institutional changes are envisaged both for the process of levelling up as well as for that of levelling down. The emphasis, however, is on the former.

Lifting up the lowest rungs of the community's ladder rests, to a great deal, upon the provision of social services which would raise real incomes and standards of living and thus reduce disparities. A substantial outlay of Rs. 945 crores is contemplated in the Second Plan, which is about twice the provision made in the First Plan. The development of educational and medical facilities and the advancement of industrial labour and other underprivileged classes will help provide greater equality of opportunity in the country. The labour policy laid down in the Plan recognises that the creation of industrial democracy is a prerequisite for the establishment of a socialist society. The community development and the national extension programme constitute a significant step to improve living conditions in rural areas and progressively reduce gross disparities. Measures for the reduction of rent and provision of security of tenure find a place in the land reform programme. Co-operative farming is considered in the Plan as the ultimate solution to the problems of small holders and tenants. Under the pattern of co-operative village development visualised in the Plan, work opportunities are expected to develop to such a measure within the rural economy that the distinction between those who have land and those who are landless will lose much of its significance.

The process of levelling down the tall poppies also finds a place in the Plan. The use of fiscal measures for the purpose is

sanctioned. "It is through progressive adaptation of the tax system and through institutional changes which place an increasing proportion of the community's resources directly in the hands of public authorities that an effective reduction in the incomes and spending power accruing to the few can be brought about". (Second Five Year Plan, p. 36). Future concentration of wealth and power is sought to be prevented by the expansion of the public sector. The principle of redistribution of land ownership is recognised in the Plan, and steps are recommended for the imposition of ceilings both on future acquisition and on existing holdings.

(V)

Conclusion

If a socialist economy is the goal, and democratic planning the means, the approach of the Second Five Year Plan is correct. The speed and efficacy with which the two lines of advance discussed above are pursued will, by and large, set the pace of the progress towards a Socialist State. Thus, though the approach may be approved, one may feel dissatisfied with the pace. For many of the measures recommended in the Plan may not find effective implementation on account of legal loopholes, constitutional obstacles and the influence of vested interests. But that is entering politics.

Incidentally it may be pointed out that the elimination of the profit motive from strategic sectors of the economy by an expanding public sector and the reduction of inequalities by fiscal measures and institutional changes will not, as feared by some people, hinder economic development. On the other hand, in an under-developed economy they will only aid economic development and lend meaning and significance to it.

Discussion

At the outset, an objection was raised that it was basically wrong to orient an economic plan towards the attainment of a political objective. The reply was that the socialist pattern was not a purely political objective but had its economic, social and cultural aspects also; and further, that it was proper that a national economic plan should be such as effectively to create the pattern of society that was desired.

The socialist pattern, it was said, was too vague a concept and was understood and interpreted differently by different interests. One member even said that the concept was chosen deliberately for its vagueness and that this was done with a political motive. The distinction between 'socialist pattern' and 'socialism' was taken up and while the author held that there was no substantial difference, some held the view that it was an entirely new type of Socialism having little in common with traditional concepts of Socialism.

Coming to the means adopted in the Plan for the furtherance of the objective, some critics argued that the profit motive could not be eliminated by merely expanding the public sector so long as the private sector existed, while others objected to the expansion of the public sector itself on ideological, economic and practical grounds.

On the reduction of inequalities, there was criticism of the methods adopted in the Plan, especially the methods of levelling down. It was argued that the immediate need of the country was economic development and that ideological programmes would only retard the pace of progress.

UNEMPLOYMENT IN A GROWING ECONOMY¹

By

D. BRIGHT SINGH

The most obvious and unmistakable indicator of economic growth is a sustained increase in total national income or product at constant prices. There is an improvement in the standard of life of the people if the rate of increase in national income is higher than the rate of increase in population so that there is a steady rise in per capita output. Judged by this standard, it is clear that the Indian economy has experienced substantial growth in the last few years. Between 1950-51 and 1954-55, the *Eastern Economist's* index of agricultural production (Base, average of 1936-37 to 1938-39-100) moved up from 94 to 121, while the index of business activity (Base, year ended August 1939-100) rose from 104.9 in 1950-51 to 137.6 in 1954-55. In the same period industrial production improved by about 43%, the Indian Labour Gazette's index of industrial production (Base, 1939-100) registering a gain of 46.4 points, from 107.2 to 153.6. Simultaneously national income at 1948-49 prices increased from Rs. 8,850 crores in 1950-51 to Rs. 10,170 crores in 1954-55.

One disquieting feature of this improvement in national product is that it has synchronised with growing unemployment. Statistical information relating to the nature and magnitude of unemployment has been meagre and unsatisfactory. In view of the existence of disguised unemployment on a large scale, the recent estimate of the Planning Commission that at the beginning of the Second Plan the extent of urban unemployment was about 2.5 millions and rural unemployment about 2.8 millions seems to be a gross underestimate. It should, however, be observed that it is not only the magnitude of the evil at the commencement of the Second Plan that presents a serious problem, but also the fact that unemployment has been growing steadily in the last few years along with an increase in total national product. A rough estimate of the rate of increase in unemployment since 1950-51 can be made by relating the increase in the number of people employed in industries to the rate of increase in population in the

1. By courtesy of the *Indian Economic Journal*, Vol. V, No. 1, July 1957.

age group 15 to 55. It would be seen that, while the male population between 15 and 55 years in the country increased from about 100 million in 1951 to about 105.6 million in 1954, i.e. at an average annual rate of 1.4%, the number employed in factories² increased from 2.5 million to 2.6 million, i.e. at an average annual rate of 1.0%. The All India figures of registration at the Employment Exchanges are revealing. From 328,700 at the end of 1951, the number of applicants on the live registers increased to 692,000 at the end of 1955. The average monthly figure for the last year was about 700,000.

This apparently paradoxical situation of unemployment increasing side by side with rise in national income calls for an explanation. It should at the outset be stressed that in a capitalistic economy secular expansion is consistent with periodic violent fluctuations in the level of economic activity. Unemployment in India in recent years is not of this nature. Its peculiarity is that it has occurred at a time when the economy has been expanding.

In reality this phenomenon of unemployment increasing at a period of rising national product is, along with inflation, a common feature of underdeveloped countries in the early stages of economic development. Two reasons may be given for this trend. By definition, underdeveloped countries are those which lack adequate capital and whose incomes are so low that annual savings and investment constitute a much smaller proportion of national income than in advanced countries and are quite insufficient to ensure a rapid increase in national product. Added to this is the significant fact that in most countries of this category population is excessive and tends to grow at a faster rate than in economically well developed countries. As a result, when the people of these countries become aware of the need for economic development and are prepared to take definite measures to attain this end, they find themselves face to face, even at the very outset, with large numbers of unemployed. This backlog of unemployment is due in most cases to historical causes. For example, it is conceivable that in India at a time when her indigenous industries flourished and when the death rate was high there was a proper adjustment between capital formation and population growth. The decay of these industries in the face of foreign competition seriously hampered domestic capital formation, while the decline in the death rate with the establishment of peace and order and the provision of

better medical and health facilities favoured an inconveniently high rate of population growth.

In order to provide full employment when the labour supply is increasing, a certain rate of increase in income is necessary. But this rate of increase in income is dependent on the rate of investment or capital formation. The existence of unemployment of the Marxian type and also of under-employment and disguised unemployment in underdeveloped countries should be explained in terms of inadequacy of capital and income. In other words, the full employment growth rate of income or the rate at which income should grow in order to provide full employment of labour is greater than what it actually is. But at the same time, since the existing stock of capital is scarce in relation to labour supply, capital would be fully utilised, but the per capita output of labour will be small. This means that any further addition to capital and income can be effected only with greater and greater strain. At the same time, growing labour supply pushes up the rate at which income *should* be increasing in order to ensure full employment of labour. Thus the difference between full employment growth rate of income and the actual growth rate becomes wider and wider. The growing inadequacy of capital and income results in increasing unemployment of labour. In this manner, the inadequacy of capital not only causes unemployment but also causes unemployment to grow. Since to begin with there is a backlog of unemployment and any moderate increase in the rate of investment will not absorb this idle labour and since population is steadily increasing, it follows that unless the annual rate of investment increases at a faster rate than population growth, the scarcity of capital in relation to labour will become more and more acute. But in an underdeveloped country in the early stages of development it is well nigh impossible for the economy — if it is left to its own resources — to raise the rate of investment above population growth rate. It is worth noting that in India since 1950-51 investment has increased at the annual rate of less than 1%, while population has increased at the rate of 1.125% a year.

Another reason for growing unemployment in the early stages of economic development is the type of factor combination which underdeveloped countries are compelled to adopt in order to increase their productivity. The main and immediate objective of underdeveloped countries is to increase their total output and output per capita. Shortage of capital relative to labour means low productivity per worker and low per capita real income. In order

to produce more, new technology is adopted. This technology is devised in developed countries where there is relative scarcity of labour and is therefore labour saving. Investments of this nature diminish the quantity of labour input per unit of output and thus involve methods of production inconsistent with what the factor supply situation in underdeveloped countries would warrant. Nevertheless, in so far as such methods of production are advanced and efficient, their adoption helps the economy to secure a quick increase in output. Thus results the paradoxical situation of national product increasing along with increase in unemployment.

If this analysis is correct, then the remedy for unemployment of the type described above should be two-fold. Firstly, the rate of capital formation is to be stepped up. If this rate is to be sufficiently high as to ensure the required rate of income increase, then the developing country should have to rely a good deal on capital imports. This is one sure way of getting out of the vicious circle of low income and low investment. Secondly, it is of the greatest importance to keep down the rate of increase in labour supply.

Discussion

At first there was some discussion on the statistical data presented in the paper as basis for the conclusions expressed therein.

It was suggested that the basic strategy of the Second Plan by which labour-intensive techniques were to be resorted to as far as possible in the consumer goods industries, together with a phased progress in production technique, was the best approach to the problem of unemployment. The author, however, opposed this on the ground that, instead of solving the problem, it would only perpetuate it.

Another view expressed was that unemployment in underdeveloped countries was not merely the result of lack of capital but was also the result of lack of technical skill. Mere import of capital, as suggested in the paper, would not solve the problem, as the effective absorption of imported capital would require a high level of technical skill. Moreover, availability of external capital rests on a number of extra-economic factors and cannot be offered as an economic solution, pure and simple. As for the other remedy offered, viz., restriction of population growth, the opinion was expressed that this was a long-term solution and depended on a change in the attitudes of men and women.

THE APPLEBY REPORT AND PUBLIC ENTERPRISES

By

S. SUBBARAMAIAH

The trend towards public ownership or control of basic industries has become a secular movement of world-wide dimensions. Their pattern of development is influenced by several features of a nation, namely, historical, political, sociological, etc. In France it was an outgrowth of government support to private industry and a growing demand for socialisation of the economy. In India, as in Britain, it was mainly a post-war development.

Public enterprise in India, although of recent origin, has been the chief instrument for industrialising the country. The various statements on Industrial Policy have only stressed anew the expansion of the public sector and the direction of its expansion. The recent Industrial Policy Statement of 30th April 1956 makes a significant departure from the earlier ones. Instead of merely referring to the usual concepts like the form of organisation, Public Accountability and Ministerial control, as the First Five Year Plan did, there has been an emphasis on the ability of the 'management to take speedy decisions', the willingness to assume responsibility and 'decentralisation of authority and management'. "The general policy therefore is to confer upon their managements", the Second Five Year Plan lays down, "the largest measure of financial and administrative autonomy consistent with overall responsibility of government and accountability to parliament."

This marked change in the approach to the management of public enterprises may have been influenced partly by the experience gained in the past 5 to 6 years and partly by the views of Mr. Paul Appleby who submitted two reports, one on the system of administration in India and the other on "Re-examination of India's Administrative System with special reference to administration of Government's Industrial and Commercial Enterprises". This paper attempts to examine the Second Report.

The two-fold purpose of this Report is to argue against any doctrinaire approach to the problem; to espouse a pragmatic approach and to suggest that "solutions appropriate here must be

developed by Indians in terms of the *Indian context* and very much in terms of *Indian urgency*". With this end in view, Mr. Appleby makes a number of suggestions, among which the following four are important.

1. The advantages of companies as compared with corporations are essentially the same and "differ unimportantly". So any debate over the form of organisation is a "fruitless discussion". So is time wasted in discussing whether the Managing Director should be a civil servant or a businessman. What is required is that the ablest administrators should be selected wherever they are found.

2. The Board of Directors should strive primarily to satisfy "the criteria of general success", viz., (a) production at the tempo originally contemplated, (b) comparative cost advantage and (c) demonstration of a capacity for further and rapid growth. This requires a very strong board which should be "imaginative" "skillful in ensuring support" and diligent in the practice of delegation. Membership on the Board, therefore, should be restricted to the Managing Director and his two principal deputies and to high officials in other enterprises or related ministries. Businessmen should generally be avoided, for business is far from an ideal place from which to derive administrators of public enterprises.

3. To be strong and effective these Boards should have a large measure of autonomy both internally and externally. Internally power and authority should be delegated from the Managing Director to the lower ranks. Externally, the Minister should grant greater powers to the Board and from the Board to the Managing Director.

4. The chief citadel of opposition to delegation of authority is the Parliament. This is due to its agitational function and to its fear that delegation of authority would lead to an abdication of responsibility. It is this negative role of Parliament which has strengthened the control of public enterprises by the Comptroller and Auditor General. Since auditors are "not judges of either policy, administrative judgments or the public interest", auditing should be done at the discretion of the Board according to principles and methods set forth by it.

This searching re-examination has thrown light on many dark spots in the Indian administrative system. Its chief merit consists

in reminding us that Indian problems in their context and in their urgency require a solution which should be distinctly Indian.

The suggestion regarding the form of organisation is not only relevant but is also timely. This is a sphere where theory should wait on practice. In no two countries is an identical form of organisation comparable in all respects. The autonomy enjoyed by the German Railway and Postal systems, without having separate legal personality, is a valuable corrective to an exaggerated phobia about management by the bureaucracy. "The old bogey of bureaucracy" and "lack of initiative", observes Robson, "has been exorcised". Prof. Karve, however, goes a step forward. "It is best", he says, "to make every public undertaking a unit operating under a ministry".

More revealing but less novel are his observations on the constitution of the Board. There has been a growing emphasis on the selection of ablest men rather than the representatives of interests. "We want men rather than categories". In the Indian context it is very necessary to restrict membership on the Board to civil servants. The unenterprising character of Indian businessmen in general has been borne out by their past record. The test of achievement should be the discovery of new ways of producing things and upon finding new things to produce rather than a steady progress in turning out familiar things. The need, therefore, is for "more governments by Managing Directors and their subordinates". The lack of delegation of powers is the "worst shortcoming of an administrative system". This has led to a failure to develop in subordinates the capacity needed to accept and use delegated responsibility. The solution to the problem of organisation and management of public enterprises is to constitute a strong Board of able administrators with a large measure of autonomy and a highly developed system of delegation of authority. The problem of the form of organisation has no existence.

Discussion

An attempt was made to explain the psychology underlying Mr. Appleby's views. It was said that the traditional views on the type of projects considered suitable for public management had undergone considerable change in recent years. The Public Corporation, which was at one time thought the ideal form of organising a public enterprise, was no longer held in such unqualified esteem.

The paper supported Mr. Appleby's view that any debate over the form of organisation was a fruitless discussion and that what was important was that the ablest personnel manned the enterprise. This, however, did not receive ready support at the seminar, and some members were strongly of the opinion that it was wrong to ignore the importance of the form of organisation which, in the ultimate analysis, was bound to have a bearing on the success of an enterprise. It was further said that the form was to be determined, among other things, with reference to the nature of the enterprise.

While everyone agreed that the ablest men should be chosen to run a public enterprise, some did not agree with the author that businessmen should generally be avoided.

On the question of autonomy and delegation of power, for which the paper put forth a strong plea, it was said that these were good only up to a point, and not beyond. One member pointed out that the Appleby Report was inconsistent in emphasising at the same time the need for autonomy and delegation and the need for "more and more government, more deputy secretaries and more joint secretaries".

While some members felt that autonomy was best secured under the public corporation, the author said that even under the public corporation government could interfere if it chose to.

The paper had said that in the interest of efficiency, Parliament should not be allowed to interfere with the working of public enterprises, and that the Auditor-General should also keep his hands off. A dissident voice was however raised that experience of the working of some public enterprises in India perhaps justified some searchlight of publicity and cited the case of the Enquiry Committee's Report on the Industrial Finance Corporation of India.

THE POLICY OF AGRICULTURAL PRICE-SUPPORTS

By

N. SHREESHA BALLAL

Objective

Price-support measures by which the farmer is guaranteed a minimum price for his product have been a regular feature of agricultural policy in many countries since the Great Depression. The need for such a policy springs from the problem of instability characterising agricultural prices and incomes. This problem is peculiar to agriculture for two reasons :

1. The elasticities of demand and supply for many farm products are relatively low, so that during a general downward movement of employment, income and prices, agricultural prices fall more steeply than other prices and set the term of trade against the farmer.

2. Demand and supply positions of particular agricultural products are faced with large short-run shifts due to weather, seasonal factors or political reasons and thereby render the position of the farmer relatively insecure.

A program of price-support seeks to stabilise farmer's real return for his product. This may be done through government agencies like the Commodity Credit Corporation in the U.S.A. and the Agricultural Price-Support Board in Canada, which undertake to purchase the commodity at the guaranteed price and store surpluses. Or, as it happened in the case of many food deficit countries of the Far East, the Government may make the price effective by direct control of distribution and foreign trade in the product.

Methods

The actual methods adopted for setting the support prices have differed according to the formula by which the farmer's income is sought to be stabilised.

The method adopted in the U.S.A. is the well-known "parity system" wherein support prices are set with a view to secure for the farmer a reasonable term of trade with the non-agricultural

sector. Parity price, as originally defined in the Agricultural Adjustment Act of 1933, is a price which gives each commodity "a purchasing power with respect to articles that farmers buy equivalent to the purchasing power of agricultural commodities in the base period". Till 1949, the base period used was 1909-14. The Agricultural Act of 1949 substituted the ruling price in the preceding ten years as the base period for most commodities.

A simpler variant of the parity formula was to relate the farm price of a commodity to its estimated cost of production or to estimated changes in cost of production (e.g. Australia, Brazil, Argentina and some West European countries).

The systems adopted by U.K., Sweden and Norway attempt to secure desired levels of farm incomes as a whole, while permitting individual prices to be adjusted according to changing conditions of supply and demand.

Where sufficient statistical data were not available, support prices have been announced on an arbitrary basis, as in the case of floor prices for sugarcane announced by our Government in 1947-48. India accepted the principle of price-supports with the announcement of floor-prices for cotton in 1943-44, and later for sugarcane. Minimum support prices were announced on an *ad hoc* basis for wheat, rice, bajra and maize during 1954-55 when agricultural prices fell steeply as a result of good harvests, complete decontrol and release of government stocks. Apart from this, the Government of India has not committed itself to any comprehensive policy of price-supports.

Limitations

Price-supports have no doubt been a part of the world-wide move towards greater security and welfare and have been an important factor in the rapid recovery of production after the war. But a price-policy has its limitations.

A policy of price-support is, in essence, a subsidy by the rest of the community to the producers of the price-supported commodity. In a country like the U.S.A. or U.K. where agriculture is a minor sector of the economy, the incidence of the subsidy may be spread out thinly on the larger sector of the economy. In an economy like India where agriculture constitutes about 50% of the national income, this policy can be resorted to either at the expense of budget resources needed for development or through more deficit financing and inflation.

It can, however, be successfully employed where the objective is merely to stabilise supplies by carry-over of output from heavy to light crop years so as to iron out seasonal fluctuations due to weather. This applies to the concept of the "ever-normal granary" popularised by the U.S.A. in the early 1930's and to the system of domestic reserve stocks now being established in India. In this case, the cost of price-supports is kept within reasonable limits by a judicious storage policy.

Defects

Further, there are serious defects associated with a price-support programme, which it may not always be possible to remedy.

A major line of criticism refers to the obstacles which the price-supports place on trade and production. High support prices have involved limiting imports to avoid a fall in domestic market prices which would increase the liability of the State. They also lead to subsidized exports and fears of unfair competition if domestic production exceeds the effective demand on the home market at the support price level. This defect can be remedied to some extent if the State does not interfere with the mechanism of normal trade and merely tries to make good any short fall in the farmer's price by deficiency payments from the Treasury, as in the case for cereals in U.K.

But where agricultural production tends to diverge widely and over a long period from the level of effective demand at a reasonable price, price-supports can be maintained only through restrictions on domestic and international trade or through allowing accumulation of enormous surpluses, as in the case of wheat and cotton in the U.S.A. The danger of surpluses has led U.S.A. to adopt direct measures for checking production through acreage controls and marketing allotments. But these measures have succeeded only in regard to cotton and tobacco.

On the other hand, price-supports, if pegged down to a base period and an outmoded pattern of supply and demand, are likely to throw the pattern of production out of line with the actual market demand in a growing economy. In many countries the basic remedy for depressed agricultural incomes is to reduce costs through better techniques of production, cheaper credit and organized marketing and not to increase prices or hold them constant. Support-prices may actually postpone the solution of this basic

problem by favouring high cost production and by acting as brakes on expanding consumption.

Another line of criticism refers to the fact that price-supports, while solving the problem of instability in agriculture, may worsen the problem of unequal income-distribution, which is a matter for concern in many countries. It is reported that price-supports in the U.S.A. do not apply to more than half of the farmers who produce only 10% of the agricultural output and yet get an income less than the national average. In India the effects in terms of income-distribution may turn out to be still worse.

Discussion

The justification of a special treatment to agriculture as regards price support was discussed at the outset. On the effects of such a policy of support on production there was a difference of opinion. It was feared by some that the assurance of a certain price for the output would affect the farmer's incentive to produce. Others however felt that the fear was unjustified.

There was much discussion on the experience of price support measures in the United States and its relevance of application in India. One member explained the successful working of price support policy in American agriculture. Another pointed out that the problem in American agriculture was invariably the problem of surplus, whereas in India it was more often than not a problem of scarcity. As the situation was basically different, the policies evolved in the American context were considered inapplicable in India. Another view expressed was that the elaborate warehousing facilities were responsible for the success of price support policy in the U.S. and as long as such warehousing facilities did not exist in India such a policy would not be successful in India.

Dealing with the immediate problems in India, some members said that the policy of agricultural price support had no immediate relevance in India. When the experience of 1954-55 was cited to show that the problem could arise in India, it was replied that the surplus production of that year was due to exceptionally favourable monsoons which could not be expected to occur frequently. As for the next few years, deficit financing and the increased purchasing power in the hands of the people would only tend to raise agricultural prices. The problem would probably be one of arresting the rising prices rather than supporting the falling prices.

THE PUBLIC SECTOR IN INDIAN INDUSTRY

By

K. ALAMELU

Consequent on the abandonment of *laissez-faire* doctrines, the deliberate intervention of the State in the economic affairs of the community has become a characteristic feature of life in the twentieth century. Governments are now anxious to speed up economic development through public enterprise. Lack of private investment, the political and social philosophy of public control over national resources and the necessity of maintaining employment in periods of depression have been mainly responsible for the expansion of the public sector.

The emergence of the public sector as the dominant partner in the Indian economy is of recent growth and dates back to the formative period of the First Five Year Plan. The Industrial Policy Statement of April 1948, the Congress party's resolution at Avadi in December 1954 on the "Socialist Pattern of Society" as the goal of social and economic policy, and the Industrial Policy Resolution of April 30, 1956, have made the public sector what it is today. The Avadi Resolution states that in view of the declared objective being a socialist pattern of society, "the State will necessarily play a vital role in planning and development". In particular, the State "will initiate and operate large scale schemes providing services such as power, transport, etc., have overall control of resources, social purposes and trends and essential balances in the economy and check and prevent evils of anarchic industrial development". The Industrial Policy Statement of April 30, 1956, assigned a more positive role to the public sector. To accelerate the rate of economic growth, to step up industrialisation, to develop heavy industries, to build up a large and growing co-operative sector and to reduce economic inequalities, the State is to assume a predominant role and have direct responsibility for setting up new industrial undertakings and in developing transport facilities. "All industries of basic or strategic importance or in the nature of public utility services should be in the public sector. Other industries which are essential and require investment on a scale which

only the State, in the present circumstances, could provide, have also to be in the public sector. The Resolution classifies industries into three categories: — (1) Industries the future development of which would be the exclusive responsibility of the State; (2) industries which will be progressively State-owned and in which, therefore, the State will generally take the initiative in establishing new undertakings but in which private enterprise will also be expected to supplement the efforts of the State; and (3) all remaining industries the further development of which will be left to the initiative of the private sector. But they are not watertight compartments.

The urge for tangible improvement in the standard of living and the emphasis on rapid industrialisation involve large social and economic overheads which only the State can provide in an under-developed economy. The State is thus left with the liability of finding finances, manpower and technological resources to control and acquire strategic segments of the economy.

In this paper, I wish to deal with two vital issues connected with the public sector: (1) Availability of finances for implementing the programmes in the public sector and (2) the relationship between the public and private sectors.

Availability of Finance

The problem of resources is basic to the whole question of planning. The development programmes of the Union and the States under the Second Plan, aggregating to Rs. 4800 crores, are to be financed through surplus from current revenues (i.e. at existing rates of taxation and additional taxation), through public borrowing, deficit financing and through foreign aid. Professor Kaldor has pointed out that the target set for additional taxation is not impossible of achievement provided "the tax system is subjected to a thorough and comprehensive reform". New taxes like the capital gains tax, personal expenditure tax, a gift tax and an annual tax on wealth and improvements in assessment and collection will, according to him, yield about Rs. 100 crores a year. He suggests that the remainder of the additional revenues needed will have to be secured through land taxation and customs duties. This suggestion appears to be feasible. For, in Japan in the initial stages of development, the State dominated the scene in providing capital for public works and industrial expansion by stiff taxation especially of the agricultural population. These revenues were

channelled by the government into investment projects. Though response to public borrowings has been encouraging in recent years, the target set for the Second Plan (Rs. 700 crores) appears to be quite ambitious and is not easy of fulfilment. The Planning Commission recommends the extension of the scope of social security schemes. It is also hoped that the nationalisation of life insurance companies will prove a growing source of demand for public loans. The small savings drive has not been very successful and the Finance Minister himself has pointed out that receipts from this source declined last year. Controversy has raged fiercely over the question of deficit financing and its efficacy in providing resources for the public sector. The deficit financing programme envisaged in the Second Plan is to the tune of Rs. 1200 crores. With unutilised real resources available and capable of being harnessed to national development, a measure of deficit financing is not only desirable but essential as well. But it does not provide an easy substitute for sustained and substantial efforts to mobilise resources for development. It is a double-edged weapon and must be employed within limits. Command over stocks of foodgrains, use of the instrument of taxation, physical controls including rationing and allocations are all effective safeguards against inflationary pressures in deficit financing. Coming to the important problem of foreign aid, the target set forth by the Plan in this respect is not over-ambitious. The U.S.A. has been the largest single benefactor of India. But the economic aid today is becoming more and more a "gimmick in the cold war". Hence we may expect the U.S. Governmental assistance to India to cease after some time in case it is not satisfied with our political alignments and economic policies. Friendly foreign countries have been assisting our economic development in a variety of ways—supply of equipment, technical personnel, training facilities, etc. The U.S.S.R. has promised credit worth Rs. 63 crores for the Bhilai Steel Plant. Similar assistance has also been forthcoming from the British Government for the Durgapur Steel Plant. The total of resources in sight may be taken to be about 50 % of our total requirements of foreign aid. The need for external capital will continue for at least two decades more and our plans and policies should be oriented to facilitate the flow of external capital.

On the whole, with the exception of foreign aid, the estimates of the Second Plan seem to be generally inflated. The Plan is bound to strain our financial resources. Domestic savings must

be progressively and continuously stepped up if we are to secure rising national income and investment.

The Public and Private Sectors

The Second Five Year Plan assigns an important role to private enterprise. In a growing economy which gets increasingly diversified, there is scope for the co-existence of both the sectors. Extremists often assert that the socialist shift necessarily implies the eclipse of private enterprise through nationalisation. But that is not so. Pandit Nehru asserts that the private sector has still a valuable role to play within the confines assigned to it. What is needed is not State ownership but State control of private industry.

It is a happy augury that leading statesmen are aware of the need for co-existence. In the past few years, the private sector has displayed admirable initiative in establishing new industries. The existence of the private sector will not stand in the way of the establishment of a Welfare State. The government has assumed tremendous responsibilities in agriculture, transport and power, besides the customary duties of a modern democratic State. The Government has still much to do for the building up of a welfare state and social investment will be its main preoccupation in the coming years. Hence it cannot bear the entire burden of industrialisation. Crippling of private enterprise would mean the diversion of governmental resources from social development activities to running industries, a task for which the Government does not possess the requisite resources at present.

In the last analysis, Socialism or Capitalism is not an end in itself. Social welfare is the objective and the various "isms" are but means to that end. "A nation's resources cannot be successfully developed by government decree nor by the efforts of any one segment of private enterprise. Progress is a joint product and economic advance requires an effective partnership of public and private endeavour. It requires both public funds and private capital, both wise public policies and energetic private initiative."

Discussion

Stressing the growing importance of the public sector under the new industrial policy and the five year plans, the author examined the problems of the public sector as regards finance for

implementing the programmes and as regards its relationship with the private sector.

The discussion commenced with an examination of the evolution of the public sector in India and the implications of the Industrial Policy Resolutions of 1948 and 1956. Coming to the question of finances for implementing the programmes in the public sector, the author's view that the financial estimates of the Second Plan were over-ambitious was not fully supported by the members. While one member said that taxation beyond certain limits would seriously affect public borrowings, another said they could well go together. A member suggested that public enterprises could enhance their prices and contribute funds for the general exchequer.

On the relationship between the private and public sectors, while there was general agreement with the paper on the scope for the co-existence of both the sectors, opinion was divided on their relative importance. It was said that in all the under-developed countries industries of basic importance to the economy had necessarily to be undertaken by the State. A warning was uttered that in mobilising resources for the public sector, the availability of requisite finance for the private sector had to be borne in mind.

FUTURE OF CAPITAL GAINS TAX

By

M. S. RAMESH

Need for the Tax

In a developing economy, as in India, the main stumbling block to all programmes of development is finance. The Second Five Year Plan envisages an additional tax revenue of Rs. 450 crores for the five year period. This may even go up when an attempt is made to reduce the contemplated deficit financing of Rs. 1200 crores. To bridge the gap between available resources and planned outlay, attempts are made to widen the tax base, enhance the rates and improve the tax administration. In this context a tax on capital gains is suggested as a source of revenue and for rectifying the present "arbitrary notion of income which taxes certain items while exempting others". A capital gains tax is not a novel weapon in the tax armoury of India, as it had a short eventful tenure of 2 years when Mr. Liaquat Ali Khan introduced it in his Budget of 1947. Sri T. T. Krishnamachari has revived this tax by the Finance Bill of November 1956. Hence a discussion of this prominent but controversial issue in the theory and practice of income tax is topical.

Definition

Capital gain or loss represents a realised appreciation or depreciation in the capital value of an asset other than a stock in trade; for example, sale of stocks, shares, securities, land, buildings, plant and machinery, possessions such as jewellery, pictures, furniture, etc., will give rise to a capital gain or loss. It arises, as Harold Groves said, "not as a flow of income from the fountain, but from the sale of the fountain itself." Hence it is a casual and a usually non-recurring receipt.

Kaldor's View

Kaldor is a vehement advocate for the taxation of capital gains as income. Briefly put, his arguments are as follows. Firstly, he feels that the non-inclusion of capital gains in taxable income

is inequitous. Justice demands that the relative position of individuals after a tax is not altered much. This cannot be so as long as capital gains get a preferential treatment over ordinary gains. Secondly, he feels that such an exemption may lead to evasion and loss of revenue to the Treasury, as people may be tempted to interchange taxable income with tax exempt gains. Thirdly, he believes that the so-called irregularity, illusory and non-recurrent nature of capital gains, is a myth, as profits and savings may also be irregular and become illusory during periods of price variations. He is of the opinion that discretionary powers should not be vested in the hands of income-tax authorities to determine the taxability or otherwise of individual cases. (Example of U.K.). To conclude, he says that an "impartial", "unambiguous" concept of taxable income will be obtained only when it includes all receipts which increase the taxpayer's spending power.

Some Objections to the Tax

The whole gamut of arguments for and against the tax may be summarised in the short phrase "Equity *vs* economic expediency and administrative simplicity". The attempt to have a highly equitable tax may result in the creation of a complex tax structure. An attempt is made in this paper to mention some of the complexities.

Administrative convenience necessitates taxing only realised gains. Usually capital gains accrue over a period and to treat them on a par with the rest of the income earned in that year may not be just. When they are treated as distinct from the other income, equity may further be satisfied if a distinction is made in the taxability of gains accruing in a short period and that accruing over a longer period (as in U.S.A.). This has the added advantage in that it takes notice of the fact that mostly the short period gains are more in the nature of speculative gains than the latter. The former may be taxed at a higher rate and the latter at a lower rate. But these fine differences in the tax statute, though equitable, may not be expedient, for any such distinction in the period of holding of the asset will be purely a question of administrative accidental choice and it may encourage some to hold an asset just long enough to be liable to a lower rate of taxation. It will still result in some evasion, though legal.

The question of relevant rates also presents certain interesting conclusions. As the gains accrue over a period, they may not be

taxed at the ordinary income-tax rates. To introduce a flat rate of taxation for capital gains alone may imply acceptance of all the drawbacks of a proportionate levy. If a new set of rates which are less progressive than the income-tax rates are to be applied, it implies, though veiled, an acceptance of the idea that capital gains are income on a different level from the other sources of income. If that is granted, there may not be any sanctity in taxing capital gains only in the income-tax base. Other alternative methods of reaching such gains may be accepted.

If capital gains constitute taxable income, capital loss should form a deductible item. Immediately the question arises whether they could be granted against ordinary income. This may not be feasible, as it will encourage intelligent manoeuvring to escape tax liability. If capital losses are allowable only against capital gains, an unlimited carry forward or backward provision is needed. The latter will necessarily have to be for a short period because of administrative difficulties involved in the reopening of past assessments. The carry forward provision may not be so very equitable, as in the words of the British Royal Commission, "A gain would be chargeable even if there were no realised loss, a loss would not be allowed except so far as there was a realised gain".

A serious drawback of this tax is its effect upon investment. It may retard the sale of property and securities in times of inflated prices or encourage the sale during times of depression. Either way the market movements may be more pronounced than otherwise. In the great American Boom of 1929, the tax was held responsible for prolonging the inflation. Dr. Matthai, while repealing the tax in 1949 in India, said that the tax had a serious disincentive effect upon investment and free marketing of property, and also inflicted a shock upon the morale of the businessmen. Kaldor and Seltzer both agree that capital gains are mostly concentrated in the upper income ranges and perhaps this disincentive effect is not therefore something to be lightly brushed off. Savings as well as investment may both be affected.

Kaldor estimates that the yield of the tax will be round about Rs. 25 to 40 crores. But the question is whether actually this much of revenue may be expected. For in India when the tax was levied between 1947 and 1949, the yield was only a rough amount of Rs. 6 crores. Even the experience of U.S.A. goes to prove that the yield is cyclical. Further, the tax may discourage realisation till death, when the gains may conveniently be taxed by the Estate

Duty instead of having a capital gains tax. Moreover, the tax, by discouraging sales, may also affect the yield of certain other taxes like the Stamp Duty, etc. The potential net yield of the tax may at best turn out to be a guess work.

Possible Solution

To conclude, the balance from the practical point of view seems to be in the direction of non-inclusion of capital gains in the income-tax base. They do represent "accretion to one's economic power" and should be tapped, but it seems better to reach this increased ability in some other manner than by a regular income-tax. Just as inheritances, which also represent increased ability to pay, are taxed through inheritance taxes, so also capital gains may be taxed through methods other than an income-tax. Especially in India capital gains are mostly in the nature of increment in the value of real estates and these may be reached through a property tax based on the capital value of the asset. Capital gain realised from the sale of securities is not perhaps of a great magnitude in India, as the investment habit is still in its infancy.

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Discussion

The discussion began with the definition of the concept of income and while one view was that capital gains constituted income and as such should be subjected to taxation just as income, another view stressed the irregularity of the occurrence of capital gains which necessitated its distinction from normal income. The discussion then shifted from the question of equity to the question of expediency. Opponents of the tax cited the experience of 1947-49 to show that its yield would fall considerably short of expectations. It was pointed out in reply that the capital gains tax was one whose yield could be judged only over a long period.

There was much discussion on the question of incentives. The author quoted Dr. Matthai that the tax had a serious disincentive

effect upon investment. A few supported her with foreign experiences and said that by hindering transference of property it would destroy incentives to production. This was however sought to be refuted by many who said that first, the capital gains tax would not be imposed on every case of transfer, but only on those cases which showed a capital gain; secondly, mere discouragement of transfer would not hamper investment in productive enterprises; thirdly, it might affect speculative transfers and not new investment; lastly, the liability to pay a part of capital gain as tax need not necessarily hinder the sale of assets and realisation of the bulk of the capital gain.

While the author suggested wealth tax instead of capital gains tax, critics said that these were not alternatives, but complementary weapons in the armoury of the Treasury. The consensus of opinion was in favour of the capital gains tax.

A RAILWAY RATE POLICY FOR INDIA

By

K. M. WARRIER

I

The Railways cannot and do not adopt the usual basis for fixing rates, viz., the cost, plus something in addition by way of profit. To appreciate the structure of the Railway Freight rate system, one must bear in mind (i) that an enormous capital has to be spent before the Railway can function at all; (ii) that the capital spent in constructing a Railway can in large part be never redeemed and used for any other purposes should the undertaking prove to be unprofitable; (iii) that expenses by way of maintenance of the track and equipment, depreciation and interest charges go on all the time irrespective of the volume of traffic, so that the additional cost of conveying a small quantity of additional traffic is much less than the average cost; and (iv) that Railways, being public utility concerns with a monopolistic position for a substantial portion of their traffic, should be conducted with a view to public service rather than solely with the profit motive.

The earnings of Railways are derived partly from passenger traffic and partly from goods traffic and each must contribute its fair share of the total costs. It is very difficult—almost impossible—to apportion the costs, which include not only the actual haulage cost, but all kinds of over-head charges, such as depreciation charges, interest on capital expended, wages to the staff who serve both the passenger and the goods traffic and the maintenance of the lines and the buildings.

Yet, it is obvious that no Railway can afford to carry freight for any length of time if the revenue from it does not cover the prime cost of its movement. Hence the 'Cost of Service' rendered, that is to say what a Railway can afford to bear, fixes in actual practice, the lower limit to any rate which a Railway should quote. In exceptional cases Railways sometimes quote even lower rates in order to induce new traffic or to keep a factory going in its initial stages. On the other side, the maximum that can be charged for any service is the additional value thereby caused,

This is described as 'what the traffic will bear'. Sir W. Ackworth has explained the phrase to mean not merely what the traffic is able to bear, but what it consents to bear. Generally speaking, the higher the exchange value of a commodity the higher the rate it can afford to pay for its movement. Coal and grass cannot bear the same rate for transport as precious metals and valuable fabrics. This has led to a classification of commodities into different classes, and a definite rate per mile is fixed for each class. And "the Railway classification of goods is the foundation on which the edifice of Railway rates is built up; it is the framework to which the tariffs or schedules of the rates are attached."

II

"A Railway is a public utility service, and its objects must be to provide transport at the cheapest possible rate so that both industries and agriculture may develop and so add to the prosperity of the country." (Tariff Board on Chemical Industry, Para 127). Viewed from this angle, one can undoubtedly say that the Railways in India have failed to fulfil their function. Till 1947 foreign trade monopolised our attention, for the Government was more interested in foreign than internal trade. Again a favourable trade balance occupied a unique importance in view of the fact that India was compelled to meet annual payment on account of 'Home Charges'. Railway Policy encouraged the import of finished goods, and exports of raw materials at the expense of Indian trade and industry. But these have disappeared with the introduction of the revised classification in 1948. This revision undoubtedly made a good deal of simplification and rationalisation. The basis of rates was changed from a 'flat' basis to a 'telescopic' basis, and the rates were made applicable on 'through' distances. For the 'telescopic' basis, the rates have been worked out on three 'legs'. Most of the station to station rates have been cancelled. It permitted a wider range for regrouping of commodities, and, under the practice followed, provided a device whereby the difference between owner's risk and railway risk rates could be reduced.

Yet it cannot, however, be said that the reform of telescopic rate has been carried to the final stage. For instance, the length of the first 'leg' is fixed at 300 miles. Thus the claims of short and medium hauls for equitable rates have been ignored in the revision of scales. It is also co-extensive with the normal distance covered by the bulk of the traffic. In effect, the majority of goods are deprived of the benefit of telescopic rates. The reform of

1948 remained as rigid as before. The appointment of a Committee within a short period of 7 years indicates the need for a thorough revision of the Railway rates policy.

III

For a country passing through Industrial Revolution and trying to build up her economic structure in the midst of established powerful competing economic interests, the classical theory of Railway rates must be replaced by an enlightened, vigorous national Railway policy. Since India has to remain viable, as a manufacturing and exporting country, it will be necessary to introduce a new rate structure which will "fit into the apparatus of India's economic and social development." "From this point of view, Railway ceases to be business, especially in the profit aspect, although they should be regarded as such in their efficiency aspect. They must transcend the cost price, profits basis; they cease to be investments looked at from short term view point, they become not merely 'Public utilities' but instruments of 'National planning'." (Vide *Indian Journal of Economics*—January 1946). A liberal rates policy based on the policy of subserving the need of national industry can help a long way towards economic progress and planned development of the country. Moreover, in the formative period of planning, the structure of rates should be left flexible, simple and non-discriminating. It should satisfy the strategic needs of the country in the movements of essential supplies for industrial development and expansion of foreign trade.

Hence, it is absolutely necessary to follow a developmental rates policy. The development function of rate policy has not received enough attention even in the post-independence era, because both the Government as well as the Railway Board were very anxious to maintain the solvency of the railways. Hereafter, these rates should form an integral of the rates policy and can be dispensed with when specific industries which receive these rates grow up to the optimum level. The need for adopting such a rate policy need not be over-emphasised in an economy which is deliberately proceeding on a rapid rate of expansion, with more and more emphasis on the industrial sector. Great Britain, the champion of laissez-faire, adopted this policy fully for her industrial development.

Developmental rates can be determined by an Economic Research Department attached to each zonal rail-road administration

with an experienced economist at its head. This department could study the working of the rail-road system, requirements of the business community and the economic resources of the area. The department could advise both the railways and the business community for the most efficient use of the Railways.

Discussion

At the outset there was some theoretical discussion on the technique underlying the rate structure of a public utility like the Railways. The implications of the policy of levying discriminating charges through goods classification were discussed. The issue of employing the rate technique to serve a national purpose was raised, and the opinion was expressed that unless the entire conception about railway service was re-oriented, mere adjustment of freight rates would not serve any purpose.

It was said that in fixing rates the potentialities of competing forms of transport should be taken into account. In particular, road-rail competition was a matter that should receive attention. It was suggested that short distance traffic should be left to roads, while long-distance traffic was to be taken up by railways. Under a system of telescopic rates, the rates for short distance could be kept sufficiently high. But here the problem of bulky and heavy goods was raised and it was said that such goods could be transported only by railways even over short distances.

In organising road-rail coordinatoin, it was suggested that roads should act as feeder services to the Railways. The classification of goods into two types was also suggested so that one type may be carried over roads and the other over railways. Its feasibility was, however, doubted by some.

Regarding adjustment of railway freight rates to foster industrial development, it was said that such a policy could not be reconciled with the peculiarities of railway economics. Some argued for State subsidisation of railways, while others suggested subsidisation of the industries instead of the railways.

The concluding part of the discussion was devoted to the validity of commercial principles in railway policy. While one group was for the governance of railway policy by strictly commercial principles, another group wanted the railways to function as a purely national service; a middle group argued for a happy compromise.

DESIGN OF THE RURAL CREDIT SURVEY

By

T. P. SUBRAMONIAN

The All India Rural Credit Survey (1951-52) is one of the most scientific of the country-wide statistical enquiries conducted in recent times in India. A discussion of the design and conduct of the Survey provides an opportunity to examine the applicability of the various research methods in a particular situation.

Objective of the Survey

A clear objective is the starting point of a survey. The Reserve Bank of India appointed in August 1951 a Committee of Direction to plan, organise and supervise a survey of the credit position in rural areas throughout the country, to interpret its results and to make recommendations. The Survey was at once a fact-finding and policy-making one. It sought to add to existing knowledge about the credit position in rural areas and, on the basis of the facts collected, to make recommendations for the modification and/or the formulation of new policies by the State and the Authority controlling the monetary system. The whole design of the Survey must be considered in the light of this objective.

Working Hypothesis

A hypothesis is defined as a tentative supposition based on cursory observations of known and available facts and adopted provisionally to explain certain elements and to guide in the investigation of others. A 'working' hypothesis is one formed in the preliminary stages of an enquiry; it acts as a guide to the discovery of new knowledge and helps avoid random empirical wandering. The working hypothesis with which the Rural Credit Survey (RCS) appears to have proceeded is that the credit position in the rural areas was unsatisfactory. From this the Survey proceeded to assess the extent to which it was unsatisfactory, to discover the causes for the unsatisfactory position, to gauge how far the agencies, furnishing rural credit fulfilled their purposes and how far they fell short of it, and to see what could be done to improve the situation.

Nature of the Survey

A basic question to be settled by any surveying agency at the outset is the choice between a *census* with a complete enumeration of the whole field and a partial survey of part of the field involving a selection or *sample* of the whole set of items. The choice is determined by the purpose of the enquiry, the size of the universe, the expense allowed, and the time within which the enquiry is to be completed. In the case of the RCS these factors favoured the decision on a sample survey. The main aim of the RCS was not so much the computation of the national estimates of indebtedness or credit needs as the collection of data which would reveal the broad patterns of the working of agricultural credit in the different regions of the country. The universe was practically the whole country, and the enquiry had to be completed within a reasonably short time so as to help formulation of policy. It was therefore decided to consider the district as the unit of investigation and to confine the Survey to a sample of 75 districts.

Scope of the Survey

The purpose, the working hypothesis and the nature of the survey determine the scope of the survey or the lines of enquiry. It was decided that the working of rural credit should be studied in relation to two aspects, viz., the *demand* for credit from rural families, and the *supply* of credit by credit agencies. These are referred to as the 'demand' and 'supply' aspects of the survey.

The 'demand' aspect covered the assets, economic activity and credit operations—in particular the borrowings and debt—of the rural families. A sample of 8 villages was selected in each district and within each village all the families were investigated. In order to study the working of rural credit in villages served by co-operative credit societies, half the villages selected in each district were to be those where such societies functioned. Further, in each selected village a sample of 15 cultivating families was selected for further detailed investigation regarding assets, farm business and loan transactions.

On the 'supply' aspect, all the different types of credit agencies in the selected districts were investigated. Information regarding Government finance was to be collected for the district as a whole and, wherever possible, for each of the different tahsils. In regard to the private credit agencies and the Co-operative Movement, the Survey was to be restricted to the units existing

in the selected villages and in a few important centres of the supply of credit in the district. The investigations in regard to the Co-operative Movement were to cover central co-operative banks and banking unions, land mortgage banks and co-operative marketing societies and primary co-operative credit societies. The investigations connected with the private credit agencies were to cover traders, professional moneylenders and indigenous bankers. It was also decided to investigate the agricultural finance furnished by the commercial banks.

A scheme of detailed case studies of a sample of the loans given by Government, co-operatives, moneylenders and indigenous bankers was decided upon. This would throw light on the procedure followed by the agencies in sanctioning and disbursing loans, on steps, if any, taken to ensure proper utilization of the loans, on methods of repayment, etc.

Finally, it was decided to obtain expert opinion from a selected set of persons throughout the country who were deemed to have special knowledge of the working of rural credit.

Selection of Sample Units

The universe for the RCS was the whole of the rural area of the country, excluding Jammu and Kashmir. From this sample, units had to be chosen for the different lines of the enquiry.

(a) *Selection of districts.* The 302 districts included in the area served as the frame for the selection of the sample of 75 districts. The sample was sought to be made representative of the geographical and agricultural regions in the country. Two factors considered as representative of agricultural conditions were the percentage area under cash crops and the percentage area under irrigation. Giving allowance for these two factors, and also providing for geographical representativeness, the selection of the 75 districts was made at random from among the total number of districts.

The sample selected shows that all the large and several of the smaller States are represented. It is also seen that in respect of rural population, percentage area under cash crops and percentage area under irrigation, the averages per district for the selected districts lie close to those for all the districts; and the standard deviations for the selected districts also approximate to those for all the districts. These testify to the representativeness of the sample.

(b) *Selection of the villages.* A sample of eight villages had to be chosen from each district, of which four should be with—and four without—primary co-operative credit societies. The villages in each district were first divided into 2 groups, viz. those where primary co-operative credit societies existed and those where they did not. From each of these groups, four villages were selected at random, with probability of selection proportional to the population of the village.

Owing to practical difficulties, it was not possible to stick to the 4 : 4 proportion for every selected district. Among the 600 villages selected, 284 villages were with co-operative credit societies and the remaining 316 were without such societies.

(c) *Selection of Cultivating Families for the Intensive Enquiry.* On the basis of the information collected through the General Enquiry, all families in the village were classified into two groups, viz., cultivators and non-cultivators. For selecting a representative sample of cultivating families, all cultivating families in each selected village were arranged in descending order of magnitude of the size of the cultivated holding. The list was then divided into 10 strata (or deciles) with roughly equal number of families in each decile. From each of the first five deciles, two families were selected, and from each of the latter five deciles one family, at random, thus giving a sample of 15 cultivating families for each village.

(d) *Selection of additional centres in each village for investigating credit agencies.* For the 'supply' side of the enquiry, a few centres in addition to the villages selected for the demand side had to be chosen. As regards primary co-operative credit societies, those existing in four villages other than the four selected for the 'demand' side were selected in each district. The method of selection was the same as for the 'demand' side. The selection of marketing centres was made in such a manner that the centres were representative of the agricultural marketing and climatic conditions of the district. The selection of centres was made after a study of all the relevant material.

(e) *Selection of units of credit agencies at the selected centres.* At each of the selected centres of supply of credit and at the district headquarter a sample of units of the three private credit agencies, viz., traders, moneylenders and indigenous bankers, was to be investigated. At each centre if the number of units of a type of agency was less than 10, all the units were to

be studied. If it exceeded 10, it was to be divided into two groups, big and small. If the number in either list was 10 or less, all the units were to be studied; if the number exceeded 10, a sample of 10 was to be selected. Thus the total number selected at each centre was not to exceed 20. For the selection of sample units in each case, the method of systematic selection was applied.

(f) *Selection of loans for case studies.* Loans for detailed case study were to be selected from among the loans advanced by Government, co-operative societies, land mortgage bankers, private moneylenders and indigenous bankers, during the year 1950-51. In respect of government loans, the selection was made in such a manner as to be representative of the major Acts or schemes under which finance was provided by Government in the district and also of the different regions in the district. For each co-operative credit society and land mortgage bank a sample of 10 loans was selected from among the loans advanced during the year 1950-51. In regard to moneylenders and indigenous bankers also, a sample of 10 loans was decided.

Schedules and Questionnaires

The schedules and questionnaires, through which data were collected, were designed in accordance with the lines of enquiry decided upon. The 'demand' side of the RCS consisted of the General Enquiry and the Intensive Enquiry. In the General Enquiry, all the families in the selected villages were to be investigated by means of a schedule called the General Schedule. This collected information relating to the size of holding, expenditure on important items which are likely to have been occasions of borrowing, borrowings during the year with details regarding purpose and credit agency and outstanding dues. The Intensive Enquiry of the sample of 15 cultivating families in each district employed 6 schedules and 5 questionnaires. The schedules gathered information regarding assets, current expenditure and receipts, borrowings and debt according to purpose, security, interest rate, type of mortgage, etc. The five questionnaires obtained information on such items as marketing practices, savings pattern, and opinions regarding effects of legislation, availability of government and other institutional finance and credit requirements.

For the 'supply' aspect of the Survey, a different set of 7 schedules and 5 questionnaires was designed. Schedules were to be used in respect of agricultural finance from government

and the co-operatives. One schedule was used for the case-study of loans. One questionnaire was to be used for information regarding the method of operation and practices of primary co-operative credit societies. Traders, moneylenders, indigenous bankers and commercial banks were to be investigated by means of separate questionnaires.

A General Questionnaire on Agricultural Credit was issued to prominent officials, non-officials and others to obtain expert opinion on the working of agricultural credit.

Most of the schedules and questionnaires were filled by the method of direct *interview*. The questionnaire relating to commercial banks and the General Questionnaire on Agricultural Credit were, however, *mailed* to the respondents.

The Organisational Set-up

The success of a survey depends very much on the field personnel, and considerable care should be exercised in the recruitment of the staff and in the orientation given to them. The staff should be adequate to the work, and work should also be adequate to the staff. The field staff for the RCS comprised two Investigators and one Inspector in each selected district; each Investigator was in charge of four of the selected villages. Regional controlling officers supervised the work of the field staff in groups of districts. The Investigators in each district completed the schedules and questionnaires on the 'demand' side of the Survey. The Inspectors, in addition to supervising the work of the Investigators, completed all the schedules and questionnaires connected with the 'supply' aspect.

For the orientation, centres were first organised for the training of all the Controlling Officers. Later, under each Controlling Officer, training centres not exceeding three were conducted for the training of the field staff. At each centre, the field staff recruited for a few districts were trained.

Pre-testing of Schedules

The various schedules and questionnaires were tried out at the training camps conducted for the Controlling Officers. In the light of the experience gathered, necessary modifications were made.

Tabulation of Data

Scrutiny sections were set up at Bombay and Poona, where all the entries in the schedules and questionnaires were scrutinised

in detail. The information was tabulated in appropriate forms. Analysis of the tables and preparation of the Report followed.

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Discussion

The objective of the Survey was first taken up and a doubt was expressed whether it was not too wide. It was however felt that nothing but a comprehensive approach to the problem of rural credit would yield useful results. The adequacy of the sample chosen was discussed. While on the one hand it was said that in view of the importance of the subject for national development and in view of the difficulties of obtaining reliable data from the rural areas, a larger sample should have been chosen, it was pointed out in reply that the size of the sample was, among other things, determined by the purpose of the survey and the time within which it should be completed. The purpose was to study the broad pattern of agricultural credit, and the time was limited as the formulation of policy awaited the results of the Survey. As such once the soundness of the method of sampling was ensured the actual size of the sample would not matter much.

On the sampling method adopted, there ensued some discussion. To what extent the principle of random sampling was applied was one of the questions examined. It was explained that unqualified random sampling was unsuitable for the purpose of the enquiry and as such suitable stratification had to be resorted to. Within each stratum, the principle of random sampling was applied. One member feared that the sampling revealed a bias towards cooperative societies, while another remarked that an attempt to make a comparative study of the cooperative and non-cooperative sectors was not necessarily the result of a bias. The selection of a larger sample from among the bigger cultivators as compared with the smaller cultivators for the intensive enquiry was criticised as unsound. The duration of the pilot survey and the work load of the Investigators were subjected to some criticism.

With a comparative assessment of the design of the Rural Credit Survey with those of some earlier surveys, the discussion ended.

THE INPUT-OUTPUT ANALYSIS

By

D. BRIGHT SINGH

Nature and Meaning

Economic analysis by the Input-Output method represents a reaction against the Marshallian partial equilibrium study and a swing back to the notion of general economic equilibrium conceived by Leon Walras (1834-1910). The concept is based on the fact that a national economy is made up of a number of productive units which are closely interrelated and interdependent so much that a change in the level or technique of production in any one unit will have its repercussions on the other units and thus over the entire economic system. The growing importance of this type of macro-economic analysis has to be explained mostly by certain economic and political factors in the last three decades or so—the Great Depression of the 1930's, World War II and the recent mobilization of resources in most countries of the world either for purposes of war or for economic development. These factors have necessitated increasing attention being devoted to the problems of aggregate levels of economic activity and particularly to the problems of fluctuations in income, employment and output.

The idea of the inter-industry Input-Output model was put forward by Professor Wassily Leontief of the Harvard University in the 1930's. He classified the numerous American industries into groups and made an elaborate study of the output of each industry and the distribution of the output among the other industries in one year. The basis of this analysis is the fact that each industry or sector is a producer as well as a consumer. The sales of one industry are the purchases of other industrial units and the purchases of one unit are the sales of the others. This is expressed in a square table consisting of as many columns and rows as there are industries. The industries are listed as producers in rows and as consumers or purchasers in columns. (See Appendix for model of an Input-Output Table).

It is not possible to account for the absorption of the entire output of each sector by the other sectors in return for their sales. In the case of most of the organized industries the inputs and outputs can be known. But as regards the household sector and the

government, while their demand for the products of the various industries can be estimated, their inputs cannot be equated with their outputs. Hence such sectors are made to stand outside the model. The model is then an open one and the demand coming from those sectors which are outside the model are said to be the 'final demand' or 'bill of goods'. In equilibrium conditions, the total output of each industry minus the sales to other industries is equal to the amount of the industry's product going to final demand. Thus if X_i is the total output of industry i and Y_i is the final demand for the product of the i th industry and X_{i1}, X_{i2}, X_{in} are the purchases of i 's products by industries 1 to n , then the distribution equation will be:—

$$X_i = X_{i1} + X_{i2} + \dots + X_{in} + Y_i$$

This is the balance equation in the model. But the industries are technologically inter-related and under certain assumed conditions the input of each industry forms a fixed proportion of its output. That is to say, in order to get a given output of a particular industry, a fixed amount of input has to be obtained from other industries. This is the technical co-efficient or co-efficient of production and is expressed as $a_{ij} = \frac{X_{ij}}{X_j}$ where a_{ij} is technical

co-efficient of j , X_j is output of industry j and X_{ij} represents output of industry i absorbed by industry j . For example, if the output of industry j in a year is 400 and the output of industry i absorbed by j is 100, then the technical co-efficient of the input of j in respect of i is 0.25. Thus if final demand and the technical co-efficients and outputs of different industries are known, their inputs can be calculated by means of what is called the structural equation which can be expressed as follows:—

$$X_i = a_{i1} X_1 + a_{i2} X_2 + \dots + a_{in} X_n + Y_i$$

X_i is output of industry i , X_1, X_2, X_n are the outputs of industries 1 to n , a_{i1}, a_{i2}, a_{in} are the technical co-efficients in respect of the inputs of i used in industries 1 to n and Y_i is final demand.

Assumptions on which the technique is based

The technique of the input-output model is applicable to a hypothetical economy in which each commodity is produced by a different industry. Each industry uses only one process of production; the process being a simple one of addition, i.e., a set of inputs is combined in fixed proportions to produce an amount of

the commodity (or the output of the industry). The required inputs of a particular industry are produced by the other industries. Besides these there are the following fundamental assumptions:

- (1) that the economy is in static equilibrium total output being equal to total consumption in a given period, and there is free competition; hence average cost = marginal cost = price;
- (2) that most of the industries are capable of being aggregated into homogeneous groups;
- (3) that production function is linear with fixed co-efficients. This rules out substitution and assumes constant returns to scale;
- (4) co-efficients calculated for a particular year are good approximations for a later year of application;
- (5) that the statistics collected are quantitatively and qualitatively satisfactory to calculate the production coefficients.

Uses of the technique

The inter-industry accounts reveal the basic structural characteristics of an economy and help in understanding how the economy functions. Comparisons of input-output patterns over extended periods of time would show how the impact of various economic and non-economic factors, such as technological improvements, government policy, labour supply, scarcity of resources, etc., would affect the processes of production. It reveals the way in which the structure of industry in an economy is adjusted to changes in the supply situation. In this respect, the input-output analysis is superior to National Income analysis. If the statistical details are satisfactory and the computation correct, the input-output technique helps in making more or less exact forecasts in the short period. Given final demand, it enables the Investigator to find out how resources can be satisfactorily allocated in order to attain the targets of production. If a new bill of goods is required to meet specific employment levels or for military planning purposes, the outputs of each industry to fill these needs can be calculated, assuming that technology is constant. The expansion of a particular industry leads not only to an increase in direct inputs; it has also indirect effects in so far as other industries will increase their inputs in order to meet the needs of the expanding industry. The Input-Output analysis is the best means of estimating such repercussions. Furthermore, the technique helps in analysing the effect on employment of the expansion of the economy or of a particular industry. Assuming labour input constant,

the requirements of labour with a given expansion in particular sectors of the economy can be calculated.

The Input-Output technique assumes static equilibrium. It is however possible to make use of the technique for purposes of dynamic analysis. This is done by making an allowance in the balance and structural equations for stocks and capital requirements. In the same way as the input requirements for current production of each industry are estimated, it is possible to calculate the ratio of stocks and capital to be maintained in order to ensure growth. These ratios can be integrated in the equation so that the structural equations would then express not only the technical co-efficients necessary to maintain current production but also the capital stock co-efficients necessary to ensure growth. This makes Input-Output technique a valuable tool in the hands of Planners. However, if it is to be successfully used in economic planning, we should have satisfactory estimates of both the structural co-efficients and capital co-efficients of production. But in an economy such as ours, where labour intensive methods of production are common, it is difficult to estimate the technical co-efficients of production. To some extent this difficulty can be got over by means of the linearity assumption, as has been done in the Leontief model, i.e. assuming that the proportion of input to a given output would be constant over a fairly long range of time. In this manner, the requirements of inputs when output targets are fixed can be determined, but this is only a first approximation. In a shortage economy, it is also necessary on the part of the Planners to calculate the restrictions and limitations in the various sectors of the economy and make a study of their manifold repercussions on the entire network of the economy. Here obviously the input-output technique would be a very useful means of analysis.

Limitations of the Concept

The limitations of the model arise from its various assumptions.

(1) It is applicable to conditions of stationary equilibrium where time is of no consequence. The balance equation is at best a book-keeping identity which says that what is consumed is what is produced. While it is true that the purchases among the industries are equal to the sales, it does not follow that production is equal to consumption. This assumes away changes in inventories of finished goods and raw materials. Technically the production of inputs should precede their consumption and therefore

equation between production and consumption is possible only if we relate the production of one period to the demand or consumption of a succeeding period. In other words, it is wrong to ignore the inventory side and say that current output is equal to current input.

(2) Each industry is assumed to produce a single commodity. And for purposes of convenience of computation industries producing similar commodities are grouped together. This creates a serious aggregation problem. One industry would comprise several firms whose technical methods are not identical, or who produce commodities which involve different technical methods. We can assert that output determines inputs uniquely only if we assume that when the output of one product of an industry changes, the output of all its other products also changes in the same proportion. The difficulty can be lessened by increasing the number of industries in the table, but only at the cost of increasing the complexity. Leontief started with a 45 by 45 table and increased the number to 95 for 1939. The compilation of a much larger 400 by 400 table is being made by the Bureau of Labour Statistics in Washington for 1948, but even this involves a good deal of aggregation.

(3) The assumption of a linear production function is a further abstraction. This assumes that the 'product mix' in a given system of production does not change. In actual fact, with variations in the supply of resources and changes in their prices, new combinations are always tried so that the assumption of the linearity of the production function seems wide off reality. To this argument the answer of Leontief is that factor substitutions are unimportant, at least in the short run. It may also be argued that with modern industry depending more and more on machine technology, short run substitutions are rarely profitable. This may be true of a good number of industries in an advanced economy, such as, mining, transport, metallurgy, etc., where technology determines the production function or the proportion in which factors are to be combined. But this is not true of the equally large number of industries like agriculture and small scale industries in which the stochastic element is particularly prominent.

(4) A serious drawback of the technique is the great difficulty in computation which it involves. A table based on 200 industries requires 400,000 inter-industry total sales figures. Much of the data are to be collected from government sources and from private firms and establishments. Difficulties of obtaining data

from the private sector in a free economy are well known. Even when the statistical data are collected, it is a formidable task to check up the value of the technical co-efficients. For purposes of comparisons it would be necessary to make use of co-efficients of one year for another year. The greater the time interval the less dependable are these co-efficients. The problem can be solved only by means of permanent statistical staffs who should be engaged in keeping the tables abreast of technological changes. This limitation restricts the use of the model for forecasting purposes to fairly brief periods only.

In view of the drawbacks mentioned above, it is not surprising that some economists have raised doubts whether the input-output technique would not end as a brave failure. Opinion is sharply divided among economists as to the merits of this technique of analysis. But this much should be said in its favour. It has gained considerable popularity in recent years and has been made use of in several countries of Europe and America for making short period forecasting and in the quantitative analysis of economic data for purposes of mobilization of resources and their allocation for economic development. It has necessitated the collection of a vast quantity of authoritative statistical data which throw light on intricate economic problems and thus help in their solution.

APPENDIX

Simple Model of an Input-Output Table

Industry producing	Industry Purchasing				Final demand	Total output
	Agriculture	Iron & Steel	Textiles	Transport		
Agriculture ..	—	300	400	100	200	1000
Iron & Steel ..	300	—	500	400	300	1500
Textiles ..	100	100	—	200	400	800
Transport ..	200	300	300	—	300	1100
Total ..	600	700	1200	700	1200	4400

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Discussion

Discussion centred on the assumptions on which the method is based. Some members argued that the problem of aggregation and the necessity of collecting elaborate and accurate statistical data involve considerable difficulties and cost. To the extent that the linearity of the production function is not true to reality, any estimates or calculations based on this assumption should necessarily be tentative and very general. For this reason, the input-output analysis cannot claim to be a means of economic forecasting. One member, however, held the view that forecasting plays only a subordinate part in the method and that it is primarily intended to be a tool of analysis to study the manifold repercussion on the whole pattern of an economy arising from a given change in the technique or level of production in any one sector or industrial unit of the economy.

Another argument was that the method of calculations involved in the input-output analysis was rather of a crude nature and that considerable refinement was necessary before it could emerge as a scientific and useful technique. To this the answer was given that the input-output analysis was still in the early stages of development and that considerable attention was devoted by scholars in many countries of the world and especially in the U.S.A. to refine the technique and to mould it into a form that would satisfactorily meet the requirements of economic analysis. The technique therefore should not be judged on the present stage of its evolution. Judgment should rather be based on the question whether the approach to equilibrium analysis contained in the input-output method was correct or not. The fact could not also be ignored that the method was becoming increasingly popular in several countries of Europe and America. Most of the members accepted the view that the input-output technique was the proper method of analysis required for the mobilization of resources of a country for purposes of planned economic development.

RESTRICTIONS AND REGULATIONS IN A PLANNED ECONOMY

By

T. P. SUBRAMONIAN

I

The Unplanned Economy

The sovereignty of the consumer, the tyranny of the price system and the quest for profits constitute the trinity governing an unplanned or market economy. Productive activity is governed by the decisions of consumers and producers of goods and services, each of these decisions being small in scope and all of them being co-ordinated through the process of buying and selling. Efficiency and order and maximisation of want-satisfactions are achieved by the regulating force of competition.

Underlying the operation of the individual enterprise system is the classical assumption that government regulation of economic life is held to a minimum. The case against government intervention rested on two grounds, one economic and the other political. On the economic side, government intervention in the market mechanism was held inappropriate and unnecessary — inappropriate because it tended to lessen the efficiency of the process by which resources and human wants were equated; unnecessary because the great regulative force of competition would establish effective control over diverse interests. On the political side, government intervention was alleged to infringe individual liberty. Increase in the functions of government would make it inefficient or dictatorial and would sap the initiative of the people.

The course of history weakened the strength of this classical theory. Economic complexities arising out of technological and organisational changes have undermined faith in the perfection of the system. The basic assumptions of the free competitive system did not fully tally with facts. In terms of social values, the distributive justice of economic liberalism proved questionable. These factors, combined with the growth of the Welfare State and other new social ideals, invited an increasing measure of

government intervention in economic life in many capitalist countries. In normal times, the governments in capitalist countries intervene either to provide services which profit-motivated private enterprise may not be eager to provide (e.g. education, public utilities) or to correct certain social consequences of the working of private enterprise, (e.g., labour legislation, anti-monopoly laws). Such intervention is viewed with approval, as it only helps the smoother functioning of the individual enterprise system. In times of economic crises, e.g. a depression, the government might intervene a little more and take certain measures to promote recovery. During a national emergency like a war, State intervention would become more comprehensive, and different controls and regulations would be introduced to mobilise and canalise resources. These measures are purely temporary and would be speedily given up once normalcy was restored. The broad features of capitalism would still reign supreme.

II

The Planned Economy

The introduction of planning alters the whole situation, and the tenets enunciated above cease to be applicable. The mechanism of competitive market is replaced by commands from above. In the words of Dickinson, "economic planning is the making of major economic decisions, what and how much is to be produced and to whom it is to be allocated by the conscious decision of a determinate authority on the basis of a comprehensive survey of the economic system as a whole". Thus interventionism in a capitalist economy does not amount to planning.

The 'capitalist trinity' does not hold sway over the planned economy. The impairment of the sovereignty of the consumer is the essential characteristic of such an economy. Wages, interest, rent and profits are not determined by impersonal market forces, but depend on political decisions. The distribution of incomes will also be guided by various considerations. Freedom of choice among occupations and freedom of entry into markets may be limited.

Thus planning, by definition, implies governmental regulation of economic life in the community. In practice, however, planning may not be as complete or comprehensive as made out above, and the process might be compromised at various points to meet particular situations. Nevertheless, attempts at planning

will necessarily imply controls and regulations so that resources might be allocated in the desired proportions, production might take shape in the pattern and magnitude planned and distribution might be effected in the appropriate manner, keeping in view the objectives of the Plan.

III

The Indian Context

The question of restrictions and regulations may be discussed with special reference to the current Indian situation. Like other belligerent capitalist countries, India also introduced several restrictive measures during the War. But they belong to an entirely different category—the typical war-time controls of a capitalist economy. The process of planning the economy commenced with the launching of the First Five Year Plan (FYP); and the restrictions and regulations imposed since then have to be viewed in a different light.

At the outset the approach of the Plans to this question may be noted. The First FYP declared (p. 31) “that it is clear that in the transformation of the economy that is called for, the State will have to play the crucial role. Whether one thinks of the problem of capital formation or of the introduction of new techniques or the overall realignment of the productive forces and class relationships within society, one comes inevitably to the conclusion that a rapid expansion of the economic and social responsibilities of the State will alone be capable of satisfying the legitimate expectations of the people”. While the State will have to render different kinds of assistance to producers, the producers will in turn have to accept certain obligations in the shape of restrictions and regulations.

The basic approach of the Second FYP is not different from that of the First in regard to this question. Says the Second Plan, “the function of economic policy in the context of the Plan is not merely to mobilise the financial resources needed but also to promote in all ways it can a pattern of consumption and of utilisation of real resources which conform to the requirements of the Plan” (p. 37). While investment by public authorities is a major instrument of policy, over a large area of economic activity the role of economic policy in a mixed economy is to influence the course of private investment through appropriate regulations and changes in relative prices and profitability.

Broadly speaking there are two types of regulations by which the objectives of the Plan could be furthered. Firstly, there is the overall regulation of economic activity through fiscal and monetary policy; and secondly, there are devices like export and import controls, licensing of industries or trades, price controls and allocations which influence and regulate economic activity in particular sectors of the economy. Both types of measures are sanctioned by the Plan.

In the early stages of developmental planning, the main problem facing the economy will be one of keeping inflationary pressures under check. Monetary and credit policy will have to be employed as constant correctives. The policy of selective credit control introduced recently is an instance. The fiscal structure could be adjusted to mop up excess purchasing power. Differential taxation offering incentives or deterrents is a means of regulating economic activity along desired directions. If fiscal and monetary devices by themselves cannot achieve full results, the employment of physical controls becomes inescapable.

The broad demarcation of spheres of development has been effected by the Industrial Policy. This is an overall regulative measure inevitable under planning-with-a-private sector. In conformity with the objectives of the Plan, targets are fixed for the various sectors and the captains of private industry are called upon not only to fulfil the targets but to accept new obligations towards the worker, the investor and the consumer and to maintain a high standard of integrity and efficiency. The Industrial (Development and Regulation) Act, 1951, was enacted to enable the Government to implement its policy for the development and regulation of industries. The Central Advisory Council and the Development Councils for particular industries are to ensure that private industry conforms more and more to the planned pattern of development. The Control of Capital Issues is designed to canalise the available capital into lines which have been accorded high priority. This control is made more effective with the provisions in the I (D & R) Act which makes government permission obligatory for the establishment of new industrial units and substantial additions to existing ones. The comprehensive revision of Company Law effected in 1956, while imposing several restrictions on business, aims at the healthy development of joint-stock companies and the adequate protection of the investors' interests. The excessive speculation in agricultural commodities

and industrial securities are sought to be controlled by the Forward Markets Regulation and the Stock Exchange Control respectively. Various pieces of labour legislation seek to enforce the obligations of private enterprise to the workers.

Though comprehensive price controls and rationing are viewed with disfavour, controls at strategic points are being employed. Prices have been fixed for commodities of basic importance like cement and iron and steel. While agriculturists are assured of floor prices, the undue rise in foodgrain prices are sought to be checked by the building of buffer stocks, opening of fair price shops and restricting movements. Export and import controls are employed not only to build up adequately and utilise economically the foreign exchange resources but to mould the pattern of production and consumption on the Plan-lines. "From the larger point of view of controlling relative prices and profitability as also for gaining control over the economy at strategic points, State trading at the wholesale level in respect of selected commodities could be used as a potent instrument of planning" (First FYP, p. 35). To fulfil the social objectives of the Plan, suitable restrictions and regulations are also incorporated.

Conclusion

A large dose of State regulation is inevitable under planning, be it democratic or authoritarian. Indian planning is no exception.

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Discussion

Discussion of the paper opened with an examination of the question whether war-time controls were essentially different from peace-time controls. It was pointed out that, while the purpose of controls in war and peace time might be different, there could not be any difference so far as the technique of controls

was concerned. To this point the answer was given that war-time controls were essentially of a temporary nature and what is more important, controls adopted in peace time for the purpose of fostering economic development altered the very structure and character of the economy, while war-time controls could not have such an effect.

The author's assumption that free scope for the enjoyment and exercise of consumer's sovereignty existed in a free enterprise economy and that it was restricted in a planned economy came in for some criticism. It was contended that consumer's sovereignty existed only in theory in free enterprise economy. So long as competition was imperfect in such economies, the consumer's wants and demands could not determine the pattern of production but rather the producer's behaviour would determine largely what wants of the consumers could be satisfied.

Another point of discussion was whether controls should necessarily be a permanent feature of a planned economy. It was remarked that in an underdeveloped economy, expansion of the public sector and the institution of various controls might be necessary in the earlier stages of development, but with economic progress, there was the possibility of relaxation of controls and the provision of greater scope for the expansion of the private sector. The author of the paper however held the view that controls and regulations were inevitable in a planned economy, and that the number of controls and the efficiency with which they were administered were a measure of the success of economic planning.

PROBLEMS IN THE APPLICATION OF INTERVIEW TECHNIQUES*

By

T. M. M. RAGHAVAN

The Social Scientists have in their own way evolved practical techniques and tools of research. The Interview is one such tool. It is the tool *par excellence* of getting at primary sources of information. As such it is highly useful in urban and rural socio-economic surveys.

The interview is conversation with a purpose. It is a device for securing and eliciting information and opinions from the people through the process of *skilled interrogation*. The purpose of the interview varies with the purpose of a survey. It may be to gather information about the general economic conditions of a household, like income, savings and employment position, or a particular aspect of economic condition, like credit position of the household. The purpose again may be to elicit the opinion of the members of a household on subjects like family planning, co-operative farming, etc. The investigator should possess a clear idea of the purpose of the interview, as the type of skill in interrogation needed on his part varies with the purpose of the interview. For example, the survey of income in a rural area needs skill in the technique of indirect questioning. It is therefore necessary that in any organised survey the investigators should undergo an orientation course in which they are instructed about the purpose of the survey and given training in the method of interview suited to the purpose. This is all the more necessary in a rural survey, as it presents problems of a peculiar nature arising out of the characteristics of village life.

An attempt is made in this paper to explain some of the problems that confront a rural investigator in the application of standard interview techniques. The "interview-schedule" method appears to be the most useful tool of investigation in the rural

* This paper is based upon field experience in the "Sample Survey of Income, Employment and Savings" at Sengipatti, Tanjore District, in May, 1957.

area. The schedule contains all the items on which information is needed and the investigator, by asking suitable questions, collects information and fills up the schedule. The schedule should be framed with great care as the smooth conduct of the interview depends upon an intelligent arrangement of items in the schedule. The questionnaire does not appear to be a useful tool in a village, as the investigator will be forced to address the set questions contained in the questionnaire. Of course, this tool is useful in an opinion survey as distinct from factual survey. The technique most useful in the rural area is the directive interview. The investigator has to play an active role. He has to put the questions, explain them, encourage the people to talk freely, carry forward the interview, never allowing the informant to stray into irrelevant talk, and generally help him to give relevant and accurate information. This is necessary, as the villager is unable to talk freely and consistently on the subjects of an economic survey. This healthy guidance does not mean however a prejudiced approach on the part of the investigator or the intrusion of his preconceptions in the interview.

The first task of the investigator is to establish "rapport". The investigator should tactfully deal with the problem of non-response. In the beginning most of the villagers are very suspicious and reluctant to co-operate. It is necessary to dispel their suspicion which is generally born out of ignorance of the subjects of the survey. The villager usually associates any such enquiry with a government agency. There is also the problem of tackling the over-enthusiastic who think that the investigator will redress their grievances and arrange for material help. The investigator should therefore explain frankly the purposes of his investigation. Usually the villagers co-operate in a survey if they see the village "elders" co-operating with the investigator. The investigator should win the confidence of the people and enlist community co-operation. Failure at this initial stage means failure of the entire work.

Contacting the individual heads of households is not as easy as is commonly supposed. During the agricultural season, the villager is engaged in one type of work or other and does not remain at home for the major part of the day. In the off season also he goes out as non-agricultural labourer. In many cases more than one visit by the investigator in order to meet the head of the household becomes necessary. This calls for the highest degree of patience on the part of the investigator. This is un-

avoidable, since, unlike in an urban household, the family members know practically nothing about the economic matters.

Having made the contact, preliminary friendly enquiries go a long way in securing reliable information. The investigator should make the informant understand the questions very clearly. The concepts like income, savings, etc., which are economic in character, have to be explained before answers can be expected. For this the investigator must be sure of the proper definition of the concepts involved. It is necessary that a detailed explanation of the concepts in the schedule forms part of the training given to the investigators.

The next problem is the securing of correct information. Even if the villager is sincere he is not able to give the correct figures. Taking an item like income, the villager's sources of income are many and the flow of income is not regular. In the case of the cultivator most of the yield is retained for self consumption and only the marketable surplus is sold at a price. The villager invariably thinks that the price paid for this marketable surplus constitutes his income. On the other hand, the proper method is to treat the total yield at harvest prices as income.

This raises the question of the proper technique of questioning in a village survey. In an urban survey, the technique of direct questioning may be more fruitful for securing information. In a village, however, direct questioning, i.e. the method of asking a direct straight-forward question like "What is your income per month?", will yield very poor results. Direct questioning has its merits. But the collection of accurate and reliable data is the prime consideration in any economic investigation. In the rural area therefore the technique of "indirect questioning" or "indirect confirmation" is the most appropriate method. This is a detailed process calling for the quality of perseverance on the part of the investigator. Taking again the example of income, the investigator should first ascertain all the sources of income. In a village the sources are usually cultivation, work as agricultural and non-agricultural labour and subsidiary occupation if any. The income from each source may be ascertained by detailed indirect questioning. In the case of income from cultivation, by getting information about the extent of land owned by the person, the area of wet and dry lands, area of lands pledged, area of land actually cultivated, the crops raised, the yield of each crop,

the amount retained for household consumption, the amount sold and the harvest prices for the crops, a fairly accurate idea can be had of the income of the person. This technique of course requires on the part of the investigator a preliminary knowledge of the agricultural conditions in the village. This can be secured by a friendly talk with the villagers before undertaking the investigation of individual households.

In this context a reference can be made to the "Pilot Survey of Personal Savings" conducted in Melbourne by the Department of Economic Research of the University of Melbourne. "The Purpose of the Pilot Survey was to ascertain whether the technique of direct questioning of individuals about their finances could be used successfully". The conclusion of the Pilot Survey is that "The method is not to ask directly how much the person interviewed saved in the period, but to obtain this information by the indirect means of constructing in effect, a personal balance sheet for each person (and his dependants) for two points of time, namely, the time of the interview and one year previously. This is a practical method of obtaining a uniform and suitable definition of savings". How much more should be the futility of the technique of direct questioning in a village in India!

Another difficulty is the problem of ascertaining the correct figures for income from agricultural labour. Wages are paid partly in kind and partly in cash. Payment made in kind have to be rendered into monetary terms. The investigator has to do this by gathering full information about the nature of payments made in kind. Perquisites however cannot be rendered into monetary terms.

In the sphere of employment the villager does not appreciate the distinction between primary and secondary employment. Even if he possesses just a cent of land he thinks that cultivation is his primary occupation, though his income from agricultural labour may be higher. There are two criteria of making a distinction between primary and secondary occupation of a person. One is the person's opinion of it and the other the income from those occupations. There are dangers in applying any one of the criteria without reference to the other. A criterion compromising both these has to be applied. This requires discretion on the part of the investigator.

On the item of debt, people generally volunteer all information. Here the investigator has to guard against the possi-

bility of the informant exaggerating his debt position and credit needs.

The problem of valuation arises when an enquiry is made regarding the assets of the informant. The investigator has to assign values after taking the estimate of the informant and also that of some of the neighbours.

Closing the interview is also a great problem in a village. Once the interviewer goes on smoothly the villager gets very much interested and starts giving vent to his grievances about the inefficiency and corruption of the village and district authorities. More often the time taken in this type of conversation is more than the time taken for regular investigation.

Perhaps the greatest handicap that a rural investigator feels in conducting an interview is the lack of privacy. Since the huts are too small the investigator has to stand on the road and carry on the conversation with the informant. The villagers of the locality curiously crowd round him and interrupt the conversation. This sometimes results in the investigator losing control of the situation.

From the above discussion two conclusions emerge. (1) A training course in interview methods is absolutely necessary for the investigators in a rural survey. (2) An investigator in a rural area must equip himself with a basic knowledge of the rural sociology and the social set up and agricultural conditions in the village if he wants to succeed in gathering accurate and reliable information through the technique of interview.

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Discussion

The author dealt with the task of the Investigator, the technique of investigation and pointed out the special difficulties of interviewing in rural areas. It was however said by many of

the trainees who had taken part in urban surveys that the difficulties mentioned by Mr. Raghavan in his paper, such as, non-co-operation on the part of the interviewees, lack of knowledge, difficulties in contacting the person, etc., were as much common in the urban areas as in the villages.

One member raised the question whether in the face of the many difficulties mentioned it would not be wiser to employ Government agents who are local residents for collecting the necessary information. There was a suggestion that the Investigator would do better to carry out the interview without a formal questionnaire, the idea being that this would help the Investigator to get into greater intimacy with the interviewee and acquire more information. Most of the members did not approve of this idea. It was pointed out that it was impossible for the Investigator to keep all details in mind. The formality of the questionnaire as such can be considerably toned down by the approach and behaviour of the Investigator himself.

To the question whether the case study would not serve the purpose of collecting economic and social information better, the author of the paper answered that interview was a technique and a means of getting information and was actually required even in the case study. However, the case study method could not be adopted for all sorts of investigations. In some investigations, such as an opinion survey, the interview had to play a predominant part.

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WORLD BANK AND INDIAN ECONOMIC DEVELOPMENT

By

P. V. RAMANAMMA

The Bank's Contribution to Indian Economic Development

An important milestone in the history of international economic co-operation and a significant step in the development of under-developed countries was the establishment of the International Bank for Reconstruction and Development (IBRD). The proposal to start such a Bank came as an offshoot of the discussions which preceded the formation of the IMF and was designed to satisfy the demand of some countries that the objectives of the Fund should be widened so as to include reconstruction and development. In 1944, at the height of the war, India joined the other countries of the free world in the deliberations at Bretton Woods, which led to the decision to establish the IBRD. Since then, her association with the Bank in all aspects of its work, has been close. On the one hand, India has from the beginning been one of the five largest stock-holders of the Bank and has had a permanent seat among the Executive Directors. She has played a considerable part in formulating the Bank's policies and in guiding the conduct of the Bank's operations. On the other hand, the Bank has made eleven loans to India totalling over Rs. 150 crores from 1949 to date.

The hopes and preoccupations of Bretton Woods are reflected in the Bank's Articles of Agreement. India's problem is related to the second of the Bank's purposes—assistance to countries in need of long term capital for economic development. India is one of the chief beneficiaries of the World Bank. The first Indian application for loans was made by the Government for a number of projects in 1948. The Bank's mission, the largest so far sent to any country, came to India in 1949 and the first loan, first of its kind to an Asian country, was announced in 1949. The last of the loans then applied for was sanctioned only in 1952. This long interval between application and sanctioning, though not normal, still gives some idea of the "inevitable period of incubation of a loan application". Of these loans six were the

Government's own and five were to the private sector on Government guarantee.

The first loan to India was made in August 1949 for a sum of \$34 million, for a period of 18 years at 4 per cent interest, including the commission. This loan was made to finance equipment imports for the railway system which had deteriorated during the war, owing to heavy military use and lack of maintenance. At the request of the Government an unused balance of \$1.2 million was cancelled.

On 29th September 1949, the Bank sanctioned the second loan of \$10 million to India for the import of tractors and equipment to clear the weed-infested land of Central India. This loan was for a term of 7 years and carries an interest of $3\frac{1}{2}$ per cent. Great progress was made in ridding large areas of land from kans grass, with the help of this loan. It was estimated that by the end of 1955-56 ploughing season, a total of about $1\frac{1}{2}$ million acres would be reclaimed.

The third loan of the Bank was made on April 18, 1950 to the amount of \$18.5 million to finance part of the cost of the first stage of a long range scheme to develop the resources of the Damodar Valley. This loan was for a term of 20 years, at 4 per cent interest, amortization beginning in 1955. The loan was used to construct India's largest thermal power plant at Bokaro. This was put into commercial operation in 1953. It is being operated by the D.V.C., which is distributing the power to coal mines, steel works, various other industries and electrical utilities in the Damodar Valley.

In December 1952 a loan of \$31.5 million was granted to the I.I.S.Co. to finance imported equipment and services which the Company required to carry out a five year project to increase its annual productive capacity. This loan was for 25 years at $4\frac{3}{4}$ per cent interest.

In January 1953 another loan of \$19.5 million for 25 years at $4\frac{7}{8}$ per cent interest was granted for the further development of the key projects of the D.V.C. This loan was to help the financing of the construction of two storage dams, two hydro-electric plants and a barrage and irrigation system. This loan was subsequently scaled down by \$9 million.

In November 1954 a second loan to private companies for electric power development was granted. This loan of \$16.2 million for 20 years at $4\frac{3}{4}$ per cent interest is not yet effective.

In 1955 the Bank agreed to grant to the Industrial Credit and Investment Corporation a line of credit equivalent to \$10 million for a period of 15 years at an interest of $4\frac{5}{8}$ per cent, including the commission. The Corporation was to be an intermediary institution to provide foreign exchange for the development of private industries, but no occasion arose for making use of this facility.

During 1956, private loans to India accounted for \$95 million, to the I.I.S.Co. and T.I.S.Co. in various currencies, for financing the additional rolling capacity of the companies in order to enable them to increase their output of semi-finished and finished steel.

A significant instance of the Bank's participation with private investors is the recent loan of \$5.6 million to A.I.I. to meet the dollar costs involved in its purchase of three jet aircraft from Boeing Corporation. The Bank charges $5\frac{1}{2}$ per cent for the 9 year loan.

The Bank which has contributed \$126 million to our first Five Year Plan projects, has taken a sympathetic interest in the Second Plan. As a good augury, it is advancing \$90 million during the current year in various currencies; towards the foreign exchange needs of India's railway expansion programme under the Second Plan. The loan is for 15 years at $5\frac{5}{8}$ per cent interest. There is reason to hope that the Bank will continue assistance, at least on the current year's scale, for the remaining years of the Plan period.

The Bank will grant India a loan of \$9.8 million for the construction of a thermal power plant at Bombay. The Bank is also studying the possibility of granting India from \$15 to 20 million credit for the construction of a giant hydro-electric power station on the Koyna river and two other sums for the extension of existing electric power station at Durgapur.

The Bank's loans to India are conforming to a pattern, which has marked the Bank's operations in a large number of underdeveloped countries, in that the greater part of the loans are devoted to increasing the capacity of those basic services without which industrial expansion would be impossible. But it may be felt that the total quantum of accommodation sanctioned to India, and to underdeveloped countries in general, is not quite proportionate either to the size of the country or to the dimensions of its problems. India could, therefore, say that although the treat-

ment it has received from the Bank is not bad, it is certainly not too generous. It should, however, be always said that the "Bank has shown a genuine interest in our economic growth and plans for development. It has often gone out of its way to assist us". With an excellent debt record, India is considered to be "a risk worth taking".

Through its technical assistance and advisory services the Bank has had occasion to point out the role which private investment, foreign as well as domestic, can perform in the economy of our country and the conditions which appear necessary to attract private capital from abroad.

So far as the Bank's loans are concerned, India must expect the attachment of some 'strings', though these be no more than precautions to see that they are put to good use and not frittered away for lack of proper control or an excess of enthusiasm on the part of the spenders.

To find the rupee finance needed to service these debts will not be a great problem, for this can be found out of the increased production the projects will ensure. But the transfer problem is the intractable one to be faced in the context of persistent payments deficits. The solution of our balance of payments problem is the only way in which this difficulty may be overcome.

The Bank a Conservative Institution

To some critics the Bank seems to move with unwarrantable conservatism—"as limited in its operations as private investment" (FAO). The conservatism is real and unavoidable in the nature of the institution itself. The Bank has been bound to adopt this policy, for it has to raise a substantial portion of its finances from the hard faced investors of the world bourses. It must both be sound and be seen to be sound. Otherwise, the Bank's resources, instead of serving as a revolving fund, would become a dwindling source of subsidies or 'gift-loans'. The Bank must give due weight to political conditions in the borrowing country to the extent they might affect the financial and economic prospects of that country.

Suggestions are made to liberalize the lending policies, through altering the strict bankability criterion, the policy of lending for foreign costs of projects and reducing the cost of Bank loans to the borrower. A specific demand is also made to initiate a study

of the question of dispensing with or reducing the one per cent commission the Bank is required to charge during the first ten years of its working under its Articles of Agreement.

The Bank decides to finance a specific project on a broad basis of its contribution to the productivity of the economy, and not its profitability in isolation; it is prepared to support projects that would not be considered by private enterprise at all or that would not be considered in the prevailing atmosphere. In this, as well as in the matter of the so-called 'local currency expenditures' the Bank has gradually moved to a somewhat less conservative position. Allowing for these changes, however, a basic conservatism remains; and so long as the institution preserves the character of a bank, this is quite necessary. It is the general policy of the Bank not to finance the whole cost of any undertaking, because it believes that its borrower's best interests are served if they have a tangible financial stake in the preparation and execution of their investment projects.

The Bank is operating in a complicated and largely new field and in an economic environment which is constantly changing. This circumstance has required and will continue to require, that the Bank keep its policies flexible.

But the Bank cannot and should not be expected to provide the answer to all or even a major part of the world's ills. It is beyond both the purpose and the power of the Bank, for example, to cure the dollar shortage or to assure the maintenance of full employment throughout the world, or to satisfy short-term budgetary and balance of payments requirements. While the operations of the Bank do contribute in some measure to the solution of these general problems, the essential objective is narrower and more precise—its basic mission is to assist its member countries to raise production levels and living standards by helping to finance long-term productive projects, by providing technical advice and by stimulating international investment from other sources. That is a broad enough field of activity for all the resources, vigour and imagination which the Bank can possibly bring to bear.

Conclusion

The Bank has met with nearly unanimous approval, and there is wide agreement that the design for the Bank is an ingenious and intelligent one and that if circumstances are even moderately

favourable, it will have a very useful function to perform in stimulating the process of international long-term investment. Private capital movements need co-ordination and, in times of transition or depression, encouragement. The Bank is admirably suited to fulfil this double function of co-ordination and encouragement. The Bank has been more or less successful in progressing towards its aims and objectives, whereas the IMF has always been the limping one of the Bretton Woods twins.

The insistence of the Bank on careful schemes of national investment priorities, its emphasis on other than financial aspects of the economic problem, and its repeated warnings against extravagant expectations have formed a consistent rationale of economic development. Hence the significance of the Bank for the underdeveloped world transcends by far the magnitude of its loans.

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Discussion :

The 'specific project' principle of the Bank came up for criticism and the question was raised why the Bank could not give 'general development' loans to underdeveloped countries for economic development. While on the one hand it was pointed out that of late the Bank has, to some extent, relaxed the specific project principle as in the case of a loan to Italy, it was emphasised on the other hand that the Bank, being in turn responsible to its shareholders and bondholders, could not sacrifice commercial principles in its transaction. The elaborate surveys undertaken and the caution displayed by the Bank before a loan is advanced were inevitable in the very nature of the set-up of the Bank.

The rate of interest charged by the Bank on its loans was criticised as too high; but the reply was given that the rate charged by the Bank on its loans was very largely dictated by the prevailing market rates at which the Bank had to borrow by the issue of bonds.

The much publicised correspondence between the President of the World Bank and the Indian Finance Minister came up for comment and the issue was raised whether the Bank was com-

petent to criticise the socio-economic policies pursued by a country. One member said that as the Bank was committed to the encouragement of private international investment, it would be at times necessary for it to draw the attention of member-countries to certain aspects of their economic policies which might have a deterrent effect on such investment. Beyond that there was no attempt to dictate policies to member-countries.

The share of the underdeveloped countries in general and that of Asian countries in particular in the total aid provided by the Bank were also examined and figures were quoted for particular countries and regions. The significant role of the IBRD in promoting economic development received full recognition.

CRITERIA FOR SELECTING INDUSTRIES

By

M. H. GOPAL

The problem of economic expansion, common to all regions, becomes particularly important in less developed areas trying to catch up with advanced countries. A large part of economic development comprises the process of industrialisation, of which the growth of manufactures forms a dominant facet.

The Problem

In the build-up of manufacturing industries, crucial development decisions have to be faced and of them the important one is: How to make a rational selection of the types most effective in raising productivity and living levels? No doubt, in selecting suitable industries and ranking them in order of priority many forces operate, e.g. conscious decisions relating to a plan of development, haphazard political influences, impersonal market forces of demand and supply, and so on. In the midst of this multiplicity of forces, the social scientist should and can evolve a technique of analysis aiding, if not determining, such a selection.

In so fashioning the tools, certain assumptions become necessary, e.g. the technique should have largely in view new developing countries; areas are best served by industries raising the general standard of living, i.e. resulting in a larger national product, particularly for consumption; as resources should not be wasted at any stage of development, selected industries should be adapted to the resources; and the scarcer the means, the greater the need for economising them. It is in terms of these that should be developed the tools of analysis, which help to reduce mistakes, if not to avoid them totally.

Given the broad strategy of national development and the resources, the problem takes a two-fold aspect: (1) how to get a list of suitable manufacturing industries; and (2) how to rank them in priorities *vis-a-vis* their contribution to economic expansion. It is worth repetition that there is no general prescription regarding the 'right' industries and that every country is a special case in itself. But a general technique of choice to avoid wastes

and losses in the developing process and to aid faster progress can be evolved.

The Stages of the Technique

In such an evolution, two major stages may be distinguished — the 'exploratory' and the 'intensive testing' stages. The first stage comprises discarding *unsuitable* industries partly because of limited resources and partly because of their unsuitability. At this stage, we choose a limited number of 'probables', which are termed 'candidate industries' to be tested further and ranked with regard to their priority in adoption.

The Steps in the 'Exploratory' Stage

In this process of screening, certain steps will have to be taken and certain tests applied. *Analysis of demand* — actual and prospective — for manufactured goods in and outside the area may be considered the *first step*, because it is necessary in planning to figure out potential customers. May be, that market valuations do not always reflect 'true' values to the community, but they help considerably in avoiding misdirected effort. Many aspects have to be borne in mind in so analysing; for example, the size of the market and the scale of operation; buying power and the growth of manufactures, as the size of the market itself depends on the productivity of the economy. In estimating demand at the stage of selecting candidate industries, a detailed analysis is not necessary.

The technique useful at this stage of analysis of demand may be stated thus:—Analyse first domestic demand and next, the external one. The former is to be tackled in its two-fold aspects, namely, (1) *existing demand* comprising current purchases (e.g. the kinds, quantities, prices, etc. of goods); unsatisfied demand (e.g. goods having a market but unobtainable now); marketing facilities for manufactures (e.g. existing capabilities and limitations); competition; and so on. (2) *Potential demand*, e.g. likely future purchases, say, in the next decade or two through the device of projection; prospective marketing facilities, like godown, transport, etc.; competition; and so on. *External demand* should be assessed by studying the *present exports*, e.g. type, markets, quantities, market areas, facilities, political barriers like tariffs, international competition, etc.; as well as prospective demand, e.g. possible changes in export demand, new markets, changes in competition, trade treaties, etc.

The *second step* at the 'exploratory' stage is the analysis of resources useful in manufacturing and available locally or through import: e.g. human resources — labour, management and organisation; materials, fuel and power; facilities, equipment, capital and so forth. This necessitates an inventory of all types and can be conducted almost with any degree of comprehensiveness. In assessing the human resources, different skills and grades, normal rates of pay, general level of industriousness, etc., are important facets.

The *third step* is the matching of the market and resource requirements of each industry as against the availabilities in the area. Broadly speaking, the closer the matching between the area's demands and resources, the higher the selectivity of the 'candidate industry'. Matching has three aspects: The industry's output characteristics — its products, marketing requirements, scale of operations, etc. — should match the existing and potential demands. Secondly, the input characteristics — materials, equipment, power, personnel, etc. — should match the area's resources, present and prospective. A third aspect consists of key location factors in the industry, such as the orientation towards markets, raw materials, power, etc., so as to compare with the area to be developed.

The application of this tool involves a great deal of information regarding industries; and for practicability, it is advisable to gather information on one or two industries at a time from treatises and studies on manufacturing industries, industrial periodicals, trade associations and reports, etc.

The Ranking Technique

The preliminary screening over and the probables or 'candidate industries' selected, the next step is to rank them in order of priority. At this stage, a more intensive study is both necessary and possible because of the smaller range.

The guiding principle in ranking is the *principle of net return*, i.e. what the industry is expected to bring, directly or indirectly, into the *real* national product over and above the resources used. Any estimate of the net return is necessarily approximate, but a high degree of accuracy is not essential, since it is the comparative ranking that matters. The net return has two facets — the business enterprise and the national product points of view, i.e., how much is the net return to the enterprise *as such* and how much

of benefit, direct and indirect, to the economy as a whole, e.g. by creating conditions helping other industries to grow. There may even be some conflict between the two.

We start with the *business-enterprise facet*, and apply the routine businessman's methods of getting at the profits and losses; and then refine this first approximation by other tests. An estimate of a normal year's operation after the initial one or two years, and of the output in value, the manufacturing plan and a projection of the profit and loss statement are the necessary tools to get at the net return.

These findings on the direct output should now be modified from the *national product standpoint*, a number of tests applied and the candidate industry rated on each point and the average score struck. The first of such tests is that of integrated development, raising questions as below: (1) Is the industry a part of the larger constellation of development and if so, evaluate the whole group of interdependent industries as one 'candidate', e.g. Will it make it easier to establish others, has it any developmental leverage in building the personnel, providing incentive goods or market outlets, bringing out transport, power and other facilities, etc. The second is the *test of stability and growth*. For example, Is the industry open to undesirable seasonal swings in demand and employment? Does it neutralise the existing seasonal swings? Is it affected by international conditions, such as the embargo and the tariff, or by changes in technology, etc. Consider here the seasonal, cyclical and other influences affecting stability, the industry's flexibility in producing a wide range of products, its impact on buying power shifts, etc. Balance of payments form the third test, i.e. to what extent on net balance will the candidate industry affect the foreign exchange resources. Some of the factors to be considered are the addition made to these by the industry through the production of export goods helping export industries to expand, reducing imports through substitution of products of the candidate industry, etc.; and the extent the industry draws on these resources through the purchase abroad of capital equipment and raw materials, the diversion of resources from export industries, increased demand for imported consumer goods, etc. Next comes the *test of social desirability*, i. e., the value of the industry to the community — where the factory is situated and to the nation, e.g., its relation to a decentralised and regional balance; to building up a relatively neglected region, etc. Finally, we have

the test of experience and competition, i.e. the success of the industry in comparable regions elsewhere in terms of economic output, income levels, social progress, etc. Has the industry stood competition after a reasonable learning period? Precise information regarding such experience is difficult to get, but the investigator must study individual cases through information from business firms, Government agencies and so on.

Each of these ratings based on individual tests should now be combined to get at the overall advantage of each industry. While this requires a type of judgment not reducible to precise calculations, a form for tabulating and combining ratings has been suggested.

Rating of Candidate Industries

	Ranking on test of net return	Supplementary Tests Ranking						Final ranking
		I	II	III	IV	V	VI	
1. Industry	x	A	A	B	C	B	e	II
2. Industry	y	B	A	A	A	e	B	I
3. Industry	z	B	B	C	d	A	B	III
4. —								
5. —								

Key

A	Excellent
B	Very good
C	Good
d	Fair
e	Poor
f	Very poor

On the basis of ranking, industries may be grouped under most promising ones suitable for immediate development, those likely to be developed after other developments have taken place and those relatively unpromising.

Note. The foregoing note is based upon the Manual cited below:

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4. Chenery, H. B. "The Application of Investment Criteria" (QJE, 1953).
5. *Basic Industrial Location Factors: A guide for evaluating an area's resources for industrial development* (U.S. Dept. of Commerce, 1947).
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Discussion

The paper met with an initial objection as to its claim to be a paper on Methodology. As the paper related to the criteria to be used in selecting industries for development and did not discuss the methodology involved in the application of these criteria, it was doubtful whether it could be considered a paper on Methodology. It was however maintained that as the paper discussed a technique of analysis aiding the desired selection of industries, it related to Methodology.

This led to a discussion on whether the criteria for selecting industries presented in the paper amounted to a technique, and serious doubts were expressed on it. It was wondered how the 'technique' could be applied if, in a particular situation, any two criteria conflicted with each other, or if two industries got the same rank under some criteria. Further, as the criteria related to intangibles like social desirability, to which quantitative values could not be given, the ranking technique was not a practicable one.

A comparison was sought to be made between the criteria adumbrated in the paper with the well-known location theory. But the comparison was turned down on the ground that they rested on different footings and aimed at different objectives. Further, these criteria were much broader in scope and had considerations with which the location theory was not concerned.

After a discussion of the relevance of particular criteria, the Seminar closed.

LABOUR PARTICIPATION IN MANAGEMENT

By

M. R. GANAPATI RAO

I

The problem of Labour Participation in Management has been more discussed than satisfactorily settled. The demand for such participation assumed a new significance with the achievement of Independence. Strained industrial relations and labour distress were so acute that unless effective measures were taken, production would have been paralysed. In this context, increased and closer association of labour with management appeared to be a sovereign remedy. Secondly, the national government was extremely sympathetic to labour. During the last decade, a shift in emphasis from mutual consultation between employers and the employed to co-partnership between them can be noticed. It has been emphatically declared on more than one occasion that labour participation in management is the *sine qua non* of industrial democracy.

The official recognition of this found expression in the Industrial Policy Statement of 1948. In order to "ensure the fullest co-operation between labour and management and the maintenance of stable and friendly industrial relations between them", the Government promised to "take steps to associate labour in all matters concerning industrial production". The First Five Year Plan endorsed this (p. 573). But in the new Industrial Policy Resolution of 1956, government approach to this problem has been more direct and emphatic. "In a socialist democracy, labour is a partner in the common task of development and should participate in it with enthusiasm.... There should be joint consultation and workers and technicians should, wherever possible, be associated progressively in management".

The Second Five Year Plan has explained the gains of such participation. That would:

- (a) promote increased production for the general benefit of the enterprise, the employees and the community;

- (b) give employees a better understanding of their role in the working of industry and of the process of production; and
- (c) satisfy the workers' urge for self-expression, thus leading to industrial peace, better relations and increased co-operation. (P. 577.)

II

Should labour participate at all in management? Formidable objections are raised against any such proposal. Some of them come from labour itself and others from the side of management. The important weapon of labour is to bargain collectively with the employers. If labour is associated with management, then this collective bargaining capacity will be affected.

This view should be considered carefully. The function of management is to take decisions on policy matters—What and how much of it to produce, what labour to employ, how to distribute the disposable surpluses of profits, etc. On these matters, it cannot always be maintained that decisions will be taken by a single individual. They are the result of consultation with other parties also. Then why not take labour also into confidence?

On the other hand, labour *qua* labour will have many pressing claims. Not infrequently, the demands are pressed irrespective of the ability of management to comply with them. This is made possible by the weapon of collective bargaining. If labour shares management functions, its tone will have to come down, as participation entails responsibility.

To facilitate participation, labour representatives will have to be chosen. The methods of selection and election are both subject to objections. If selected, labour may feel that its representatives are being bought by management. In election, there is the danger of bad blood being created. It may be that unscrupulous persons may work hand in glove with dishonest management. Much force of this argument depends upon how the representatives are picked up and in what way they conduct themselves. The Study Group observed: "We are starting in a new field and in the beginning at any rate, it would be advisable to devise some methods for closely associating the trade unions in the selection of worker representatives".

It is common knowledge that in business no one has the power of 'golden touch' on all matters. Therefore, it is a matter for consideration how far labour is willing to hold itself responsible for the possible faults of managements.

From the side of management, it is argued that labour as a general rule comprises heterogenous elements and there is often the possibility of splits. The vast majority of them is uninitiated into the arts of management. Divided counsels may ruin the undertaking. But in our country, training for management is as necessary as labour education.

III

The form in which labour can fruitfully collaborate with management can be studied under two heads: *Joint Consultation* and *Co-partnership*. Joint consultation may be at the level of the unit, the entire plant, the industry and the nation.

A. (a) In order that the flow of production will be continuous, questions arising in the process should be satisfactorily settled without loss of time. The starting point then is the *departmental works committee*. The Industrial Disputes Act (1947) provides for the constitution of such committees in industrial undertakings employing 100 or more workmen, consisting of an equal number of workers' and employers' representatives. The former are to be chosen from among the workmen and in consultation with the Union. The works committees should try to remove causes of friction in the day to day working of the establishment and promote amicable and good relations between the employer and the employees. They should also aim at making resort to arbitration less frequent as industrial peace based on voluntary agreement is most enduring. The Labour Appellate Tribunal ruled that "there is no subject concerning the relations between employers and employees which the works committee is precluded from considering."

But experience has shown that the works committees have not been very successful in India. When employers are hostile, they are mere "talking shops" and when they fail to distinguish between collective bargaining subjects and others, they become the rivals of unions. More often, they are just "grievances committees".

However, there is no cause for despair. As they are the starting point, they should be resuscitated. By setting up healthy conventions and confining themselves to topics which do not conflict with the union, the works committees can form the bed rock on which stable industrial relations can be built.

(b) *Works Councils* may be set up to facilitate joint consultations at the level of the whole plant. The workers' representatives should be selected from the works committees, as they will have considerable experience and will be more amenable to reason than those coming direct. Responsibility of labour alike that of management will be greater. Dispassionate examination of the issues by labour and readiness of management to take labour into confidence will go a long way in ensuring success. The employers have to be more communicative in all the stages of information, explanation and consultation. To help consideration of technical problems, representatives of technicians and administration should also be associated with the works council.

The decisions of the works councils should carry great weight with the Board of Directors. The councils may be given certain executive responsibilities also, e.g., canteens, safety, social functions and welfare activities, so that they can interest themselves in their work. Trade union matters should be carefully avoided.

(c) Regarding participation at the top level of management, viz., the Board of Directors, there are conflicting views and exorbitant claims. The Second Five Year Plan has suggested the formation of *Joint Councils of Management* consisting of representatives of management, technicians and workers. But in view of the fact that labour leaders of high calibre are less abundant, the approach should be cautious. Even the British Trade Union Congress has expressed itself against any such direct participation. Complications are sure to follow, e.g., the dual responsibility of worker representatives. The *Eastern Economist* argues that "even in advanced countries, workers have not shown keen interest in the business and economic aspects of enterprise; but indifference or lack of interest may be a lesser evil than a positive role of irresponsibility which is possible when union leadership is sharply divided according to their respective political affiliations."

However, it would be unwise to exaggerate the initial difficulties. An experiment should be made and any further step will have to be in the light of experience gained. The Study Group

has wisely suggested that "if an industry has been able to build up, over the years, a solid tradition of settlement of differences by agreement, no harm will result from worker representative sitting on the Board of Directors and there may in practice be some emollient effect." To be successful, collective bargaining matters should be avoided.

(d) At the national level is the *Joint Consultative Board of Industry and Labour*. When labour participation in industry becomes effective and fruitful, this can be made a permanent whole-time body, affording labour an opportunity to participate at the highest level.

B. (a) Among the several forms of co-partnership, *profit-sharing* and *employee-shareholdings* have been suggested. Profit-sharing should be distinguished from bonus. The latter is an *ex gratia* cash payment by an employer to his workmen when he is left with surplus profits after meeting all the expenditure items. Profit-sharing, on the other hand, refers to "an agreement freely entered into, by which the employees receive a share, fixed in advance, of the profits". Such agreements cover those which are legally binding and those in which there is only moral obligation. The two features are thus that the principles of sharing are agreed upon in advance and labour's share is directly related to profits.

To determine the share of labour in profits, the return on capital also should be worked out. In India the Expert Committee on Profit Sharing (1948) recommended that 10 % of the net profits, i.e. gross profits minus depreciation, managing agency commission and taxation, should be compulsorily set aside for reserves. 6 % of the paid-up capital plus all reserves held for the purpose of the business would be a fair return on capital. Then, 50 % of the surplus profits was to be distributed to workers in proportion to their earnings during the preceding 12 months. The remaining 50 % may be utilised to augment the dividend.

The Committee suggested that the scheme should be tried for a period of five years in six well-established industries, viz., cotton textiles, jute, steel (main producer), cement, manufacture of tyres and cigarettes. It also recommended that normally, profit sharing should be unit-wise but in certain cases it may be on an industry-cum-locality basis.

Profit sharing is not free from criticism. Can labour claim a share in profits which are a reward for functions of management?

The defects of the system are the remoteness of the award and the many complexities that arise in devising a scheme of distribution. The employers have argued that those who demand a share in profits should be ready to share the losses as well. Further, should the scheme be implemented unit-wise, industry-wise or region-wise? Difficulties arise in finding out a compromise formula. Therefore, alternatives are offered, e.g., higher wages, incentive wage-payments, welfare work and creation of social amenities. In the case of the first alternative, the difficulty is that once the wage level is fixed, it cannot be easily changed often.

(b) The *Commerce* (1955) recommended the adoption by the leading employers in the private sector of the system of employee share-holdings on the British model. This was to be implemented in one of the three ways:

- (i) Participation in equity capital by giving part of the rights issue to workers.
- (ii) By the creation of a special class of workers shares.
- (iii) The purchase of existing ordinary shares at the market price through the stock-exchange and their distribution to workers.

In the last case, a special fund was to be created to meet brokerage and other charges. Artificial inflating of share values could be prevented by judicial purchase of the shares over a year. In all the cases, however, the cost of the shares should be recovered from the workers themselves — from bonuses or from savings.

The scheme was said to be an effective antidote to the cry for nationalisation and the demand for restrictions on dividend from workers' representatives. It would promote friendly industrial relations. Further, "centralisation of power and responsibility is an inherent evil of large scale industrial organisation." (Dr. B. N. Ganguli).

The defect of the scheme is that the initiative should come from the employers. It is doubtful whether workers would be willing to pay for shares out of their earnings, living as they are in poverty. In the circumstances, to dwell on the merits of the scheme is to count the chick before they hatch.

IV

The question remains — should any participation of labour in management be legislated? In our country, despite legislation, the

works committees have not been very successful. But this is mainly because law can provide the framework, while the spirit should come from within the industry. There is also the danger of inaction in the absence of legislation. In this respect, the Study Group recommends that "it would be helpful to have some permissive legislation to provide the framework, the rules of the game, so to speak." More than legislation, the public sector should show a model.

SUGGESTED READINGS

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Discussion

At the outset, the very purpose of labour participation in management was taken up for consideration. It was suggested that the purpose could be either the avoidance of conflict in industry or the promotion of increased productivity. It was also suggested in a subtle way that the aim of the scheme was to ensure the very continuance of private enterprise as, in the absence of labour contentment and co-operation, the State might consider nationalization the way out of difficulties.

On the rationale of the scheme a fundamental objection was raised on the ground that it violated the basic principles on which the institution of Capitalism stood. The role of labour in the production process should not be thought of in terms of equal participation with management, as labour as a mere factor of production had no stake in the enterprise. To share the authority without a share in the responsibility and a stake in the enterprise was not a sound idea. The wheels of capitalist enterprise would refuse to move if labour was associated with management in this manner. Countering these arguments, it was, however, pointed out that

capitalist enterprise should not be thought of as an inflexible structure, but, on the other hand, should get itself re-oriented to the changing times. Examples were also cited of the successful working of the scheme in other democratic countries.

As for the functions of the 'works-councils' in which labour and management were to be represented, it was laid down in the paper that collective bargaining matters should be excluded from their purview so as to avoid conflict. It was said, however, that as a large number of questions in which labour would be interested could be related to collective bargaining, the 'councils' would be left with minor matters and hence would hardly serve any purpose.

Some members felt that the very existence of the 'works-council' would serve as a forum for exchange of ideas and mutual conviction. Although it may not always bring about agreement, its absence would be definitely worse. Either party could always put across a proposed measure to the other party, sense its reactions and if possible adjust its policy suitably. Nothing would be lost, and something might be gained, by a discussion. This led to a discussion on whether 'consultation' would amount to 'participation'. The Government of India's Study Group had treated consultation as a form of participation, but this was objected to as basically wrong. The only real form of participation was co-partnership which, however, was impracticable under the circumstances.

Objections were also raised that labour was always shortsighted in its views and that management on its part would never take labour into confidence. It was replied that education of labour and management would bring about a change of outlook.

OUR BALANCE OF PAYMENTS PROBLEM

By

D. BRIGHT SINGH

India's balance of payments on current account showed a small surplus of Rs. 16.9 crores in 1955-56, the last year of the First Five Year Plan. But since the commencement of the Second Plan period, there has been a significant and persistent adverse trend. In the first quarter of the financial year 1956-57, the deficit in the balance of payments amounted to Rs. 44.5 crores; in the second quarter, it shot up to Rs. 81.8 crores; in the third and fourth quarters, it mounted to Rs. 84.8 crores and Rs. 81.8 crores respectively, thus adding up to an overall deficit of Rs. 292.5 crores for the first year of the Second Five Year Plan. The Second Five Year Plan envisaged a total balance of payments deficit of Rs. 148 crores on current account for 1956-57. But the actuals have turned out to be double the estimates. This unfavourable turn has been due to a marked increase in imports and a decline in exports. The value of imports went up from Rs. 176.0 crores in the first quarter of 1955-56 to Rs. 305.7 crores in the fourth quarter of 1956-57. The annual rate of imports for the year 1956-57 was well over Rs. 1000 crores. For the last two quarters it was Rs. 1200 crores. Simultaneously there has been a slight decline in exports. The value of exports in 1956-57 was Rs. 637.0 crores against Rs. 641.1 crores in the previous year.

This adverse trend in the balance of payments has seriously affected our foreign reserves position. In the financial year 1956-57 sterling assets of the Reserve Bank of India dropped by Rs 219 crores from Rs. 748 crores to Rs. 529 crores when account is taken of a net credit of Rs. 55 crores obtained from the I.M.F. Thus, even in the very first year of the Second Plan, withdrawal of sterling balances exceeded the total amount contemplated for the whole plan period. At this rate all the foreign exchange that has been set aside to cover the cost of capital goods for the Second Five Year Programme would have been spent with the programme barely out of its second year—as well as much of the foreign exchange that is kept back as a basic currency reserve. During the week ended August 2, 1957, it was necessary for the

Reserve Bank of India to effect a decline in foreign securities in the Issue Department to below Rs. 400 crores which is the prescribed legal minimum. In the next week it was clear that the Central Government would be obliged to continue to draw on foreign balances until the level of Rs. 300 crores was reached, as, in spite of the drastic restrictions, imports were coming at a fast rate. Since then government have permitted the Bank in terms of Section 37 of the Reserve Bank of India Act to reduce the foreign securities holding from the requisite Rs. 400 crores to Rs. 300 crores. There has also been a move at present for the amendment of the Reserve Bank Act so as to reduce the legal minimum even below Rs. 300 crores. This would be a compromise between suggestions that the reserve should be kept at Rs. 400 crores level and that the statutory need for foreign exchange currency reserve should be abolished.

Foreign exchange in fact constitutes a very important scarce factor in underdeveloped countries in their early stages of development. Pressure on foreign exchange arises because of the following factors : (1) These countries have to import capital goods from advanced countries for their development; (2) the operation of an industry started with foreign capital equipment may necessitate the importation of foreign resources annually. This constitutes an additional recurring demand on the foreign exchange resources. (3) Besides, an indirect effect on foreign exchange is caused by the rise in the level of income and employment resulting from higher rates of investment. There is consequently greater demand for consumption goods produced at home and/or abroad. Rise in money incomes and in the level of prices caused by higher levels of investment brings about a transfer of incomes to profit earners whose propensity to consume luxury imports is high. (4) Simultaneously, greater consumption of domestic goods and raw materials which could have been exported affects the foreign exchange earnings of the country. (5) Additional foreign exchange is also required in the course of development for servicing foreign debts, if the country borrows abroad for financing a part of its development programme; or to the extent that equity capital is brought in, foreign exchange will be needed when dividends and profits are to be remitted. (6) Lastly, if the economy of an underdeveloped country is dominated by export oriented industries, it is liable to be influenced by cyclical fluctuations occurring elsewhere which cause a strain on the country's foreign exchange resources.

The relative significance of these factors can be illustrated by recent trends in India. The value of imports in 1956-57 (Rs. 1077 crores) exceeds the previous year's imports (Rs. 751 crores) by Rs. 326 crores and the average imports envisaged in the Second Plan (Rs. 868 crores) by Rs. 209 crores. Among the imports, as may be expected, the rise under capital goods, machinery, vehicles, iron and steel and other metals has been significant. The value of these imports in 1956-57 was Rs. 442 crores against Rs. 299 crores in 1955-56 and exceeded the Plan average by Rs. 12 crores. There has been a notable increase under food and some manufactured consumption goods. Imports of chemicals, drugs and medicines accounted for Rs. 43 crores, paper, pasteboard and stationery Rs. 15 crores, cutlery, hardware, electrical goods and apparatus Rs. 53 crores. These figures exceeded the estimated average annual figures for the Second Plan period by Rs. 11 crores, Rs. 4 crores and Rs. 24 crores respectively. Thus, while the expenditure on imports of machinery, iron and steel and other materials are somewhat in excess of the Second Plan estimates, payments for the imports of food and manufactured articles which can be used both for consumption and production are substantially larger than the allocation made in the Plan. It is clear "that the estimated allowance for imports of capital goods in the Second Plan was not adequate taking into account the magnitude and the investment pattern of the Plan" (*Reserve Bank Bulletin*, July 1957, p. 643).

On the export side, the value of raw materials and articles wholly unmanufactured declined from Rs. 202·8 crores in 1955-56 to Rs. 167·0 crores in 1956-57, while articles wholly or mainly manufactured show a slight decrease of Rs. 1·5 crores. Under this head the substantial decline in the export of cotton manufactures by Rs. 6·1 crores should be explained largely by greater consumption at home and increasing competition in the foreign markets. The decline in the volume index of export of raw materials from 123 in 1955-56 to 77 in April-December 1956-57 (Base 1952-53=100) against a rise in the price index from 90 to 105 would indicate that the fall in exports of these articles was more serious than what the value figures would indicate. It also shows that while industrial development in the country would have absorbed a good proportion of the usual exports, the decline in exports should have to be attributed partly to loss of foreign markets because of the cost factor. To the extent that exports have fallen in consequence of a rise in prices, it constitutes quite a serious problem from the point of view of balance of payments.

In the light of the factors mentioned earlier which account for balance of payments difficulties in a growing economy, the recent up-trend in the import of capital goods and consumption goods in India and the fall in the exports of raw materials should not be surprising. These could be anticipated and were actually anticipated by the government and the Planning authorities. But there is no denying the fact that the size of the gap, as it has actually occurred, is very much greater than what the government contemplated. Nor should it be forgotten that the gravity of the problem to a large extent consists in the suddenness with which it has manifested itself.

To some extent the increase in imports can be explained by inventory build up or increased defence needs. It is also possible to explain the suddenness of the problem by saying that the Suez crisis tilted the calculations of the authorities or that they had to wait for some time before they could pronounce definitely that the adverse drift in our balance of payments was not of a passing nature. It is also a fact that the imports ordered for at the close of the First Plan started coming in only after the commencement of the Second Plan. But these facts by themselves cannot extenuate the gravity of the mistake of underestimation or exonerate the government from its responsibility.

Since foreign exchange is an important scarce factor, the formulation of any development programme should require a proper budgeting of foreign exchange. This must involve (a) forecasting of the supply of foreign exchange over the future, (b) forecasting the demand for foreign exchange by estimating direct and indirect requirements and (c) proper phasing of the capital investments by adjusting development programmes in such a manner as would fit in with the availability of foreign exchange. Successful utilization of foreign exchange depends on the correctness of these estimates. It is hard to say whether the degree of correctness of these estimates in India is as high as one would wish it to be. But that the estimates of demand are not satisfactory is indicated by what the Secretariat of the Economic Commission for Asia and the Far East have to say on the matter. "For machinery, metals and vehicles imports have been posited at an annual rate of around 233% of the value of imports in 1953-54; this was however simply on the basis of the size of the investment expenditure on industry, transport and communications and was not based on a calculation of the

actual requirements of foreign exchange for the various projects to be included in the Second Plan" (*Economic Bulletin for Asia and the Far East*, November 1955, p. 52 n).

Measures recently taken by the government to ease the situation, such as severe restrictions of imports, curtailment of domestic consumption, production and export incentives and the lowering of the minimum foreign reserve requirements are nothing more than short term palliatives. The major question is whether the economy is capable of bearing the large investments involving heavy foreign exchange requirements as mentioned in the Second Plan. The cost of the projects with significant foreign exchange expenditure in the Second Plan is estimated at Rs. 2664 crores against Rs. 818 crores in the First Plan. The foreign exchange requirements for the Second Plan have now been estimated at Rs. 1200 crores, which is likely to be exceeded if the total investment is actually going to be of the order envisaged. Possibilities of raising any loan in the equity markets of Europe or America are also limited. Foreign exchange problem thus threatens to be not a temporary phenomenon but a more or less recurring feature.

In the ultimate analysis, the external equilibrium of an economy depends on its internal equilibrium. The balance on current account in the balance of payments of a country is intimately and directly related to the level of its domestic expenditure and its distribution between consumption and investment. This is brought out in the following identity :

$Y = C + I + (X - M)$	Y — Income
$Y = S + C$	C — Consumption
$\therefore S = I + (X - M)$	I — Investment
$\therefore S - I = X - M$	X — Exports
If $S < I$ then $X < M$	M — Imports
	S — Savings

In other words, excess of investment over savings signifies an imbalance in domestic economy and is reflected in inflation at home, in balance of payments deficit or in both. It thus follows that in order to have equilibrium in the external balance of payments, there should be internal equilibrium. Excess spendings on investment and consumption is possible so long as there are reserves or other means of financing it, e.g. deficit financing. If disequilibrium is of such a fundamental nature, it cannot be re-

moved by measures such as restriction of imports. If there is full employment in the economy and spendings are higher than income, restriction of imports would only increase the pressure of demand for import substitutes and thereby weaken the country's capacity to export. To the extent that there are unemployed resources, excess expenditure would only draw into service these idle resources and thus lead to increased production and not to inflation. But from the point of view of inflationary potentialities, a situation similar to full employment exists in our country. So long as factors like immobility of labour, lack of technically skilled labour and inadequacy of capital exist, excess spendings would lead more to a rise in money incomes and prices than to increased production. If it is so, the effect of such expenditure on the balance of payments position cannot be anything but adverse.

Logically, the proper solution of the problem consists in either increasing domestic savings or reducing expenditure or in a combination of both. Usually when excess spendings for investment are deficit financed, there is a tendency for prices to rise and incomes to shift, which result in forced savings in the economy. However, beyond a point inflation ceases to be effective as an instrument of forced saving. The more effective means would be to force down the level of consumption and extract compulsory savings through fiscal measures. But such measures cannot work satisfactorily in an underdeveloped economy where tax administration is not quite efficient. At any rate, in India where the level of consumption is already low, the possibility of further pressing it down is very limited, especially if the social aspect of such a policy is also to be taken into consideration.

We have therefore to examine seriously whether the investment outlay as at present envisaged is beyond the capacity of the economy to digest. External capital is not available to the extent required. If it is not of the nature of grants, but of loans, it is necessary that their supply should be steady and prolonged over quite a good number of years if they are really to serve their purpose. This points to the need for toning down the level of development expenditure in the country. As it is, it appears that there is an effort to force the pace of economic progress in the country without taking into consideration the realities of the situation.

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Discussion

The analysis of the problems and the conclusion linking the foreign exchange problem with the disequilibrium inside the economy met with appreciation. However, it was pointed out that the rate of investment necessary was related to the basic question of economic growth. The process of economic growth, it was said, consisted of three stages, the pre-condition stage, the take-off stage and the stage of self-sustained growth, and planning was resorted to as a means of deliberately accelerating the rate of growth. The planning of investment should be done in such a manner that the economy was steadily and speedily lifted from one stage to the next. The take-off stage, in particular, called for a big effort on the part of the economy and might create problems like inflation and balance of payments difficulties. The planning authority had to deliberately design development and in doing so foreign exchange was a limiting factor. In the estimation of foreign exchange availability and requirements, various intangibles entered, such as the income-elasticity of the domestic demand for foreign goods, the nature of foreign demand for domestic products,

the suitable rate of expenditure which in turn depended on the rate of capital formation, and lastly various non-economic factors. In the face of these intangibles accurate forecast was not possible. The discrepancy between estimates and actuals was not therefore totally surprising.

It was suggested that stringent price controls would curb inflation and promote export. A dissenting voice however feared that stringent controls would lead to totalitarianism.

Another suggestion was that, instead of reducing the rate of investment, a reallocation of resources among the various sectors would be better. The reallocation should be done in such a manner that sectors which were immediately productive were given preference to those that were not. The diversion of emphasis from the capital goods industries to consumer goods industries, from the village and small scale industries to the mechanised industries using advanced techniques were suggested. These would reduce the draft on foreign exchange resources, increase production in the country and thus counter inflation, promote exports by reducing cost of production and, by accelerating savings, enable a larger investment later. Mere reduction of investment, as suggested in the paper, would be defeatist in approach and by retarding the rate of growth, would be detrimental in effect.

NATIONALISATION OF INSURANCE

By

V. SREERAMACHANDRAMOORTHY

The Government of India took a surprising decision to nationalise all Life Insurance business in India on January 19, 1956. The decision was surprising in the sense that Insurance business transacted during 1954 and 1955 were the highest ever recorded and the insurers have a very creditable record to show. This record has been established unlike in the case of many other industries without much aid from the State.

The two main objectives of nationalisation of life insurance set out by the Finance Minister in his broadcast speech were: (1) the effective mobilisation of the peoples' savings and (2) safeguarding of the funds of the policy holders, in other words, to prevent malpractices in insurance companies.

On the question of the efficiency of private insurance to mobilise the savings of the community, the statistics of new business effected year after year in the last decade speak well of the energetic attempt made to expand business and help mobilise savings. The amount of new life insurance business done increased from Rs. 136 crores in 1945 to Rs. 238 crores in 1955 and total business in force has increased from Rs. 557 crores in 1945 to Rs. 1123 crores in 1955. This compares very favourably with the rate of progress in advanced countries and the rise in business of postal insurance managed by Government. In spite of all the facilities that are available to the postal insurance, there is not much progress in its insurance business. The total business done by it increased from Rs. 19 crores in 1946 to Rs. 23 crores in 1952. The postal premium rates have been considerably below the commercial rates and the payments were facilitated by the stoppage at the source. Further, since Independence employment under Government and expenditure on salaries have increased enormously. Only about 5 per cent of all the eligible categories of people have made use of this facility. This clearly indicates that private companies have attracted a large proportion of the business from this class more effectively than the Government could,

in spite of its low premia. The reasons are obvious. The qualities that are needed for success in insurance are promptness, flexibility, and that indefinable factor, the "personal touch". A State-run insurance department, with all its red tape can hardly be expected to possess these qualities. This can be well appreciated if only one considers the great delay a person has to encounter in case of settlement of pensions, income-tax refunds, etc. If the Government delays the settlements of the claims of men who are alive, is there any guarantee that the settlement of claims arising from death would be any more prompt? So all these hurdles have to be crossed if nationalised insurance can help in the effective mobilisation of peoples' savings. Further, there are so many other organisations of the State which have been established to mobilise peoples' savings in a more effective way. There are various small savings schemes, provident fund schemes, etc. The Government could have paid more attention to those schemes and mobilised more savings than stepping into an industry which has all along been running well. There is a charge that insurance is relatively underdeveloped in the sense that per capita insurance is low, as compared with that in Western countries and the premium income forms a small proportion of total national income and that not all potential subscribers have been covered. Insurance habit has yet to spread in rural areas. But this is a charge which holds good of almost every other social and economic factor in this country. For example, the number of literate population, the number of hospitals and doctors, etc. There is no reason to believe that nationalised insurance can develop the insurance habit more effectively than the private insurers. Insurance is no exception to the general backwardness of the country. Increase in insurance can only come through improvement in living standards and educational level.

The second reason given for nationalisation of insurance is that there is gross mismanagement by the owners of the insurance companies and that they resorted to many malpractices. It is stated in the Bill to nationalise Life Insurance that 'it has been observed that with a few exceptions the Indian Life Insurers are virtually controlled by individuals who are prone to utilise the funds of these companies to subsidise or prop up their investments in other ventures to the detriment of the industry and the policy holder who is its backbone'. The extent to which this abuse has been prevalent has been very much exaggerated. The passing of Insurance Amendment Act in 1950 gave Government wide powers

to check such abuses, but only 7 insurance companies were under the charge of Administrators in 1954, of which only two were big. Of course, a few companies went into liquidation causing loss to some policy holders. Such failures and abuses were exceptions to the rule and they cannot prove a charge of general inefficiency any more than inefficiency of individual departments of government, of which there is no dearth, would prove the inefficiency of the public sector in general. Even if there are any abuses they constitute no case for nationalisation, as they can be rectified by other measures, such as more rigorous control than by nationalisation. The charge of misinvestments of controlled funds of insurers have been exaggerated.

Insurance companies have been restricted by law to keep a large proportion of their controlled funds in government securities. They have kept more than the required amount in the form of government and semi-government securities. According to the figures given in the Indian Insurance Year Book 1956, the insurers..., investment in government and semi-government securities constituted about 52.5 per cent of the total assets, while those in debentures, preference shares and ordinary shares work out to 16.2 per cent. The rest of the assets is held mainly in the form of mortgages on property, loans on policies, land and house property, agents balances, and deposits. Thus the possibility of misinvestment is not much. Further, it can be seen from this that the possibility of the government getting more resources by nationalisation is also very much limited, as most of the funds of insurance companies are kept in the form of government securities and government can use them. The additional resources which it may be able to get is not much unless there is a rapid expansion in the business. The government could have got those additional resources even without nationalisation had they passed a law ordering the insurance companies to keep a greater portion of their assets in the form of Government securities. So far as the public sector is concerned, the additional resources may be considered marginal. Assuming that in the next 5 years the diversion is of the order of Rs. 5 to 10 crores per year, the figure over the Second Five Year Plan would be less than one per cent of the total expenditure in the public sector. On the other hand, in regard to the private sector the position is by no means happy. For one thing, the private sector in organised industry is much smaller and has an onerous task in the raising of something like Rs. 300 to 400 crores of fresh capital beyond its reserves in order

to finance development in the Second Five Year Plan. A diversion of Rs. 5 to 10 crores per year, particularly if it falls on particular commercial houses which have their own insurance companies, is bound to have an injurious effect on the financing capacity of their houses. Further, the rate of return in the investments in the public sector is very low when compared with the private sector and if increasing resources are diverted to public sector it would in effect amount to a tax on the community for the benefit of those working in the public enterprises.

The working of the Life Insurance Corporation also proves the above statements. Life insurance business in 1956 stood low at Rs. 200 crores in contrast with the business of the order of Rs. 236 crores in 1954 and Rs. 238 crores in 1955. Even if full allowance is made for the operation of the special factors which helped the insurance business to rise very much in those two years, the conclusion remains unaltered that the business in 1956 did record a significant fall. Another interesting fact is that during January-August, 1956, when after nationalisation life business was managed by erstwhile insurance companies functioning under custodians as separate units, a business of Rs. 145.61 crores was completed. This was in excess of the business done during the same period of 1955. This clearly shows that the conditions were favourable in 1956 also. The fall in business after the formal establishment of Life Insurance Corporation of India clearly shows the pitfalls of nationalisation. There was dislocation which followed movements of staff and there were disputes regarding pay scales. All this could have been avoided had there been no nationalisation. Events in 1957 also indicate that there is further decline in the business during the first 6 months for which figures are available. The new business completed between January 1957 and June 30, 1957 amounted to Rs. 75 crores. The figures for the corresponding period in 1956 and 1955 are Rs. 95 crores and Rs. 78 crores respectively. Thus it can be seen that the smooth working of the insurance business has been very much affected by nationalisation. Unless some drastic measures and very energetic action is taken by those in charge of nationalised insurance, the future of insurance is not very bright.

On the other hand, the working of the nationalised insurance in other countries is far from happy. In Poland premium rates had to be increased considerably after nationalisation. In France where a number of companies over a certain size were nationaliz-

ed, the results obtained have been unsatisfactory in comparison with those of the companies that are still under private hands. It was found out that new business was growing faster in privately owned companies, while the expenses of management of nationalised companies were rising more rapidly. In the U.K. after 64 years of operation, postal Life Assurance was closed in 1928. The same has been the fate of the State Life Assurance Department in New Zealand which was closed after operating for 50 years. All these considerations led the British Labour Party to abandon its proposal of nationalisation of Industrial Assurance which formed part of its election programme of 1949.

All these clearly indicate that the government is led away more on ideological grounds than economic grounds. The nationalisation of insurance has done irreparable damage to the country. On the one hand, it has dried up a valuable source of foreign exchange, a source of invisible income from the business transacted by Indian insurers in foreign countries. With the headway which India is making in international councils, life insurance in the private sector would have been a valuable means of expanding invisible exports. On the other hand, State ownership of life insurance has added to the impediments in the way of foreign private investment. It has caused a lot of disturbance to the confidence of private foreign investors to invest in this country. On the whole, the country has lost more than gained by the nationalisation of insurance.

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Discussion

At the outset the question was raised whether life insurance was an essential service. Diverse opinions were expressed, but it was strongly maintained that in a Welfare State Life Insurance was to be considered an essential social service. It was held that in the context of planning for a socialist pattern of society, the adequate provision of this essential social service received top priority. The attitude of the Government of India to this ques-

tion was considered, and it was said that in the event of private enterprise failing to provide this service in a satisfactory manner, the Government would feel compelled to take it over. The question was whether private enterprise had done the job satisfactorily, and on this there was acute difference of opinion.

While on the one hand it was contended that under private enterprise the total business in force had recorded phenomenal expansion in the post-war period, it was pointed out that the new business transacted annually did not record any significant increase. When the big increases witnessed in 1954 and 1955 were cited as evidence of expansion, it was replied that these were due to specially favourable factors in operation during those two years.

Various malpractices were alleged to have been indulged in by the insurance companies which justified the Government taking them over. It was said that these were grossly exaggerated, and that the few companies that were at fault could have been dealt with individually. But then it was argued that malpractices were fairly general and the large number of companies that had either failed or had transferred their assets bore testimony to this. Some members suggested that malpractices could have been checked by stricter State control rather than by wholesale nationalization. To this the reply was given that controls had proved ineffective in spite of a number of tightening amendments to the Insurance Act. One member wondered how a Government that had failed in enforcing control could succeed in administering the business!

The high expense ratio of the Indian life insurance companies came in for criticism. The explanation for this, according to some, lay in the narrow national coverage of insurance and the low level of the average sum insured; according to others, the explanation was to be found largely in extravagance of management.

The high lapse ratio was also discussed and it was said that this was due to the unhealthy competition among the companies.

It was suggested that nationalization could improve the life insurance business in several ways, such as expansion of business into rural areas and among low-income groups, reduction of expenses, and elimination of malpractices. As regards investment, it was said that nationalization would enable the Government to distribute the investments in conformity with the pattern of development envisaged in the Plan.

GAUGING OPINIONS AND ATTITUDES

By

M. H. GOPAL

What is it?

Since the 'thirties, public opinion research has become a discipline of its own, although a sort of mystery still hangs around it. This development is largely due to improvements in the sampling and interviewing techniques. As, however, the field is still in its infancy, many steps forward are necessary for a more complete understanding of public opinion and of the forces that bring it into being.

Public opinion research attempts to evolve a device for predicting the behaviour of human beings. By carrying out a random sample survey from time to time of the opinion of a cross section of the community, it assesses shifts in public opinion and enables popular participation in policy making. Such research is widely applied in many fields — political, economic and social — of which the American Gallup polls forecasting election results are best known. Their accuracy is amazing and is continuously improving:

U. S. Elections Nov. 1954. Gallup Election (Votes cast)			Gallup forecast of voting results	
				(Margin or error)
<i>Nationwide</i>			1936 Correct	6.8%
Democrats	51.5%	52.7%	1946 Correct	3.7%
Republicans	48.5%	47.3%	1954 Correct	1.2%
<i>Outside South</i>			Average error for	
Democrats	48.5%	49.5%	11 forecasts	3.3%
Republicans	51.5%	50.5%		

U. K. Elections, May 1955

	Gallup (Votes cast)	Election
Conservatives	.. 50%	49.8%
Labour	.. 48%	46.4%
Liberals	.. 1.5%	2.7%
Others	.. 0.6%	1.1%

Opinion research institutions

Special institutions for conducting public opinion research have grown up, particularly in U.S.A.

	No. of institutions
U. S. A.	.. 17
U. K.	.. 4
Germany	.. 4
India	.. 1

Of these, the American Institute of Public Opinion (AIPO) started by George Gallup in 1935 is best known. With over 1000 interviewers, it tries to measure opinion on issues of the day, e.g. social security, agricultural policy, taxation and so on. The British Institute of Public Opinion is interested in forecasting the trend and extent of consumers' demand. The Netherland's Institute founded in 1945 has been developing new approaches in opinion research, e.g. non-verbal questionnaire technique employing a picture of five white and five black squares, opinion being indicated by one of them so as to bring out the intensity of feeling on the positive or the negative side.

In India, such research is of very recent origin. The earliest was an enquiry by the Indian Statistical Institute into radio programme preference. Some notable work was done by the I.S.I. for the N.S.S. The first and perhaps the only specialist organisation is the Indian Institute of Public Opinion, founded in 1955. In 1956, it enquired into attitudes towards Socialist Pattern, prohibition and so on; and in 1957 into the General Elections, interviewing 3,000 all over the country, selected with the aid of random numbers and approached with a carefully drafted questionnaire.

Gauging Problems and Technique

The problems connected with gauging public opinion are at four different stages: (1) Setting the issues, (2) Sampling, (3) Interviewing, and (4) Getting at opinion determinants.

Setting the Issues

The initial step in applying the technique is presenting the issues to the respondent. In so presenting, the starting problem is *the meaning of questions*, i.e. the responsibility of slicing issues meaningfully and presenting them to people widely separated in background, experience, education and so on, in such a way that answers can be reliably interpreted. Where the meaning is obscure, the answers may not be consistent with observable facts.

Some difficulties are met with in formulating meaningful issues. The questions may be too *vague* to permit precise answers, e.g. "To make the Second Plan a success, do you think people will have to *work harder*, about the same or not so hard as before"? The words "people", "harder", and "as before" are imprecise. In a *Fortune* survey, where these words were used in a similar context, it was found that, to 50% of respondents 'people' meant everybody, to a third, a particular class and to a tenth, 'don't know'. Questions may also be *obscure* in meaning or may lead to some stereotype answer implicit in the question rather than at the meanings intended: e.g. in U.S.A. a question about Negro rights would be affected by general prejudice against Negroes.

Questions may be *misunderstood* because they involve technical or unfamiliar words, e.g. an attitude survey about family planning in India. In a *Fortune* survey about labour unions, at least half the people who answered did not know precisely what they were talking about. Questions may present issues not *sufficiently circumscribed*, e.g. on a question 'Are you in favour of labour unions?', it was found different people meant different things in saying 'Yes'. If opinions are to be meaningful, it is necessary to have a *battery of questions* presenting more circumscribed issues.

The *open-ended question* facilitates opinion with the minimum degree of restriction, but from the point of view of reporting precise trends and coding of answers for statistical analysis, it has a disadvantage. Here enters the enumeration of alter-

natives which, to be effective, should be nearly exhaustive; if they are few and narrow, opinion may be forced into particular channels; if, however, they are too long or too many, they make it difficult to the respondent to select the opinion most like his own.

Sometimes questions may be such that their *implications* are *not seen* and this limitation is exposed when the opinion expressed is compared with other opinions held by the same respondent. Questions may be concerned with only a portion of the population and, therefore, may be meaningless to many people, e.g. "How much should persons with varying incomes be taxed?" In an AIPO survey, it was found that the whole problem was of less concern and meaning as they went down the income brackets. Such questions are extremely valuable as showing areas of ignorance.

Often questions may get at only *surface rationalisations*. Rationalisation is specially likely to occur in situations where there is some social value attached to the answers, e.g. to a question "Is your job connected with war effort?", a street cleaner answered: 'Yes' because 'necessary to health'; a jeweller: 'Yes' because 'if we don't pay taxes, we can't win war'. Surface rationalisation can be *checked by follow-up questions* comparing with other opinions. An extreme case of rationalisation is where an usually high social value on a given answer leads to an accepted stereotype, e.g. the issue of freedom of speech.

To avoid these and other difficulties, particularly connected with interpretation, careful experimentation with a variety of alternatives and pilot surveys before larger ones are taken up would be helpful. "Investigators must constantly be on the look out for possible snags likely to be encountered between the time they themselves have conception of an issue they want to pose to any sample population and the time they report the opinions of that population on the question they thought they were posing". (Cantril, p. 22).

The next set of problems in setting the issues relates to the *wording of questions*. The importance of 'wording' has resulted in the application of the split-ballot technique by the AIPO and the *Fortune*. "This technique consists in preparing each questionnaire in alternative forms, each form being submitted to comparable sections of the population. Some of the questions are varied on the two forms to test the effect of wording differences

or various ways of presenting issues, other questions are the same on each form and serve as controls". In evaluating alternative presentation of issues, different phrasings yield different response distributions, and it is difficult to decide which provides the more accurate index of opinion. The choice, therefore, rests more on *a priori* considerations than upon more precise experimental evidence.

Careful studies of question-wording have suggested the need to bear in mind the following:—

(1) *Effect of context.* A general opinion (e.g. disarmament or desirability of population control) must be put against a pattern of questions so as to place that opinion squarely in a number of contexts. As even placement of a question on the ballot is important, the question should be placed in such a way that the answers to one do not unduly influence the answers to the succeeding ones so as to avoid interaction of responses.

(2) *The alternatives presented.* Expert opinion differs on the relative usefulness of the dichotomous (yes-no type) and multiple choice forms. Their relative merits cannot be decided categorically. Where gradation of attitude is possible, the multiple choice form is superior, but it may enable respondents to avoid expressing an opinion on the main issue, because of the human tendency to avoid extreme positions. Once this form is decided upon, the alternatives chosen should be realistic, with a minimum of overlapping, and objectivity should be sought by balancing the number of alternatives, pro and con.

In devising an objective type of questions, the problem to be faced is the *placement of alternatives*, since the more complicated the question, the greater is the tendency to select the last—the more easily remembered—alternative. Suggestibility is greatest in areas where opinion is relatively uncrystallized, and in such cases, it is better to use split questions in which the position of alternatives is interchanged. Should the alternatives be always explicit? Though it is difficult to generalize, where people are likely to be suggestible, the explicit omission of the alternative makes a significant difference in the poll.

In addition to the multiple choice and dichotomous questions, the *free answer type* may be used, i.e., where no alternatives are given, and the respondent answers the questions in his own words (e.g. How soon do you think we shall be in the war?).

Sometimes deviation can be made from objective wording when answers are wrapped by using symbols of prestige. Popular judgments react to symbols and prestige associations, e.g., Gandhiji's name joined with a policy or party. The prestige effect of a name may be both positive and negative. Where names cannot be avoided completely, better use a split ballot *with* the name on one form and *without*, on the other. In biased wordings of questions suggestion operates and objectivity is evaded. On issues where people are uncertain, sizable effects can be produced by such wordings.

In constructing the ballot, therefore, responses to single questions should be compared with responses to other questions placing the same issue in different contingencies. Whenever a new or complicated problem is posed, the free answer type question may be used with advantage to discover how much people are aware of the problem and in what ways they themselves get the issues. On another form, a dichotomous question may be used for comparison. After the free answers are analysed, more meaningful questions with stated alternatives can be devised. "The split ballot technique should be used wherever possible in order to test the stability and consistency of opinion by noting the effect of (1) variation between free and prescribed responses; (2) variation of alternatives presented; (3) variation of contingencies surrounding the issue; (4) bias by an introductory statement or deliberately forced wording; (5) prestige introduced by a word, name or phrase; (6) explicit rather than implicit presentation of alternatives; (7) stated deviation from currently accepted practice; (8) variation of the context provided by other questions on the ballot; or (9) personalisation of the issue."

Measurement of Intensity

When the issues have been set, the next important problem is the *measurement of intensity* or depth of opinion, which is one of the basic questions in grouping opinion. A knowledge of intensity and direction would tell us of the permanence of opinion, its crystallization, the extent to which it is structured and the degree of individual suggestibility. This would also enable more accurate prediction. A break-down of opinion by intensity would enable division of the population into more or less precisely defined groups.

The AIPO has used three *devices* to measure intensity: (1) rating by the interviewer on the strength of the respondent's feel-

ings as judged by tone, comment and general attitude, (2) self-rating by the respondent, (3) self-rating on a graphic thermometer. The last was used for the first time in the 1940 Presidential Election. The answers from an emphatic negative 0 to an emphatic positive 100, are graded on the thermometer. These graded scales may be simplified into three or four sections. The following — 4 major ones (a to d) and 3 supporting ones (e to g) — may be used: (a) A verbal self-rating of feeling; (b) a thermometer or self-rating on a graphic scale; (c) a four step logical scale setting forth the main alternatives on the issue; (d) a verbal self-rating on certainty of the correctness of one's opinion; (e) the interviewer's rating of the strength of the respondent's attitude; (f) the respondent's self-rating of his degree of personal involvement (e.g. How much does this question mean to you personally?) and (g) the length of time the respondent has been of this opinion.

In applying the major four measures, four different ballot forms were used in an American experiment. The questions in all of them were the same but differed in the order in which the four intensity devices were appended to key questions.

Not all issues are clear-cut at the time of the survey, so that they may have varied significance to different people. In such a case, breadth and intensity of opinion can be better got at through the use of a *battery of several questions*. For, a single dichotomous or multiple choice question may distort the groupings of opinion, while an open-ended one may lead to diversified answers making difficult any quantitative statement. The battery technique enables the isolation of those persons who have equivocal answers, which, however, may spring from quite different mental contexts.

Having thus decided upon the pattern of questions, the next problem relates to *getting the response*. Interviewing and balloting — secret and non-secret — are the two techniques available. In direct interviews, respondents may cover up real opinions. Where the AIPO tested on two identical groups, the interview device and the secret ballot produced marked differences in answers, casting doubt on the results obtained through the interview technique. "The discrepancy is probably great enough to warrant the use of the secret ballot whenever questions which have acquired high social prestige are involved, particularly when the questions are of a highly controversial nature, and of deep personal or social significance." (Cantril, p. 81).

The reliability of interviewer's ratings.

How far are the questions used and the opinions collected reliable? To assess the reliability, the split ballot technique is generally applied and a number of factors—e.g. wording of the question, time of interview and make up of cross section—are kept constant. A number of controls, such as economic status, age, religion and education, are used and these are applied by two sets of interviewers: (1) the *same* observers interview the *same* respondents, and (2) *different* interviewers interview the same respondents; where the interviewers are trained and have no bias, the reliability of their ratings in both cases is high.

But many factors may intervene to distort opinion due to the face-to-face relationship between interviewer and respondent. First, the interviewer's own opinion might influence the expression and recording of respondent's opinions. In large cities, this influence appears to be less, which suggests that in small towns and rural areas, interviews could be better done by those who are not local residents. Experienced interviewers show as much bias as less experienced ones. Although interviewer bias exists, biases in one direction cancel those in another so that the overall percentage of opinion is not significantly wrong.

Another source of bias is *respondent's refusals* which distort the ideal stratified sample of the poll. The OPOR surveys suggest that refusals are more frequent among the poor people, women and large cities, and among older people. Most refusals were found to result from factors independent of the specific questions on the ballot and represented opinions often more superficial and unstable than those of co-operative respondents. On the whole, refusals do not greatly affect the trend of opinion.

Problems of Sampling

Designing the sample is the most technical part of opinion research. Two factors to be borne in mind are: (1) size or number of interviews and (2) the manner of distribution of sample. The smallness of error does not depend on the sample only, and size, therefore, is not the only consideration in planning the sample.

Thus, a well chosen sample of 1,000 would do, though Gallup takes 2 to 4 thousand, and a typical Gallup poll covers about 240

sampling areas. The IIPO 1957 election survey had a sample of 3,000 divided into smaller units for different states, e.g.

	No. of voters lakhs	Sample
Bombay	.. 243	500
U. P.	.. 347	300
Kerala	.. 75	300
Delhi	.. 9	50

The deliberate distribution of the sample was due to the peculiar political situation in the States.

Opinion research agencies generally resort to stratified random sampling when the population is divided into numerous layers, and units are drawn as nearly as possible at random for each layer. The stratification is determined by the central office and the individuals representing each type are selected at random by the interviewer. The controls used in stratification in U.S.A. polls are the factors of geographical and rural distribution, colour and economic status, and often age and sex. Other uncontrolled variables, such as religion, education and occupation, are assumed to be represented in the process of random selection.

For reasons of time, personnel and cost, small samples well chosen may indicate the trend, as in the following case :

N. Y. Election of Governor

Candidate	Actual election	OPOR small sample	AIPO	N.Y. Daily News
Dewey	53%	58%	53%	57%
Bennett	37%	36%	39%	37%
Alfange	10%	6%	8%	6%
No. of cases	4112000	200	2800	48000

But samples have their limitations. They are unlikely to represent opinion faithfully unless opinion is fairly uniform throughout

the area and unless such differences are already fairly well known so as to be constructed in the sample. They also do not enable reliable break-down studies.

Getting at Opinion Determinants

More than the broad trend of opinion, greater interest lies in the problem of its causation — why does opinion follow the trends? Which of two or more variables is more important?

The most powerful technique for such an analysis is the *use of breakdowns* of the sample. Breakdown may be descriptive or analytical. The simple descriptive breakdown merely reports opinion among different groups and does not explain *which* is behind it. The analytical breakdown correlates the opinion with many variables, such as size of city, sex, age, income and education, i.e., the importance of any particular social affiliation. This approach, emphasising motivation, can point to many new explanations or disprove others.

If the collected data are to be effective for purposes of analysis, the investigator must start with definite hypotheses to test out by means of breakdowns. This would require two qualities in a good public opinion investigator: (1) ability to slice public opinion issues in the most significant ways and (2) ability to have his conceptual framework geared to the problems in hand.

Several methods can be used in analytical breakdowns. (1) *Holding a single variable constant* and comparing other variables to discover causal relationships, e.g., age groups correlated with economic status, education, etc. (2) *Applying the same breakdown to several questions*. Thus, the opinions of an age group may be compared with other groups or the universe on several significant questions, e.g., in an OPOR poll on free speech, the well educated sections appeared opposed to it. Further questions relating to Fascists, Communists, etc., indicated their opinion as due to their intellectual demand for consistency. (3) *Use of higher order breakdowns*, i.e., information being sorted out in more than two ways, e.g., sort out people who answer in one way, divide them further according to their opinion on a second question and then again according to some background factor, such as income. To utilise the higher order breakdown, there should be sufficient cases to make it meaningful. Some of the American surveys have had 10,000 cases and more. (4) To the social scientist interested in conceptualising information, *patterns of opinion* become

important. This can be obtained by using breakdowns to get information on what may be the important components of the larger concept and by sorting out people who answer in certain ways to several questions.

Among the determinants of opinion the two most important variables are education and economic status. *Which* of these, and *when*, is more important in moulding opinion? Opinion surveys in U.S. indicate that education is important where factual knowledge gives an insight to implications, e.g., in determining opinion towards a negotiated peace or towards post-war problems. Where the clear cut implications deal with financial return, economic status becomes the determinant. The role of both of these important variables is, however, affected by events, e.g., major events in World War II shifted the relative standing of economic values and changed that of education as a determinant.

Some Laws of Public Opinion

While an isolated survey indicates the opinion on any particular issue, the social scientist is more concerned with trends of opinion for which he has to rely on a temporal analysis. Modern sampling methods and the repetition of the investigation at regular intervals have led to some generalisations regarding public opinion in a democracy :

- (1) Opinion is highly sensitive to important events.
- (2) Events of unusual magnitude are likely to sway public opinion temporarily from one extreme to another. Opinion does not become stabilised until the implications of events are seen with some perspective.
- (3) Opinion is generally determined more by events than by words.
- (4) Verbal statements and outlines of courses of action have maximum importance when opinion is unstructured, when people are suggestible and seek some interpretation from a reliable source.
- (5) By and large, public opinion does not anticipate emergencies — it only reacts to them.
- (6) Psychologically, opinion is basically determined by self-interest. Events, words or any other stimuli affect opinion only in so far as their relationship to self-interest is apparent.

- (7) Opinion is not aroused for any long period of time unless people's self-interest is actually involved or unless opinion is sustained by events.
- (8) Once self-interest is involved, opinion is not easily changed.
- (9) When self-interest is involved, public opinion in a democracy is likely to be ahead of official policy.
- (10) When an opinion is held by a slight majority or when opinion is not solidly structured, an accomplished fact tends to shift opinion in the direction of acceptance.
- (11) People are less reluctant to have critical decisions made by their leaders if they feel that somehow they, the people, are taking some part in the decision.
- (12) People have more opinions and are able to form opinions more easily with respect to goals than with respect to methods necessary to reach those goals.
- (13) Public opinion, like individual opinion, is coloured by desire, and when opinion is based chiefly on desire rather than on information, it is likely to show specially sharp shifts with events.
- (14) The important psychological dimensions are direction, intensity, breadth and depth.
- (15) Although public opinion is by no means always consistent, many of the inconsistencies are more apparent than real.
- (16) By and large, if people in a democracy are provided educational opportunities and ready access to information, public opinion reveals a hard headed common sense.

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Discussion :

The discussion was mainly centred on the application of the technique of public opinion assessment in a country like India. It was recognised that the technique evolved in the specially favourable environment of U.S.A. and U. K. might meet with some difficulties in the under-developed countries where poverty, ignorance, illiteracy and lack of social consciousness might operate as hindrances.

A doubt was raised at the outset as to the validity of gathering the opinions of people who had little knowledge of the issues on which opinions were asked. Special reference was made to the opinion survey conducted by the AERC on Community Development Projects, Co-operative Farming, etc. It was however said that even the illiterate villagers would be able to present their views and opinions if the questions were formulated in a simple, intelligible and indirect manner.

The view was expressed that in under-developed and backward areas of the country, the opinions of the masses should not be permitted to guide State policy, as otherwise hostile reception, based on ignorance, might hold up schemes of development. It was then said that a public opinion survey would be useful even in such an area, as it would bring to light the extent and nature of the people's opposition to a development scheme. This would enable the government to reformulate the development schemes in such a way as to successfully overcome the social and sociological hurdles.

The need to avoid interviewer-bias in the formulation of questions was stressed and it was recognised that, more than a fact-finding survey, an opinion survey was liable to greater abuse and hence the need for greater vigilance.

The usefulness of market-surveys to private industry was also discussed. While the degree of reliability of the results of market-surveys was open to doubt, it was agreed that the aim of such surveys was more to gauge the trend in consumer attitude rather than to reach a quantitative accuracy of tastes and preferences.

LABOUR WELFARE LEGISLATION UNDER THE TWO PLANS

By

T. M. M. RAGHAVAN

The socio-political thinking of the last and present century saw a shift from the principles of *laissez-faire* to the concept of a Welfare State. The chief characteristic of a welfare state is the assumption of responsibility by the State for the promotion of social and economic welfare of the citizens. 'Labour Welfare' is part of social welfare. But the term labour welfare as such is an elastic term. According to the Royal Commission on Labour in India, "it bears a somewhat different interpretation in different countries according to the social customs, the degree of industrialization and the educational development of the worker". According to a report of the I.L.C., it means such services, facilities and amenities which may be established in or in the vicinity of undertakings to enable the persons employed in them to perform their work in healthy, congenial surroundings. Broadly speaking, under the term 'labour welfare' we may include anything done for the physical and economic betterment of the workers by the employers, by the State or by other agencies.

Labour welfare measures have great potentialities for maintaining smooth industrial relations. Economic progress is bound up with industrial peace. A contented labour force is most conducive to labour efficiency and productivity in industry. The justification for welfare measures rests, therefore, more on economic than on humanitarian considerations. Welfare measures can be voluntarily undertaken by the employer or statutorily enforced by the State. The great advantage of legislation is that it can ensure uniform and universal application of the welfare measures.

In India with the advent of independence great importance is being attached to labour welfare. The adoption of a constitution embodying the ideal of a welfare state, the two National Plans, and the ideal of Socialist Pattern of Society as the goal of social and economic policy have all successively shaped the labour policy of the Government of India. The Industrial Policy Statement of 1948 "recognized the proper role of labour and the need

to secure for labour fair wages and working conditions". The Directive Principles of State Policy in the Constitution required that the State shall make effective provision for securing "the right to work, to education, and public assistance, in cases of unemployment, old age, sickness, disablement, and in other cases of undeserved want", and "just and humane conditions of work and maternity relief". The First Five Year Plan emphasised the same policy and stated that the workers should "enjoy improved health services, wider provision of social security, better educational opportunities and increased recreational and cultural facilities". The Second Five Year Plan framed with the basic objective of a "socialist pattern of society" reiterated the earlier policy and emphasised the need for labour welfare in a socialist society.

With these broad objectives, during the period of the two plans, the Government adopted several legislative measures and welfare schemes and also amended a number of earlier Acts dealing with labour welfare, to suit the new objectives. The Plantation Act, 1951, the Mines Act, 1952, the Coal Mines (Conservation and Safety) Act, 1952, and the Employees Provident Fund Act, 1952, are the new legislative measures of the period. Some important Acts like the Factory Act, the Minimum Wages Act, the Employees' State Insurance Act and the Mica and Coal Mines Welfare Fund Acts were amended during the period. In 1952 the subsidised Industrial Housing Scheme was adopted. All these measures cover such a large ground in the field of labour welfare that it may not be inappropriate to call the period as one of 'New Deal' for labour.

A number of the above mentioned Acts contained elaborate provisions dealing with health, safety and welfare of the workers in the factories, commercial establishments, docks, mines and plantations. The Payment of Wages Act and Minimum Wages Act provided for holidays with pay, regular payment of wages and minimum wages in a number of industries.

Let us look at the provisions of some of the more important Acts. The Employees State Insurance Act, 1948 (as amended in 1951) is considered to be a landmark in the history of social legislation in India. The Act was based on the principle of social insurance as opposed to the Workmen's Compensation Scheme, which was based on the principle of social assistance. The Act envisaged a scheme of compulsory contributory insurance to provide

for the workers five types of benefits—sickness benefit, maternity benefit, disablement benefit, dependants benefit and medical benefit. The scheme was to be administered by the Employees State Insurance Corporation and financed out of contributions from the employees and the employers. The employees contribute not at a flat rate (as in U.K.) but according to a sliding scale related to the size of the wages. The employer contributes twice the employees' contribution. During the first five years, the Central Government has to bear $\frac{2}{3}$ of the administrative expenses of the Employees State Insurance Corporation, not including the cost of benefit. The scheme inaugurated in 1952 has been extended to several parts of the country and now covers a total of about 11 lakhs of workers. For the year 1955-56, the employers' share and employees' share of the total contribution amounted to Rs. 2.25 and Rs. 2.39 crores respectively. The total cash benefit and the cost of medical benefit were of the order of Rs. 1.35 crores. At present the scheme covers half the total insurable workers in the country and the Planning Commission has recommended a phased extension of the scheme to cover the entire country. Recently the Government decided to extend the medical benefit to the family members of the insured worker without any increase in his contribution. According to the Director, Labour Bureau, this extension will cover another 33 lakhs of persons and the Minister for Labour estimated the financial cost of this extension as Rs. 2.5 crores now and Rs. 4.6 crores when Employees State Insurance scheme is implemented throughout the country.

A study of the scheme and its working raises a number of questions. From the financial point of view, the employer's contribution, which has been revised and fixed as $3\frac{1}{2}$ per cent of the total wage bill, is considered to be a high burden upon the employer. As a principle, social insurance should be based on tripartite contributions from the worker, employer and the State. The social security schemes of U.K., U.S.A., Australia and New Zealand are all based on this sound principle. In any comprehensive social security scheme the State will have to bear a great share of the financial cost. In India there is a strong case for devising a permanent system in which the State will also contribute a regular share to the benefit fund.

Another important question is that of administrative cost of Employees State Insurance Corporation. In 1952-53 and 1953-54,

the administrative cost was greater than the cost of benefits. In 1955-56, the administrative cost amounted to 32 per cent of the cost of benefit and 9 per cent of the total contributions. In U.K., under the National Insurance (Industrial Injuries) Act, 1946, the cost of administration amounted to less than 10 per cent of the cost of benefit. It is necessary that the social benefits that the Employees State Insurance Corporation provides are made available to workers efficiently and economically.

The Planning Commission has suggested the possibility of a unified overall social security scheme combining the different social security provisions existing at present. Fundamentally, social security is inconceivable apart from a policy of full employment as was expressed in the Beveridge Report. Without a high level of employment and per capita income in the country, the financial and administrative cost of social security will place an excessive burden on the employer and the tax-payer.

The Employees Provident Fund Scheme introduced under the Act of 1952 as amended in 1953 and 1956, is now in operation in 19 industries. The Employer's contribution, which was originally $6\frac{1}{4}$ per cent of the basic wages and D.A., has now been increased to $8\frac{1}{3}$ per cent. The employees contribute to the administrative cost of the fund also at rates fixed by Government. The scheme in April 1956 covered 2,146 factories, with 14.55 lakhs of workers and total contribution of the Fund amounted to Rs. 56.85 crores.

The Industrial Disputes (Amendment) Act, 1953, provides payment of compensation by the employer to the work in the event of retrenchment or lay off. This is the first step taken in India to provide for unemployment benefit. But this scheme suffers from the same defects from which the Workmen's Compensation Act suffered. It would be more scientific to convert the present scheme into an insurance scheme with contributions from both employers and workers. Still, a comprehensive unemployment insurance scheme may not be quite feasible in the context of the high level of unemployment in the country. The emphasis should be more on the problem of raising employment levels.

In any scheme of labour welfare, provision of adequate housing facilities for industrial workers must occupy a position of vital importance. Housing and health are interconnected both influencing industrial efficiency. From the social point of view, housing

is an integral part of industrialisation. It was only after independence that Government started taking action in this field. The Industrial Housing Scheme of 1949, providing for loans equal to $\frac{2}{3}$ of capital cost of construction to state governments and employers did not evoke much enthusiasm. The subsidised Industrial Housing Scheme of 1952 envisaged a more liberal policy combining the principles of subsidy and loans on easy terms. The pattern of aid made available to the different constructing agencies is as shown below :

Constructing Agency

	<i>Loan</i> (Percentage)	<i>Subsidy</i> (Percentage)
1. State Governments	50	50
2. Private employers	37½	25
3. Co-operative Societies of Industrial Workers	37½	50

In spite of the liberal programme, the response from employers and co-operative societies has been inadequate. The problem of industrial housing has grown steadily over the past decade. There is need for statutory housing boards to implement the housing programme and to bring about greater co-ordination of the work of the different agencies. Advanced research in building materials and low cost housing should be conducted. The price of building materials as also speculative rise in land values should be controlled. It was by following these policies that Britain was able to overcome the serious shortage in the post-war period.

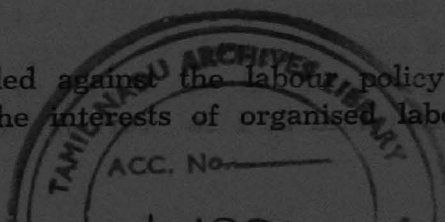
A study of the welfare legislation in India leads to a number of observations. In a country where the workers are still unable to look after their own interests because of widespread illiteracy and absence of constructive Trade Unionism, statutory welfare measures are of the utmost importance. The record of legislation in this sphere is no doubt impressive, but the value depends on the extent to which provisions are enforced. Judged by this standard, much still remains to be done. Many of the provisions of the Factories Acts, the Mines Act, Payment of Wages Act, and Maternity Acts are evaded by unscrupulous employers. This is due to the inadequacy of enforcement machinery. Another

defect is the lack of sufficient co-ordination as between the Centre and the States and lack of uniformity in the case of some welfare measures like maternity benefits. The measures adopted by the Central Government for the provision of provident fund and insurance facilities have been separately conceived and executed that there is duplication both for the administrative machinery and for the employers.

The improvement of the material conditions of the workers is inextricably bound up with their cultural and educational advancement. Workers' education is an integral part of labour welfare. Yet, in India it has remained for long a neglected field of activity. In January 1957, the Government of India in co-operation with the Ford Foundation invited an International Team of Experts to suggest steps to be taken for providing for workers' education. The team has made a number of useful recommendations. The Government of India should take active steps to implement the recommendations with the co-operation of employers and Trade Unions.

In all welfare legislation, in addition to the principles of social justice and social welfare, the requirements of national economy, i.e. ensuring normal growth of industry for the benefit of the nation as a whole, should be considered. As the Royal Commission rightly pointed out, welfare is always related to the stage of economic development. In an under-developed economy, therefore, welfare measures have to be devised keeping in mind the need for higher production and the requirements of other sectors of the economy. Judged from this, it can be stated that in India welfare measures have been devised without taking into account the cost to industry and its ability to bear it. The employers feel that welfare measures place a high burden in the shape of increased cost of labour and affect the competitive power of industries. The Shroff Committee pointed out: "Apart from the purely monetary burden of labour legislation and awards, the confusion prevailing about possible liability to labour charges contributes to an unwillingness to embark on new projects involving employment of additional workers". Indian capital is already on strike and such load of social legislation, however commendable, may stifle initiative.

Another criticism levelled against the labour policy of the Government is that only the interests of organised labour has



been provided for, while nothing has been done for the agricultural labourers who number about 49 million in our country. The Agricultural Labour Enquiry, 1950-51, abundantly testified to the under-employment and poverty among this section of population. The problem of improving their lot is of course complicated by the unorganized, dispersed and seasonal nature of their employment. But a start has to be made by fixing and enforcing minimum rates of wages for agricultural workers and by providing greater employment opportunities for them.

Labour Welfare measures should reflect in greater efficiency and labour productivity by reduction of absenteeism, labour turnover and loss of man hours. The idea is to have a stable, settled and contented labour force. Indian Labour still retains its migratory character. The percentage of absenteeism in the factory and textile industries ranges between 10 and 20 per cent. The number of man days lost per year continues to be high (33 lakhs in 1952). A study made by the Labour Ministry showed that during the period 1943-54, the index of real earnings advanced at an average rate of 3.9 per cent per annum, whereas the corresponding rise in the index of productivity was of the order of 2.7 per cent only. In the ultimate analysis, true welfare can rest only on the solid foundation of increased productivity and higher national income. To this end the employers and workers should contribute—the employers by promoting and maintaining the physical and psychological conditions necessary for the workers to put forth their best efforts, and the workers by discharging their duties efficiently, while emphasising their rights.

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Discussion

The discussion opened with an examination of the respective merits of voluntary and compulsory provision of labour welfare. It was agreed that though voluntary provision of welfare by the employers would be ideal, very often it had to be supplemented

by compulsory statutory requirements. If labour welfare was left to the volition of the employers, it would tend to be irregular and inadequate. On the other hand, going all-out for statutory compulsion would provoke the hostility of the employers. A sound compromise was the best way out.

The contribution of labour welfare to economic development was next taken up. While it was pointed out by some that provision of better amenities would enhance labour productivity, the positiveness of the relationship was doubted by some others. A few opined that in the Indian context additional wages and better amenities were not likely to bring forth greater effort on the part of the labour force who would only try to take things easy. One member felt that the justification of labour welfare rested only on humanitarian grounds. A solitary voice expressed the opinion that expenditure for increased labour welfare would have to be met out of industrial profits and would thereby hinder capital formation and economic development.

On the burden placed on the employers by way of responsibility for labour welfare, there was some difference of opinion. The paper pleaded for a tripartite arrangement by which labour, employers and the State would share the responsibility. One member argued that the responsibility rested only on labour and the State and that in principle the welfare of labour, which was just one factor of production, was not the concern of the employers. This was opposed by the view that in a welfare state it was right and proper that employers be asked to be responsible for the welfare of the human element in the production process.

It was said that expenditure on labour welfare should not outrun the rise in national income. On the other hand, the opinion was also expressed that in a welfare state a rising proportion of national income should be made to accrue to the under-privileged sections of society. On the question of relating labour welfare to the level of literacy, it was agreed that the welfare amenities provided should be such as were most needed and as would be best appreciated by the recipients.

11-10-1957

THE EXPERIMENTAL TECHNIQUE IN SOCIAL RESEARCH

By

M. H. GOPAL

Experimenting in Social Sciences

The experimental method is the basic tool of the physical and natural sciences enabling the tracing of the cause-effect relationship and facilitating verification by different observers. It consists in observation under controlled conditions wherein only one factor is varied at a time in order to follow up the reactions. It has, thus, three features: isolation of facts, replication and quantitative measurement of results.

A few experiments could be conducted in the natural community but many have to be in the laboratory. In social sciences, experiments in general and those in laboratories in particular are difficult of execution. For, as experimentation is a shift from passive observation to active interference with determining conditions, it meets with resistance, and there are innate difficulties associated with the material as well as the problems to be tackled. Physical sciences deal with inert and insensitive matter; but social studies deal with complex units, unique, individual and different, capable of intense suffering and not homogeneous or standardised. Moreover, ideas of individual freedom, sanctity of human life and institutions, bias of race, class, political ideals, etc., intervene. The permissible field of experimentation is not defined. The difficulty of isolating disturbing influences, such as prejudices, laws and customs, limits the conditions of control. And every problem thus becomes really more complex than anticipated.

While, therefore, precise social experimentation is difficult, rough experiments have been, in a way, off and on tried. Robert Owen and Charles Fourier attempted at introducing the principle of association to study its reaction on industrial relations and productivity. Social legislation, such as Social Insurance and Nationalization, is each in its own way an experiment.

Two facets of experimentation

But in its narrower sense, the experimental method in social sciences is in two broad stages: first, the *pioneer stage* of the trial and error method, and second, the *precise one* of controlled conditions. The former, a blind process marking the infancy of a science, is more largely true of social research. It operates in two ways: (a) *social selection* wherein agents such as ostracism and persecution operate to eliminate anti-social ways and to help the survival of adapted modes and customs. The Indian Plans, their remedies for unemployment or industrial pattern come in this category; (b) *societal selection* operates through a process of preserving adapted habits and customs by means of social restraint.

The trial and error method extended to a higher thought level leads to planning and prediction. Terms, words and referents (i.e. the real things the words stand for) can be manipulated and a more exact correspondence between terms and reality can be brought about by the introduction of scientific measurements and method of experimentation.

Greater refinement of this method leads to the second, i.e. the *precise stage*, and the device of experimental designs. These help the observation of social cause-effect relationships under conditions of control so as to indicate more rationally the course of social change. These designs imply a systematic study of human relations through selective control of conditioning factors. They do not guide towards any goal nor are they active agents of social reform.

Initial steps in planning an experiment

Before carrying out a social experiment, it has to be planned. In so planning certain initial steps are of great value. Often too little time and effort are put in at the initial stages. Three steps at this stage are important: "(1) a statement of the objectives, (2) a description of the experiment, covering such matters as the experimental treatments, the size of the experiment, and the experimental material; and (3) an outline of the method of the analysis of the result".

The *objectives* are to be lucidly and specifically stated in the form of questions to be answered, the hypotheses to be tested, and the effects to be estimated. According to Cochran and Cox,

"the most common faults are vagueness and excessive ambition, in the sense that a twenty-year research program would be required in order to realise the objectives" (*Experimental Designs*, p. 10). The objectives may even be classified as major and minor. Better also specify the area over which generalizations are to be made, i.e. the population about which it is hoped to make inferences.

By *experimental treatment* is meant the different procedures whose effects are to be measured and compared. The number of replications should be described in the initial steps. Apply a refined technique which implies (a) securing uniformity in the application of the treatments; (b) exercising sufficient control over external influences so that every treatment produces its effects under comparable and desired conditions; (c) devising suitable, unbiased measures of the effects of treatment; (d) preventing gross errors through adequate supervision and checking.

A no less important initial step is the choice of the experimental material. The criterion should always be maximum accuracy for a given expenditure of time and labour.

Experimentation is made easier by certain *devices*, mostly statistical: (1) Measurements, plotting trends and extrapolating observations. Measurement is at the core of scientific advance. Social measurement, represented by sociometry—which is still an infant—gives exactness to the relationship between social concepts and social referents. (2) Numerical or quantitative expressions for differences in degree in different kinds of experience—a device so necessary for easy manipulation. (3) Intuition. This is not mere description of objects of sensory experience or imaginary and non-rational explanation. It is a process of thinking in which the purpose is clearing up of dim memory—"a judgment based on the convergence and integration of former impressions of memory into a pattern of explanation" (Chapin, *op. cit.*, p. 27). This would probably help in drawing conclusions from the results, i.e. in generalising from the sample to the population.

Experimental designs and their limitations

The devices developed to put the experimental technique into operation constitute the experimental designs. These devices, explained below, have, however, a few fundamental limitations, practical and theoretical.

The *practical limitations* show themselves in the course of field investigation, more than in schoolroom situations, as problems of organisation. As these designs attempt to measure the effect of one social factor at a time, the initial difficulty is in the measurement of a single factor by itself, because in any social problem or programme a group of factors operate as a whole. Further, there may be at work unknown influences which are unmeasured and uncontrollable. Since the basis of effective experimentation is the control of factors, success is jeopardised.

This difficulty can be overcome by randomization which helps to neutralise variations due to extraneous factors, known or unknown. The occasions on which randomization is required vary with the type of experiment and must be left to the judgment of the experimenter. "Randomization", observe Cochran and Cox, "is somewhat analogous to insurance, in that it is a precaution against disturbances that may or may not occur and that may or may not be serious if they do occur". (*op. cit.*, p. 8). The next step is to control the sample by dividing it into two sections—the experimental and the control groups. Then, measure each group on some criteria to evaluate (e.g. the effects of) the programme. This would suggest scales to measure morale, adjustment and so on. This process has an implied limitation—that cases tend to disappear during the interval between the beginning and the finalisation of the experiment and, thus, at the end of the experiment the samples may not be truly random. The remedy is selecting *several* random samples as experimental and control groups.

Another practical difficulty arises from *public opposition* to the favouring of the experimental group. Application of a social programme to one group constitutes favoured treatment. Any criterion of selectivity (e.g. on the basis of response) would vitiate the sample's random character. The solution lies in the adoption of the control group technique, i.e. (a) in accepting any accessible portion of the group as the experimental one; (b) choosing the control group as a random sample from a similar population; and (c) matching the two on known factors (e.g. age, sex, size of family, etc.) to reduce variations.

Yet *another limitation* on the practical side relates to the *loss of cases* in the interval between the first and final interviews through mobility and non-response. The longer the experi-

ment runs, the more the cases lost. The losses are greater generally in the control group and this distorts the representativeness and comparability of the groups. The lost cases are at the extremes, making the residual groups—both experimental and control—more homogeneous. This reduces the absolute scale of differences between the groups and also yields larger standard errors. The remedy for this drawback is a systematic recapture programme, which, however, is both expensive and complicated. The need, therefore, arises for careful consideration of the length of the time-spread of field work interviews.

Another general limitation is that difficulties are more in interviewing control groups than in the more receptive experimental groups. The remedy perhaps lies in matching the groups on as many points as possible, since the more numerous the matching factors, the larger the number of cases eliminated and the greater the similarity of the groups.

Very broadly put, the longer the time of each interview—every additional question means more time—the fewer the cases canvassed, and the longer the period—days or weeks—over which the interview runs, the greater the disruption of the conditions of the experiment.

Theoretical limitations

In applying the experimental device to social research, there are also limitations of a theoretical character. One of them relates to the *significance* or importance of the differences between the experimental and control groups. What difference is significant? The *popular criterion* relates to the opinions of the public, sponsors of the programme or the administrators, but these are subjective value judgments with implicit mean-ends schema. The more scientific criterion related to *statistical tests* of significance. These are based on the differences in the magnitudes of measurements between the two groups and the resort to the probability frame of reference, i.e. the application of the theory of sampling. This needs the use of a socio-metric scale which is reliable and valid—reliable because repeated measurements agree and valid because of the selection of items.

The second theoretical limitation relates to *replication*. The experimental method demands confirmation of results by repeated tests. Scope for repetition is rare in social research, partly because

experimental designs are new and run counter to established predilections—in fact, till the 'thirties their utility was doubted—and partly because of the tendency to lapse into philosophical controversies about cause and effect and of the consequent confused discussion on experimental designs. Two other causes are the reluctance to undertake systematic and planned research essential for thorough analysis and the expense and time involved in experimental studies.

One remedy for this difficulty is to study simultaneously a number of experimental and control groups acting as checks on one another. The availability of standardised socio-metric scales, statistical methods and refined design patterns has toned down the rigour of this limitation.

The experimental designs

In sociological research three designs have been in use: (1) the *cross-sectional design* for analysing the present or current problems; (2) the *projected design* to analyse the future, i.e. problems of 'before' and 'after'; (3) the *ex-post facto* design for analysing the past, i.e. tracing from a present problem back to a prior assumed cause.

In physical sciences, cause and effect form a true explanation of events. Social events in terms of cause and effect have made only crude beginnings. Many of them, e.g. inflation, defy explanation in simple terms of purpose, design and planning because of the many factors at work. As an explanation of successive events, cause-effect relationship does not mean rigid determinism but a kind of association between factors with a probability of occurrence. The *essential preliminaries* are choosing the sample, dividing it into the experimental and control groups and matching the factors in them. Start with a hypothesis, break it up into a series of null hypotheses as they can be tested more easily and precisely. Adopt scales of measurement standardised for reliability and validity *prior to the experimental test*.

I The Cross-Sectional experimental design

This enables controlled comparisons at one point of time. It is a method of studying if social programmes given to one group are associated with personal adjustments more than in another group without such programme,

The technique consists of (a) the use of statistical methods, e.g. computing correlation coefficients, partial correlation analysis, breakdown analysis, etc.; (b) applying matching devices, i.e. make the experimental and control groups homogeneous by adopting the matching of measurements on selected factors, either by identical individual matching or by equating frequency distributions on a given trait.

The design applied

Problem: Relationship between a kind of training (Research Trainees) in X area and their subsequent participation in community (research) activities.

Sample

Universe X area: 2050 trainees

Random sample 10%: 205 „

Of these 103 drop out due to death, moved away, not located, non-response, etc.

Sample interviewed: 102

22 cases dropped because of pairing on controlled factors.

Controlled sample: 80

Active researchers: 40 experimental group

Drop out „ 40 control group

Control factors: Birth place: rural or urban; sex; father's occupation; income group, health, age, educational background.

II. The Projected Experimental Design

This device operates from the present to the future and measures the effects of a social programme or social force at some future date. It is utilised to follow up the achievements of desired ends in social programmes. It provides a technique "to separate the planned means-ends schema from the more impersonal cause-effect relationship".

This technique has 3 stages. First, quantitatively describe the two factors. Next, find out if there is an interval of time, i.e. do changes in the magnitude of x follow those in that of y ? Finally, introduce the concept of mean score on a reliable scale to measure adjustment in order to introduce objectivity and permit verification.

Steps in technique

Problem: Effect of good housing on slum families.

Hypothesis—e.g. "The rehousing of slum families in a public housing project results in improvements of housing conditions and the social life".

Steps in the design

1. Regard results as ends achieved in a cause-effect schema.
2. Enumerate factors operating in rehousing slums, e.g.
 - (a) the means, such as occupancy rules,
 - (b) housing influences, such as space, light, room crowding, etc.
 - (c) status factors, e.g. employment, education, income, etc.
 - (d) biological factors, e.g. size of family, race, etc.
 - (e) unmeasured factors, e.g. health, habits, etc.
 - (f) unknown factors.
3. Adopt a scoring device for the above, i.e. give each a relative value.
4. Decide upon some scale of appraising the degree of achieved result.

Note: Scales to be reliable instruments of observation and numerical description. Prefer scales used in previous studies to facilitate comparison.

Technique applied

1. *Sample:*

Experimental group—108 project families.

Control group—108 slum families.

2. *Scale measures:*

- (a) morale, i.e. individual's confidence to meet the future;
- (b) general adjustment, i.e. feelings towards others;
- (c) Social participation, i.e. actual employment in organised activities;
- (d) social status, i.e. family's position in the community.

3. Convert the single positive hypothesis (above) into a series of null hypotheses (below):

e.g. i. No changes in social participation (evidence indicates changes).

ii. Observed changes are *not greater* than under random sampling groups (evidence indicates changes as statistically significant), etc.

4. Measure changes assumed under treatment (or programme) and apply the standardised reliability and validity scales.

III. *The ex-post facto design*

This device is suggested as an aid to study how far the present situation is the effect of prior causal factors and to trace back over the interval of time. The purpose is to isolate the relationship of the one independent variable assumed to be the chief causal factor and a dependent variable taken as the effect. The operations are simplified and made more precise through matching of several independent variables known by prior study to be related to the dependent variable or effect. The design is in two varieties—one, studying the *mere individuals* and families at the present and at some past date, and the other, comparing populations *in the same areas* in the present and in the past.

Some have called this design into question as being a big game for a small device. It has anyway certain limitations in its application. First freedom of method and technique is restricted since the evidence is limited to the existing past and present records, and no new measures of past records can be made in the present. This limitation can be toned down by obtaining *all* relevant facts and opinions through the interview, questionnaire or schedule devices. Another limitation is imposed in the choice of causal and control factors which are likely to be fewer than in the project design wherein a follow up is contemplated.

The structure of the design

1. Formulate a hypothesis.
2. Break it up for verification.
3. Take a sample or universe and take a period to assess change.
4. Measure the variables. (Some of the measurements may be crude because of the disturbing factors).

5. Enumerate the disturbing factors.

6. Eliminate units for homogeneity and control through matching

Technique applied:

Problem: Effect of education on economic adjustment.

Hypothesis: "A greater degree of progress in High Schools leads to a correspondingly higher degree of economic adjustment in the community."

Experiment:

1. The whole universe (4 schools) and not a sample was taken.

2. A period of nine years was considered.

3. Measures of the two variables to be observed (progress and economic adjustment) were secured by measuring (a) the independent variable (education) by considering the completed years at school, and (b) the dependent variable (economic adjustment) by the percentage of shifts in jobs contrasting those involving increase in salary with those of decrease.

4. The following disturbing factors were controlled through matching: age and sex differences, neighbourhood of house, mental ability of different individuals, nationality of parents and father's occupation.

Flow chart of Experiment

Original group	2127	{	Graduates	1130
			Non-graduates	997
Shrinkage due to death, etc.	933			
Interviewed	1194	{	Graduates	671
			Non-graduates	523

Controls applied: 1, 2, 3, 5 and 6 (above)

Control sample	400	{	Graduates	200
			Non-graduates	200
Sixth control (No. 4) applied	290	{	Graduates	145
			Non-graduates	145

Controls made precise by identical individual matching.

The precise control sample	46	{	Graduates	23
			Non-graduates	23

The dwindling of the sample from 2127 to a final 46 raises the question: Is not the final sample too small? No. For, observation under conditions of control has a price. The longer the list of controls and the more rigorous the method of application, the

smaller the sample. Restriction is necessary as an experiment should obtain a homogeneous and pure sample. Homogeneity and not representativeness is the essential condition to the discovery, by a single experiment, of the real relationship between two factors.

The application of the experimental method and the design techniques are, in social sciences, still in infancy. Improvements are essential and can be effected largely through the greater application of statistical methods.

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Discussion :

The discussion started off when the author was explaining the cross-sectional experimental design with the help of an example. The objection was raised that the procedure by which the controlled sample was evolved would destroy the randomness of the sample; and it was maintained that no sample would be representative of the universe if its randomness was affected. As such, the conclusions based on the study of the group would hold good only of the group and not of the universe. The criticism was accepted by the author.

There was much discussion on the design of the experiment, and the choice of the experimental and control groups for comparison. The probability of extraneous factors entering the experiment and vitiating the conclusions was raised and it was agreed that all possible steps should be taken to eliminate extraneous influences.

The author's presentation of the two facets of experimentation, viz., the "pioneer stage" and the "precise stage" did not appeal to a few. One member said it was not correct to say that all social research was of the "trial and error variety" and that all physical science research was of the "precise" variety. Many sought clarification of the meaning of the two types of the pioneer stage of experimentation, viz. social selection and societal selection, while some could not appreciate the rigidity of the distinction.

The Seminar closed with a discussion of the special difficulties facing experimentation in social research as opposed to research in the physical sciences and the causes thereof.

18-10-1957.

CONSUMER GOODS vs. CAPITAL GOODS IN PLANNING INVESTMENT *

By

T. P. SUBRAMONIAN

I

The Choice Before a Developing Economy

An economy seeking to develop by planning has to take certain vital decisions in the planning of investment. The most important of these pertain to (i) the amount of current income to be invested, (ii) the distribution of the investment among different sectors, and (iii) the choice between technical variants of production in each sector. Each of these decisions has a direct bearing on the nature, course and speed of economic development. Though the above three decisions are, to some extent, inter-related, this paper is concerned with the second of them. The distribution of the total planned investment among the various sectors of the economy is guided by the current circumstances in the country, the potentialities of development discovered, the overall objectives of the plan and the degree of emphasis placed on the various sectors. Broadly speaking, an economy could be broken up into four sectors: Agriculture, Industry, Transport and Communications, and Social Services. Besides determining the relative priority of, and the quantum of investment in, the development of the industrial sector, the planning authority will have to allocate the capital funds and resources between the consumer goods industries and the capital goods industries. It is with this allocation that we are here concerned.

II

Factors determining the choice

In a free-enterprise economy the choice between investment in the consumer goods sector and that in the capital goods sector is determined largely by the criterion of profitability. Usually any investment will be undertaken if its internal rate of return

* By courtesy of Commerce (19th April 1958).

exceeds or equals the market rate of interest. In the initial stages demand will exert itself only on consumer goods. The investment in capital goods production would come about at the later stages in response to the rising demand for consumer goods either from within the economy or from without. The investment in the capital goods sector, which is obviously heavier than that in the consumer goods sector, is made possible by the larger volume of saving available in the economy at the later stages of its growth. Thus in an economy developing under free enterprise, in which the price system organises output and allocates investment, consumer goods industries would increase their output and bid capital for investment away from producer goods industries.

In a planned economic system, on the other hand, in which output programmes are prescribed centrally, a normative principle is necessary to guide the central authority in the allocation of resources among alternative future outputs. This principle is evolved on the basis of the following considerations:—

(i) *The objective of the plan.* The first consideration is the broad objective of the plan or the degree of emphasis placed on particular objectives if the plan has a plurality of objectives. For instance, if the aim is the speedy creation of a Welfare State or the immediate lifting of the standard of living of the mass of the people, the maximum production of essential consumer goods at reasonable prices would receive priority. On the other hand, if the aim is balanced industrial development, considerable investment might be devoted to building up a sound base for such industrialization in the shape of basic and capital goods industries. If the emphasis of the plan is on the maximization of employment opportunities in the immediate future, consumer goods industries would receive preference over capital goods industries, as the former could employ a greater number of people than the latter for a unit of investment. If the emphasis, however, is on a high rate of growth rather than on anything else, the capital goods industries would receive precedence, for the rate of growth of gross output would be higher if the bulk of investment is in the investment goods industries than if a large share of it is devoted to expanding capacity in the consumer goods industries.

(ii) *The overall investment-pattern.* This reflects the emphasis placed on one or other of the four broad sectors of the economy. Only if the plan lays an emphasis on Industry and only if the allotment for this sector is large enough can the economy afford

to build up capital goods industries. Otherwise it will have to devote itself to consumer goods production.

(iii) *Short-term vs. long-term interest.* Another consideration is whether the plan is directed towards the short-term or the long-term interest of the economy. The former would indicate investment in consumer goods production and the latter in capital goods production. A precedence of the long-term interest of the economy would call for a greater ability and willingness on the part of the present generation to sacrifice for the sake of posterity. This in turn is related to the following.

(iv) *Levels of living at starting point.* The ability and willingness referred to above naturally depend largely on the prevailing levels of living. If, as in many of the currently under-developed countries, the levels of living are appallingly low, no plan could justify itself unless it seeks to raise such levels speedily by an abundance of essential consumer goods. Curtailment or postponement of consumption in the interest of capital goods development would, under such circumstances, be extremely difficult.

(v) *National self-sufficiency vs. International interdependence.* The prevailing international atmosphere is also a consideration affecting the allocation of resources between capital goods and consumer goods. If the atmosphere is favourable, inter-governmental relations are cordial, economic relations stable and trade unhampered, a concentration on consumer goods production would be indicated and its enhancement made possible by imported capital equipment financed by exported consumer goods. An uncertain international atmosphere and none-too-friendly foreign relations, on the other hand, would drive a country towards capital goods investment and the attainment of national self-sufficiency in capital goods.

(vi) *Availability of resources.* The choice is also determined by the known availability of resources. The most important capital goods industries are based on cheap fuel and metallic ores. Countries which lack such fuel and ores cannot therefore get far in building up such industries even if they are prepared to spare the funds.

(vii) *Form of government.* Lastly, the form of government is also a determining factor. A democratic government is under a serious handicap in its ability to impose hardship on the people and to defer satisfaction of their urgent requirements. The

possibility of social and political repercussion has always to be taken into account in deciding the allocation. A stable totalitarian regime could afford to concentrate on capital goods industries to the relative neglect of consumer goods industries.

All the above considerations act and interact and help evolve the normative principle which guides the planning authority in the allocation of investment on the consumer goods sector and/or the capital goods sector.

The planning authority might follow the natural sequence of development, i.e. consumer goods production in the initial stages when capital per head is small and both the investment and the replacement demand for machinery are small, and the relative expansion of capital goods production in the later stages when gross investment is higher. Or the planning authority could endeavour to speed up this change. It is also open to the planning authority to plan for a high rate of economic growth by going through a period of enormous investment while postponing increased consumption until considerable capital has been created. The obvious example is Soviet Russia.

III

The Indian Plans — An Assessment

In the First Five Year Plan, in which Agriculture and irrigation got pride of place, industrial development received relatively low priority. Taking the public and private sectors together, a total outlay of Rs. 3713 crores (Rs. 2013 crores public plus Rs. 1700 private) was actually incurred, out of which hardly 18% (Rs. 293 crores) was on industry. The two aspects of the policy of industrial development laid down in the Plan were (i) the augmentation of consumer goods production by the fuller utilization of existing capacity rather than by the expansion of capacity and (ii) the introduction of the first steps for the building up of basic and capital goods industries. The logical basis of this policy was that till now the major emphasis in industrial development in India had been on consumer goods industries, while basic and producer goods industries had lagged behind. A corrective of this imbalance was therefore the first step in industrial development. Further, while the output of consumer goods industries, such as cotton textiles, sugar, soap, matches and salt, was, on the whole, sufficient to meet the existing low level of demand in the country, the existing capa-

city for the production of capital goods was in most cases quite inadequate even for present requirements. It was realised that the first steps in industrialization consisted in the making up of these deficiencies. The approach reflects itself in the allocation. Out of Rs. 293 crores actually invested, 22% (Rs. 63·9 crores) went into the consumer goods sector and 78% (Rs. 229·1 crores) went into the capital goods sector. But the magnitude of investment being small, the impression made was meagre.

On this question, the approach of the Second Five Year Plan marks a significant advance on that of the First. One of the four basic objectives of the Plan is "rapid industrialization with particular emphasis on the development of basic and heavy industries". Justifying this objective, the Plan states that "if industrialization is to be rapid enough the country must aim at developing basic industries and industries which make machines to make the machines needed for further development. This calls for substantial expansion in iron and steel, non-ferrous metals, coal, cement, heavy chemicals and other industries of basic importance." Investment in basic industries constitutes a heavy drain on available capital, which means capital left for consumer goods investment is meagre. Further, investment in basic industries creates demand for consumer goods without enhancing their supply. Hence to enhance consumer goods production without heavy, capital outlay, the Plan relies largely on fuller utilization of existing capacity in factory industries and the adoption of labour-intensive small-scale methods wherever possible.

Out of a total investment of Rs. 5200 crores (public and private sectors together), nearly 21% (Rs. 1094·3 crores) is for the industrial sector. The amount is more than three times as much as in the First Plan. Out of the Rs. 1094·3 crores, 15% would go into consumer goods and the rest 85% into capital goods production. While the output of capital goods is sought to be increased substantially, that of consumer goods will increase relatively modestly, but all the same significantly. The output of cotton textiles will go up by 24%, sugar by 35%, paper and paper board by 75% and vegetable oils by 31%. On the other hand, the output of finished steel will increase by 231%, aluminium by 233%, machine tools by 300%, cement machinery by 257%, sulphuric acid by 176% and caustic soda by 275 %.

The heavy emphasis on the capital goods industries in the investment pattern of the Second Plan is, of course, in consonance

with the central objective of the Plan and the circumstances in the country. But it may be judged with reference to four vital issues:

(i) *The welfare issue.* Where living standards are already very low, a welfare state has to plan for the immediate lifting of such standards. The welfare needs in a country like India draw the capital available away from industry and transport towards social services and agriculture. Thus, while the 21 % investment in industrial sector under the Second Plan might appear large, it looks small when compared to the 41% and 42% investment in the industrial sector in the First and Second Five Year Plans of the Soviet Union where welfare needs got relatively low priority. The Indian Plan appears to be a satisfactory compromise between welfare and growth. Emphasis on welfare would also indicate priority to consumer goods production rather than to capital goods production, while an emphasis on growth would point towards capital goods investment. The Soviet Union in 1929 devoted 18.2% of the total investment in industry to consumer goods, while the rest went into capital goods. The percentage declined to 13.7 in 1933 and 12.5 in 1935. The Indian Second Plan's ratio of 15% shows a striking comparison. But whereas our Plan envisages fairly substantial increase in consumer goods production, the Russian Plans achieved relatively moderate increases. At the end of the First Five Year Plan of Soviet Russia, the output of cotton textiles had actually declined by 20% and at the end of the Second Plan had registered only 14% rise over 1929. Between 1929 and 1938 the output of woollen textiles had increased only by 14%. The explanation for the difference between Indian expectation and Russian experience probably lies in our technique of augmenting consumer goods production.

(ii) *The technique of increasing consumer goods production.* As mentioned earlier, apart from expansion of capacity in some spheres, for the bulk of consumer goods increase the Plan relies on fuller utilization of existing capacity and on the adoption of labour-intensive methods. The first assumes the existence of wide gaps between production and installed capacity. This assumption is questionable, especially in view of the fact that the technique of the First Plan was the closing of such gaps. Secondly, the adoption of labour-intensive methods would raise the issues of capital formation and technological progress; also whether unorganised small-scale industries operating on labour-intensive methods would succeed in achieving the targets fixed for them is open to doubt,

(iii) *The problem of inflation.* Heavy investments on capital goods production and on social and economic overheads will generate a great demand for consumer goods and unless this demand is matched by a proportionate output of such goods, inflation is inevitable; and beyond a stage such inflation would upset the Plan itself. The control of such inflation calls for the augmentation of the supply of food and manufactured consumer goods and/or the imposition of physical and monetary controls. The former would call for a re-allocation of funds and the latter would raise the issue of regimentation. The Soviet Union minimised outlays on social and economic overheads and imposed drastic physical controls and rationing and successfully steered clear of inflation. Our Plan envisages sizable outlays on social and economic overheads and fights shy of physical controls, with the result that we appear to have got into an inflationary spiral. Why not spend a little less on capital goods and apply fiscal devices and physical controls a little more seriously to arrest inflation?

(iv) *The problem of foreign exchange.* Concentration on capital goods sector raises the problem of foreign exchange. Availability of foreign exchange resources depends on a favourable trade balance, loans and grants from abroad, and foreign private investment. Now that the Second Plan has led us to a foreign-exchange fix, we might try to better our trade balance by augmenting consumption goods production using high techniques and create a suitable climate for loans and grants and foreign private investment. A re-thinking on the "core" of the Plan to reduce our foreign exchange requirements also appears desirable.

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Discussion

A doubt was raised as to the very existence of a choice in the allocation of resources. The reply given was that the choice was not between devoting all the resources to consumer goods production or to capital goods production, but how much to devote

to either. To that extent, and only in that sense, there did exist a choice before the economy.

The influence of social institutions on the allocation of resources was raised, and the non-reference to this question was pointed out as a lacuna in the paper. While some members argued that the social framework influenced the technique of production and through it the allocation of resources between consumer goods and capital goods, others felt that, while in a general sense social institutions influenced the pattern of economic development, on the specific question that was being discussed at the Seminar there was no perceptible relationship.

The principles underlying the allocation in the First and Second Five Year Plans of India engaged the attention of the members for some time. A criticism was levelled that the Indian Plans were completely devoid of any rational principle. Effort was made to meet this criticism by pointing out the various considerations underlying the investment pattern in the First and Second Plans.

The view was expressed in the paper that the Second Plan was a satisfactory compromise between welfare and growth. This provoked a lot of discussion. Some felt that it was a sacrifice of welfare in the interest of growth and it was no use hiding it.

PROBLEMS OF SAMPLING

By

V. SREERAMACHANDRAMOORTHY

No other development in the field of data collection has been so revolutionary in its effects as Statistical Sampling. Modern Statistics would be impossible without sampling techniques, whose advantage of speed, low cost and reliability are now generally recognised. Sampling holds such an important part in Statistics that it can easily be said that Statistics is a subject which deals with inference from sample to the population.

There is nothing magical about sampling. The method of sampling is being used in every day life, although the technical words or the theoretical refinements of the subjects are known only to scientists. An example of sampling principle is the housewife, who, in testing a few boiled grains from a pot of rice on the oven to know if they are well cooked, samples the rice. In purchasing a basket of mangoes one would take care to look at not merely the big fruits which are often arranged on the top but also to examine some of the mangoes which are in the middle or bottom of the basket. That is, the decision to purchase and the price to be offered would be settled not by looking at specially selected specimens, but by trying to estimate the average size and quality based on a fair sample by the scrutiny of a few fruits which are taken up haphazardly from all over the basket. That is exactly what is sought to be done by taking a random sample. In short, a 'part' is selected from the whole and subjected to analysis or measurement of one kind or another. In fact, our knowledge, attitudes and actions are based to a very large extent upon samples. This is equally true in everyday life and in scientific research. Reduced cost, greater speed, greater scope and greater accuracy are the chief advantages of sampling over complete enumeration.

The survey of only a small proportion over the total population would certainly bring in a certain amount of inaccuracy in the information. These inaccuracies would be of two different kinds. One of them is peculiar to sample surveys and the other is common to all surveys, including the so-called complete censuses.

There is, firstly, the sampling error. This arises because the information actually collected refers to only a small proportion of the total. Thus, if two or more samples are taken and the required information is collected without any mistakes whatsoever, even then the results based on the different samples would usually differ to some extent and these differences constitute the errors due to sampling.

In actual fact certain mistakes and inaccuracies are also bound to creep in during the process of collecting the information. These arise from the negligence or bias of the interviewers in asking the questions or from the bias or forgetfulness or lack of knowledge on the part of the informants giving the replies. These taken together constitute the non-sampling errors which occur in surveys.

The sampling errors can be calculated mathematically, if sound procedures of sampling are followed and many times they form only a small part of the total inaccuracies. The non-sampling errors which arise from human factor (at the stage of the conversation between the interviewer and the informant) are quite appreciable and are not peculiar to sample surveys only. Such inaccuracies also occur in complete enumeration.

In fact, chances of occurrence of inaccuracies arising at the time of the interview would be greater in the case of complete enumeration, because the number of field investigators would be much larger than that required for the sample survey. Also, the field investigators in a complete enumeration would usually receive lower pay and have less ability and it would not be possible to give them the intensive training which can be given to the comparatively smaller number of investigators required for a sample survey. Because of the much larger scale of operations, difficulties of supervision and inspection would be great in complete enumeration. In consequence, the general experience all over the world has been that a properly conducted Sample Survey can be relied upon to give more accurate results than a complete enumeration.

Sampling is not a mere substitute of a partial coverage for a total coverage. Sampling is the science and art of controlling and measuring the reliability of useful statistical information through the theory of probability.

The purpose of sampling theory is to make sampling more efficient. It attempts to develop methods of sample selection and estimation that provide at the lowest possible cost estimates that are precise enough for our purpose.

In order to apply this principle we must be able to predict for any sampling procedure that is under consideration, the precision and cost to be expected. So far as precision is concerned, we cannot foretell exactly how large an error will be present in an estimate in any specific situation, for this would require a knowledge of the true value of the population. Instead, the precision of a sampling procedure is judged by examining the frequency distribution which is generated for the estimate, if the procedure is applied again and again to the same population. This is of course the standard technique by which the precision is judged in Statistical theory.

A further simplification is introduced. With samples of the sizes that are common in practice, there is often good reason to suppose that the sample estimates are approximately normally distributed. Consequently, the sampling variance of the estimate is used to provide in inverse terms a measure of its precision. A considerable part of the theory deals with the calculations of formulas for the sampling variances of estimates obtained by various procedures.

There are various procedures by which a sample may be selected. Each one of the several procedures is considered in detail below :

Simple Random Sampling: A Simple Random Sample of ' n ' elements is defined as the Sample selected from a population in such a manner that each combination of ' n ' elements has the same chance or probability of being selected as every other combination. This method of sampling is sometimes called Random Sampling.

In practice, simple random sample is drawn unit by unit. The units in the population are numbered from 1 to N . A series of n random numbers between 1 and N is then drawn either by means of a table of random numbers or by placing the numbers 1 to N into a bowl and mixing them thoroughly and drawing a number in suc-

cession. The units which bear these numbers constitute the sample. At any stage in the draw this process gives an equal chance of selection to all numbers not previously drawn.

In actual practice, unrestricted random sampling yields satisfactory results only when the population is fairly homogeneous throughout.

Stratified Random Sampling. In Stratified Sampling the population of N units is first divided into sub-populations of $N_1, N_2, \dots, N_n$ units respectively. These sub-populations are non-overlapping and together they comprise the whole of the population, so that $N_1 + N_2 + \dots + N_n = N$.

The sub-populations are called Strata. To obtain the full benefits from stratification, the values of N_n must be known. When the strata have been determined, a sample is drawn from each stratum, the drawings being made independently in different strata. The sample sizes within the strata are denoted by $n_1, n_2, \dots, n_n$ respectively.

If a simple random sample is taken in each stratum, the whole procedure is described as stratified random sampling.

The basic point involved in stratified sampling is the fact that a homogeneous universe requires a smaller sample than does a heterogeneous sample. If a series of homogeneous sub-universes can be sampled in such a way that when the samples are combined, they constitute a sample of a more heterogeneous universe, then a saving of time and money will result as well as increased accuracy. Two things should be considered in dividing the universe into significant homogeneous sub-universes. Firstly, the criteria for division should be correlated with the variable being studied. Secondly, the criteria used should not provide so many sub-samples as to increase the size of the required sample over that required by simple random techniques. Strata may be created on the basis of geographic location, rent, size of city, type of farming, etc. For information on commerce, the commercial concerns might be divided up by area, type of business and size.

Past data, intuition and judgment of experts in the field should be used effectively in setting of strata. Unless we have some prior knowledge about the data, it is difficult to proceed with stratifica-

tion. Hence much care is needed in the process of stratification. In spite of the above limitation, this is one of the most commonly used techniques in sampling.

Area Sampling. This is a particular type of stratified sampling which has recently been developed with considerable precision. In area sampling the population is broken up initially into areas and a number of these areas are selected either at random or in some stratified manner. The sample members are then selected from these sample areas only, usually with the aid of maps of some kind, e.g. maps of dwelling units. Besides ensuring random selection of sample members, this procedure reduces interviewing costs because of the concentration of interviews within specified areas. Thus it is much easier and cheaper to interview 20 farmers in one country than one farmer in each 20 different countries. Consequently, where the cost of additional materials, e.g. maps, does not nullify this reduced interviewing cost, an area sample may prove more economical than even an unrestricted sample. A variation of area sampling which reduces interviewer travel and time costs to a minimum is cluster sampling. In this type of sample, the sample members are selected in groups instead of selecting individually. In some instances, a cluster sample is likely to be more accurate than the corresponding area sample of the same size.

Systematic Sampling. This method of sampling is at first sight quite different from simple random sampling. Suppose that the N units in the population are numbered from 1 to N in some order. To select a sample of n units, we take a unit at random from the first k units and every k th subsequent unit. For instance, if k is 15 and if the first unit drawn is number 13, the subsequent units are numbered 28, 43, 58 and so on. The selection of the first unit determines the whole sample.

Systematic sampling is used very widely. For example, in a sample Survey to estimate the average rental value of dwelling units in a city, one might take say every twelfth block within the city and every fourth household within the selected blocks.

The apparent advantages of this method over simple random sampling are as follows :

1. It is easier to draw a sample and often easier to execute without mistakes. This is of particular advantage when the draw-

ing is done in the field. Even when drawing is done in an office, there may be substantial saving in time. For instance, if the units are described on cards which are all of the same size and lie in a file drawer, a card can be drawn out every inch along the file as measured by a ruler. This operation is speedy, whereas simple random sampling would be slow.

2. Intuitively, systematic sampling seems likely to be more precise than simple random sampling. In effect, it stratifies the population into n strata, which consists of the first k units, the second k units, and so on. We might therefore expect a systematic sample to be as precise as the corresponding stratified sample with one unit per stratum. The difference is that with the systematic sample, the units all occur at the same relative position in the stratum, whereas with the stratified random sample the position in the stratum is determined separately by randomization within each stratum. The systematic sample is spread more evenly over the population and this fact has sometimes made systematic sampling considerably more precise than stratified random sampling.

In sampling of human populations, inventories, farms, and the like, experience shows that systematic sampling with a random start may be expected to yield small gains over random sampling, possibly from 2 to 10 per cent smaller variance than the results of a sample of the same size selected entirely at random from the whole universe.

The sampling methods described above have one common characteristic. For all these samples the probabilities of selection are known. These samples are known as Probability Samples or Random Samples. For these samples, sampling errors can be calculated and the biases of selection, non-response and estimation are virtually eliminated or contained within known limits. Conversely, the samples for which the probabilities of selection are not known are referred as judgement samples. For such samples the bias and sampling errors cannot be calculated from the sample but instead must be settled by judgement. In Probability Samples strict rules should be followed, as we have already seen.

In contrast, the results from a judgement sample are obtained by procedures which depend to some appreciable part on (i) a judgement selection of "typical" or representative countries, cities,

road segments, blocks, individual people, household farms, articles or packages concerning which information is to be obtained or on (ii) weighting factors that are prescribed arbitrarily or by expert judgement to make allowances for certain sizable segments of the population whose magnitudes and characteristics are unknown and not determined by the sample.

Quota Sampling. The 'quota' method is one type of judgement sample. This sampling procedure is used mostly in public opinion polls. In quota sampling, the population is broken up into divisions or strata according to the distribution of the characteristics most closely related to the subject being studied. For example, in studying purchase habits for jewellery, sub-divisions by income level would be relevant. A quota is then set for each stratum and sample members are selected from the stratum, theoretically in a perfectly random fashion, until the quota is filled. These quotas are usually either in proportion to a relative size of the strata in the population or allow for differing degrees of heterogeneity among the various strata. The process of choosing the individual has sometimes been left entirely to the interviewer. The quota method is subject to the biases of selectivity and availability, besides the errors of incorrect assignment of weights to the various classes of the population. From the Statistical point of view, this technique is particularly weak, since there is no way of calculating permissible error or the required number for the sample. But the chief merit of Quota Sampling lies in its practicability and lower cost. It is successful for practical goals when quick, crude results will satisfy. This technique is also widely used in marketing research. But as far as possible, this technique should be avoided.

Size of the Sample. In the planning of a Sample Survey a decision must be made about the size of the sample. The decision is an important one. Too large a sample implies a waste of resources and too small a sample diminishes the utility of the results. Sampling theory provides a framework within which to think intelligently about the problem. The principal steps involved in the choice of sample size are as follows:—

1. There must be some statement as to what is expected of the sample. This statement may be in terms of desired limits of error or in terms of some decision that is to be made or action that is to be taken when the results are known.

2. Some equation must be found which connects n , the sample size, with the desired precision of the sample. The equation will vary with the content of the statement and with the kind of sampling that is envisaged. One of the advantages of probability sampling is that it enables the equation to be constructed.

3. The equation will contain as parameters certain unknown properties of the population. These must be estimated in order to give specific results.

4. It often happens that data are to be published for certain major sub-divisions of the populations and that desired limits of error are set up for each sub-division and the total n , the sample size is found by addition.

5. More than one item or characteristic is usually measured in a Sample Survey and sometimes the number of items is large. If a desired degree of precision is prescribed for each item, the calculations lead to a series of conflicting values of n , one for each item. Some method must be found for reconciling these values.

6. Finally, the chosen values of n must be appraised to see whether it is consistent with the resources available to take the samples. This demands an estimation of the cost, labour, time and material required to obtain the proposed size of the sample. It sometimes becomes apparent that ' n ' will have to be drastically reduced. A hard decision must then be faced whether to proceed with a much smaller size, thus reducing precision or to abandon efforts until more resources can be found.

Some limitations of Sampling. No sample is representative of all the characteristics of a population at a given time. A sample, designated to estimate soap purchases of families in some units will not necessarily yield accurate estimates of cereal consumption. And it is perhaps needless to point out that a sample representative of one population cannot automatically be assumed to be representative of another.

The time element is another consideration. A sample taken at one time reflects only conditions existing in the population at that particular time and cannot be assumed to portray conditions at any other time.

One measure of reliability of sample data is the Standard Error formulas, the lower the value of the standard error the less the

sampling error in the data. However, the standard error formulas tell us nothing about errors in the data other than sampling errors. Thus, the standard error provides no indication of the extent to which the sample data may be biased because of non-random selection of the sample members or because of a poorly worded questionnaire, biases which frequently turn out to be many times larger than the sampling error. A full evaluation of sample reliability necessitates a careful consideration of possible non-sampling errors as well as of sampling error in the data and the accuracy of such an evaluation depends primarily upon the judgment and experience of those who plan the operation and interpret the data.

Finally, it cannot be over emphasized that sampling is based on the theory of probability. The 95% confidence level generally employed in market research means that in 95 samples out of 100 (of the same size and type) the population value will be covered by the sample figure, the latter being expressed as a certain interval of range. But what is generally overlooked is that the use of this confidence level also means that the estimate will prove faulty 5 times out of every 100 and there is no guarantee that this particular sample may not be one of the five. Sampling is a very useful and a valuable tool, but like so many other tools it is not infallible.

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Discussion

The first criticism made at the Seminar was that though the title of the paper was Problems of Sampling, the paper did not present any problem as such but only described the different types of sampling. This was followed by a discussion of the paper as such. The derivation of the random numbers was taken up and the principle underlying it examined. The advantages of stratification and the conditions necessary for successful stratification

were discussed with the help of appropriate examples. On the adoption of the other types of sampling also, specific examples were cited and clarification sought.

The limits to the applicability of the sampling procedure came in for discussion towards the close of the Seminar. Where there was absolutely no uniformity in the composition of the universe, it was felt that sampling was not practicable. Further, where the size of the universe was very small, sampling was unnecessary. And thirdly, where quality judgments were involved, sampling and quantification were difficult. It was further pointed out that a frame was essential for sample survey and unless the frame was satisfactory, results would not be reliable.

INDIAN MONETARY POLICY

By

K. R. SITALAKSHMI

An interesting development in economic policy in recent years has been the use of monetary policy to regulate economic activity. Practically all countries have reverted to a greater or lesser extent to flexible monetary policies, in most instances the traditional instruments being supplemented by a variety of other measures.

In the operation of monetary policy in the post-war years three phases could be noticed. In the immediate inflationary upsurge following the Korean War, a number of countries, following a cheap money policy, adopted policies of tighter money. This phase was followed by an easier money policy for about two years starting from 1953. But, again, in 1955 a number of countries adopted restrictionist monetary policies in order to check inflationary pressures. In the last two years, the considerable expansion of fixed capital investment and consumption expenditure, financed by larger recourse to bank credit, led to credit inflation in many countries.

Prior to the restrictive monetary policy adopted in 1951, the cheap money policy was followed in India in order to facilitate governmental borrowing at low rates of interest. This policy of keeping interest rates low was thought to be necessary even in the post-war years in order to avoid any possible economic recession. But the bias in favour of cheap money faded when the inflationary pressures were intensified. The disturbed state of affairs in the country after the war increased the liquidity preference of the people to hold cash and there was a tendency for long term interest rates to rise. The prices of government securities were tending to fall. The Reserve Bank, in order to support the gilt-edged, made open-market operations on a large scale. This resulted in putting more money into circulation when what was required was a contraction of the money circulating. The expansion in credit continued and credit inflation was due, among other factors, to the facility which banks enjoyed for selling their holdings of Government Securities to the Reserve Bank.

The inflationary pressures were intensified in the country after the outbreak of war in Korea. There was a noticeable tendency for hoarding goods and commodities. A large portion of liquid funds was diverted for financing these operations. The Reserve Bank had been, for some time, trying methods of credit control such as directives to the commercial banks to regulate their loans and advances. But they were not successful. So the Reserve Bank had to resort to the Bank Rate weapon. Along with the increase in Bank Rate from 3% to 3½%, the support to the gilt-edged also was withdrawn. The change in the Bank's policy, coming as it did at the start of the busy season, was meant to check credit expansion. The shift in policy enabled the Bank to influence the pattern of Bank advances. This was the first step in the revival of monetary policy in India.

In recent years monetary policy has been resorted to by a number of countries for the purpose of checking internal booms or for correcting balance of payments disequilibrium. The successful working of monetary policy in any economy is largely conditioned by the structural and institutional factors present in the economy. Inflation affects to varying degree all countries, whether they are industrially advanced or under-developed. In India the tempo of investment activity has been steadily rising and this has entailed large demands on the banking system by trade and industry. There has been an increase in bank credit and money supply. The economy enjoyed comparative stability with a fair rate of development under the First Five Year Plan. But as against this there have been signs of "the growing strain on the economy" imposed by a high rate of investment. Rising prices and deficit in the balance of payments have been the prominent features of the economy. Along with an increase in money supply and bank credit there has been financial stringency in the market. It is against this background that the Reserve Bank has adopted a monetary policy designed to correct inflationary pressures.

An active use of monetary policy rests on the assumption that the general level of effective demand and consequently the general level of prices and production can be influenced by modifying the availability and use of credit. In the context of a development programme, general quantitative control over bank credit is mostly a question of controlling inflation. Bank rate is one of the weapons for controlling inflation. Restraints on bank credit through changes in Bank Rate cannot be very effective in India where the

money and capital markets are not organised. Further, as the volume of currency is more than the volume of deposits, the central bank control affects almost exclusively the less important deposit money. However, this does not suggest that under-developed countries like India should discard monetary policy. On the contrary, the need is for an adaptation of monetary policy that will enable it to help in financing economic development, as well as in maintaining monetary stability.

The Reserve Bank's monetary policy has been revised in order to suit the changing economic context. It has adopted a policy of controlled expansion through general and selective methods of credit control. The Bank Rate has been raised from $3\frac{1}{2}\%$ to 4% . The Bank has been given powers to restrict the volume of bank credit by varying reserve requirements of banks. As regards the selective credit control exercised by the Bank, this is not the first time the Bank has recourse to such a step. The directives of the Bank in the past were merely requests to the commercial banks. But now the Reserve Bank has tried to regulate advances by prescribing higher margins on advances.

The monetary situation in India at present is paradoxical, where there is financial stringency along with rising prices. The rise in Bank Rate will lead to higher deposit and advance rates of banks. The increase in the interest rates of Government Securities may canalize the savings of the people into Government Securities. But at the same time it will lead to costlier borrowing for the Government. As development proceeds in the public sector, public debt tends to grow and the increased interest rate will increase the cost of public debt. Here the use of Bank Rate policy should therefore be weighed against other measures of credit control, such as selective credit controls. Selective credit controls are intended to encourage or discourage specific types of investments and expenditure by influencing the lending policy of banks. In a developing economy there will be a tendency for growing money savings to be diverted for speculative purposes. Selective credit controls in the form of margin requirements, etc., will discourage such speculative investments which do not add any net capital resources to the stock of resources in the country.

In regulating economic activity, although the main emphasis has been on monetary policy, in many countries fiscal policy has also been used to supplement the effect of monetary measures. For instance, in the United Kingdom investment allowances to non-

essential industries were terminated and consumer subsidies were reduced.

Financial stringency in the money market under conditions of rapid development demands graduated flow of less costly funds to the money market. But this is not to deny the need to ensure that such a flow does not lead to credit inflation. The creation of special institutions for extending credit to trade and industry would prove to be more useful than adjustments in interest rates.

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Discussion

At the outset, the origin of monetary regulation was traced from the gold standard days and it was explained how in the course of time monetary regulation came to be regarded as an instrument of economic stability and how in recent times the weapons of bank rate and open market operations had been used to subserve even non-monetary ends.

It was agreed that the success of monetary policy depended on the circumstances in which it was applied. For instance, where the malady of the situation was basically structural and not monetary, as in the case of India, monetary policy by itself would not go to the roots of the problem. Further, in the absence of an organised capital market, monetary weapons had to be largely supplemented by fiscal devices and physical controls.

The question was raised whether monetary policy could be used successfully to counteract disequilibrium in the external balance of payments of a country. The answer was given in the affirmative and the example of United Kingdom was cited where the bank rate was raised recently mainly for this purpose.

The paradox of the prevailing co-existence of financial stringency and rising prices in India posed in the paper led to a lot of discussion on the causes of inflation. While one member argued that inflation was caused by a rise in effective demand, others related it to an increase in money supply. Though this part of the discussion was inconclusive, it provided an opportunity for the clarification of certain basic issues.

PROBLEMS OF MEASUREMENT IN SOCIAL SCIENCES

By

M. H. GOPAL

The scientific status of a study and the dependability of its findings are related to the degree of accuracy of its measurements, which depends on the precision of its tools. In social Sciences some data, e.g., size and structure of population, volume of indebtedness, saving, employment and so on, are quantitative and objective, and so, more easily measurable with statistical tools. Other data in the nature of attributes are qualitative and subjective, e.g., attitudes, social status, housing adequacy, etc., and are not accurately measurable.

This paper deals with the latter type. The currently used techniques for measuring qualitative data described below are undeveloped and must be improved; and new and precise tools must be discovered.

To be measured accurately, attributes should be translated into quantitative terms. The technique of converting and setting the alternatives into an orderly gradation is the essence of the scaling of attributes. Scaling presumes that the qualitative data form a continuum or an identifiable and logically related series, e.g., if social relationships are to be measured, the continuum would be: intimate, warm, close, indifferent, active dislike, hostile, social reject, etc.; each one of these being a succeeding step in the degree of social contact.

The *first step* in applying the scaling technique is a thorough knowledge of the subject being investigated. The investigator must first define the continuum, i.e., find out what it is that he wishes to measure quantitatively. The sectionalised problem or sequential alternatives must be logically related. The whole technique of defining the continuum and measuring the items being still in the formative stage, the scale applied in one enquiry, to a particular population and in a particular environment may not suit another. Hence, it is necessary to take a *second step*, namely, to ascertain if the qualitative series is representative of the normal continuum.

Such an ascertainment can be made through tests of validity, which along with reliability, forms an important criterion that any tool of measurement should satisfy. A scale is considered reliable if it consistently produces the same result when applied to the same sample. Three methods of testing reliability are used in scaling techniques: (1) *Test-retest*, i.e., the scale is applied to the same population twice over. To avoid staleness of response at the second application, better randomly divide the population or sample into two halves and apply the scale twice over. (2) *Multiple form* where two forms of the scale are constructed and applied to the same sample. The greater the correspondence between the two, the greater the reliability. (3) *Split half*. This is a modified form of the second approach. Divide the scale itself into random halves. A simple and practical way is to group the odd-numbered items in one group and the even-numbered items in the other. The degree of correlation between the two would indicate the degree of reliability. The dependability of this technique presumes that the scale as a whole hangs together (i.e., that either half is adequately representative of the whole) and that each half contains a sufficient number of items (say 8 to 10).

The criterion of validity implies that the scale should actually measure what it claims to measure. Although much remains to be done with regard to validating scales in use and develop new ones, there are alternative approaches to validation. (1) *The logical approach*. If the continuum is established and the items constituting the test are carefully selected (about social status, the items would be material possessions, income, education, family background, etc.), validity is presumed to follow logically. (2) *Jury opinion*. This is an extension of the first approach and consists in ascertaining the validity of the scale by referring it to the judgment of experts, e.g., if the adequacy of housing is to be measured, the scale may be judged by engineers, architects, housewives, etc. (3) *The best approach is that of independent criteria*. Supposing there is already a measure in operation—however crude it may be—this can be reinforced by other related criteria, e.g., if social status is so far being assessed with reference to, say, income, check it against a variety of other factors, e.g., rental value of house, education, residential location, etc. It should be emphasised, however, that all these approaches are indefinite and that it is perhaps best to utilise all of them.

Often, the qualitative items composing the scale may not all be of equal importance. Assigning weightage to them would increase the validity of the scale.

Despite these precautions, perfect reliability and absolute validity are not to be expected in social qualitative measurement. Social scaling methods range from great crudity to considerable refinement. But "any scale which is reliable and valid, regardless of its crudity of measurement, is better than no scale at all, so long as no more refined technique is applicable". (Goode and Hatt).

Some scaling devices in use

A number of scaling devices are in use in sociological study, to measure social distance, rating scales, ranking, etc. Social distance refers to the degree of understanding in social relations. This relationship is measured by the *sociometric device*, which has been defined as a scientific tool for the observation and measurement of social factors. It is "a means of presenting simply and graphically the entire structure of relations existing at a given time among members of a given group", e.g., in schools, industry (job and personal evaluation), prisons, communities, etc.

The main features of this device are the offer of a specific *criterion* for choice, a specific *number* of choices and each choice describing different *levels of preference*. The technique of constructing sociometric scales is simple and is as below: (1) Determine what is to be measured, i.e., identify conditions, traits and so on, e.g., is it an ethnic minority, cultural group, occupational type, etc.? (2) carefully select the criteria to be used as a basis for measuring; (3) weight each criterion; (4) the scale must possess a high degree of validity and a relativity; (5) it must be easily administered and be susceptible to statistical analysis.

A pioneer application of this device was in U.S.A. about the average American and ethnic groups. Four minorities were listed (English, Swedes, Poles and Koreans), and the continuum was in seven steps:—(1) close kinship by marriage, (2) admission to my club, (3) to my street, (4) to employment, (5) to citizenship, (6) as a visitor, (7) would exclude from U.S.A. (for detailed scoring vide Goode and Hatt, pp. 243-46). The frequency of responses was presented graphically, even as smoothed curves of social distance scores. Methods of scoring were related to the height and slope of the curve,

In so presenting, certain problems emerged: Can equidistance between the scale points be assumed? Is each point necessarily beyond the preceding one? and so on. Much study and experimentation, however, are necessary before the sociometric scale becomes a refined instrument of measuring complex social phenomena.

Another device is the *rating scale*. The essence of scaling is the mode of rating in the form of grades. The design of acceptable rating has three elements: (1) Broadly, pooled judgments increase the accuracy of any rating scale, e.g., the more the number of valuers and of papers, the more the accurate rating of a student's ability; (2) the definition of scale points be employed in rating. This may be done by employing the graphic technique or the verbal descriptive one; (3) reliability is best measured by the test-retest method.

As already stated, the scaling technique, whatever the form or name, is still in a rudimentary stage of development. It attempts courageously to tackle a number of problems of measurement: Can attributes be measured at all? if so, how to translate them into quantitative terms? Can *any* continuum be resolved into a series of logical, mutually exclusive sequential alternatives? Can the various items comprising a scale be weighted?

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Discussion

The author said that in order to facilitate measurement, attributes should be translated into quantitative terms. He further explained how through the scaling technique, quantification of attributes could be effected by setting them into an orderly gradation.

The question was raised at the outset whether attributes should be measured at all. The practical utility of an accurate measurement of attributes was doubted by some members. Others however felt that the progress of any science was marked by the success

of measuring more and more of its data. It was also said that measurement of social attributes would help policy making.

The other basic question that was raised and which led to a lot of discussion was, whether with the present level of the progress of social research, qualitative data could be measured at all with any reasonable approach to accuracy. The practical difficulties in the process of quantification were examined. It was said that the process lent itself open to the entry of bias. The scaling technique by which a number of alternatives were graded was criticised on the ground that it would vary with every individual researcher; and there were no general principles guiding it.

Towards the close of the Seminar attention was devoted to the ways of improving the tools for the measurement of attributes. Some members said that the larger the number of alternatives offered the greater would be the accuracy of the results obtained. Others however doubted the validity of this relationship.

THE FUTURE OF MANAGING AGENCY SYSTEM

By

T. V. SETHURAMAN

I

Introduction

The future of Managing Agency System hangs in balance. The system has been continuously under fire for the last two decades. Even though the Companies (Amendment) Act of 1951 conferred extensive powers on Government to intervene directly in Company administration, still the interests of the shareholders were in grave danger. A few persons at the top, because they happened to be there, were actually exploiting the situation in the name of the many. This is a situation which a democratic country like India could ill afford. The Directive Principles of the Constitution (Articles 36 to 51) lay out a broad pattern of economic and social advance. They visualise an economic and social order based on equality of opportunity, social justice, the right to work, the right to an adequate wage and a measure of social security for all citizens. It is from this angle that we should look at any amendment to the Companies Act. The Companies Act is essentially concerned with means and not with ends.

We should not be carried away either by predilections or by prejudices in arriving at a correct estimate of the working of the system. We should be on the side of what is right. A critical appreciation of the achievements of the system would not be out of place here.

II

Achievements of Managing Agents

The industrial development of the country in the early stages had been made possible only because of the existence of the Managing Agents. To list out a few specific cases—the cotton textile industry, the jute industry and the iron and steel industry will speak volumes about their role. The proverbial shyness of

Indian capital and the absence of a large class of investors made the dependence of Indian industries on the Managing Agents more acute. Dr. Lokanathan has observed that "the present practice is the result partly of accident and partly of evolution".¹ In India, the Managing Agents had the double function of looking after the working of the mills as well as financing them. We may do well to study their contribution under the following headings:

(a) *As Industrial Pioneers*

It will be hardly refuted that many industrial concerns in our basic industries had been successfully floated by them. They not only provided initial capital, but their interests were linked up with the fortunes of the concerns—a perfect example of the Golden Rule of Capitalism, namely, where risk lies, there control is.

(b) *As Managers*

The real problem of underdeveloped countries is really a managerial one than a technical one. Hence the Managing Agents' role in this field is not as dominant as it is in the other two fields. Being merely financial agents they lack expert technical knowledge. It is not so much the European Agency House that is subject to criticism here as is the Indian Managing Agency System. The main drawback of our system is that we make the institution hereditary. Bad management is the result leading the firm in question to ruin.

(c) *As Financiers*

An industry requires long term capital as well as short term capital and in a country where banking development is very slow and where difficulties of raising permanent capital are very great, the Managing Agents have an assured role. In fact, they had been the bulwark preventing industrial concerns from collapse in times of depression. But unfortunately they had also developed certain malpractices which stand for severe criticism today. No wonder, extremists in the legislature even pleaded for the abolition of the system! Simply because the Managing Agency System of promotion had been successful in the past, we cannot hastily conclude that it is so at present or will continue to be so in the future. A discussion of the defects of the system will test such a statement.

1. P. S. Lokanathan, *Industrial Organization in India*, p. 219.

III

Defects of the System

Has the system outlived its utility is a question for which different answers may be given. An impartial observer will have to take into account also the defects of the system and the mal-practices of the Agents, so that he may arrive at the right decision with regard to the future, which will also be a just solution. Some of the well-pronounced defects are as follows:

(1) In the first place, industry today has come to be dominated by financial considerations too much. As lamented by Dr. Lokanathan, "Finance instead of being the servant of industry has become its master with injurious consequences".² Inter-locking of directorates and finances are being practised everywhere, hampering industrial development in every possible way.

(2) The burden thrown on their shoulders has been so much that many of them sink bringing down their businesses too.

(3) On account of the prevalence of this system no mill company is able to develop its own system of independent financing.

(4) It is a well known fact that this system encourages speculation.

(5) Again the conflict of interests between the shareholders and the managing agents cannot be brushed aside. In such a context, the Managing Agents invariably gain the whiphand over the helpless shareholders. It is a noteworthy fact that the European Managing Agents are less guilty than their Indian counterparts in this respect.

(6) Last, but not least, the system leads to concentration of control. An unofficial survey revealed the fact that 500 important industrial companies were managed by some 2000 directors and at the apex of this pyramid stood only 10 men holding as large as 300 directorships. The tendency further accelerated as shown below.³

2. *Ibid.*, p. 225.

3. Figures as given by N. Das in "The Future of Industrial Enterprise in India" (*Capital Annual*, 1955).

*Number of Companies Managed by Six Managing Agents in
Selected Industries*

		1911	1931	1951	1955
1.	Jute ..	22	31	38	40
2.	Cotton ..	24	27	36	39
3.	Sugar ..	6	9	30	32
4.	Tea ..	58	84	96	100
5.	Engineering ..	6	15	21	34

The monopolistic tendency has tended to accelerate rapidly within half a century, as evidenced from these figures. It is not difficult to prove that a large number of these are held only by a few persons. Such being the case, how can one blame the Government if it wants to arrest such an unhealthy development in our economy?

IV

Need for Reform and the Companies (Amendment) Act, 1956

Hence came the urgent need for reform. Since we have not developed either strong trade unions or buyers' groups, which serve to regulate the economy as in U.S.A. or U.K., the responsibility of the State is all the greater to check this monopolistic tendency.

The Companies (Amendment) Act recently passed by the Lok Sabha seeks to plug those loopholes in the Managing Agency System that were left uncovered by the previous Acts. There is a strong case even if they had been well and properly managed. In the United Kingdom, the Cohen Committee recommended a consolidating law in 1945, though they had been consolidated only 16 years before. Several unworthy practices during the war and after saw the appointment of the Company Law Committee in 1950, in our country, under the chairmanship of Sri C. H. Bhaba, which made some useful suggestions in 1952. The report was accepted by the Government. Based on this report, the bill was presented to Parliament in 1953, and came into force on 1st April, 1956. Let us analyse some of the broad features of this "mammoth piece of legislation" containing in all 645 clauses and 12 schedules.

Evidently the core of the Company law is the Managing Agency System. An ultimatum has been issued to the Agents in the sense that all existing Managing Agents will, according to clause 329, cease to hold office on 15th August 1960, unless reappointed earlier by the Central Government. As the then Finance Minister Mr. C. D. Deshmukh has pointed out, and rightly so, "the time has not come for eliminating Managing Agency System". What we need today is only reformation and not extinction of the system. Future course of action will be decided by the Government after bestowing due attention to the following:

(a) That it is not against the public interest to allow the company in question to have a managing agent;

(b) That the managing agent is a fit and proper person and the conditions are fair and reasonable; and

(c) That, such conditions imposed by Government from time to time must be fulfilled.

Coming to Managing Agency Agreement, clause 327 fixes that no agreement should exceed a period of 15 years in the first instance or a period of 10 years for every subsequent renewal. Clause 331 reads that no person shall be Managing Agent in more than 10 companies after 15th August, 1960. A penalty clause is also attached for the law breakers in this respect.

Critics of the Government may well point out that the system itself is being crippled, that it is strangled to death. Chapter IV of Part VI of the Act answers the critics suitably by introducing the system of "secretaries and treasurers". The Managing Agents, as very aptly put by Mr. Deshmukh, are only on probation. The Government would consult the advisory commission before taking any radical step as that of abolishing the system altogether. Another serious criticism levelled against this measure is that it will undermine the efficiency and enterprise of Joint Stock Company system. No doubt it is true that the powers vested with the Government is "enormous and perhaps without parallel elsewhere". But as pointed out by Mr. C. D. Deshmukh, on more than one occasion, such an amount of power is given to the Government only to help and not to hinder the system. The Managing Agent fully knows that the next five years are going to be crucial for him; the Sword of Damocles is hanging over his head; that for all practical purposes he is going to be judged strictly by results. His

choice is now crystal clear: reform or extinction. Knowing this he will almost certainly throw his weight on the side of reform.

V

Remuneration to Managing Agents

Whatever may be the system of remuneration, a certain fixed monthly or annual sum is paid to them under the head of office expenses, which is deemed to be excessive. There are some who are highly critical of giving a minimum commission. The principle of guaranteeing a minimum commission is not by itself unfair, but only the way in which it is applied may tend to be unfair to the interests of the shareholders. When no minimum commission is paid, a commission may be paid to them either on (a) output or (b) on gross sales or (c) on net profits. Here, only the last system is to be favoured, since the first two are unprofitable from the point of view of the concern. The Company Law Committee favoured that the commission on net profits should not at the most exceed $12\frac{1}{2}\%$ of the total net profit. But the Companies Act has lowered the figure to that of 10%. One should clearly bear in mind, in this context, that it is not so much the size of remuneration that makes the system burdensome as "the incompetence and indifference of managing agents".⁴

VI

The Future of the System

Only a three pronged drive will bring about a wholesale reformation of the system. Firstly, there should be better co-operation and co-ordination from the Agents themselves. Secondly, the shareholders should organise in a better manner and exercise a greater vigilance over the Company affairs. Thirdly, the State should follow a policy of stricter control and watchfulness. This is exactly what is hoped to be achieved by the Companies Act 1956 and it remains to be seen as to how far it is a success. Nobody will append his approval to such an untrue statement that the Managing Agency System has become an anachronism. Defects there are, but they can be rectified in no time. In spite of the defects and malpractices found, in the words of the Bhaba Committee, "the system may yet prove to be a potent factor for tap-

4. P. S. Lokanathan, *Industrial Organization in India*, p. 346.

ping the springs of private enterprise". We are reminded here of the prophetic statement made by Dr. Lokanathan in his book on "Industrial Organisation in India" which holds the ground even today. "It is dangerous to prophesy; but perhaps it may be safely predicted that the future of the Managing Agency System lies mostly in the hands of the Managing Agents themselves." (p. 3).

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(b) *Eastern Economist*: Blue Supplement issued on Company Law dated July 1955, (c) *Capital*: Annual 1955; N. Das on "The Future of Industrial Enterprise."

Discussion

The discussion commenced with a criticism that the Managing Agency system had become an anachronism in present-day India. In the first place, with the development of institutional finance and the growth of banking facilities, the role of managing agents as financiers had diminished. The investing public had also increased. It was also said that with the great progress of industrial development in India, the opportunities of fresh avenues of investment had become less. This diminished the scope for the pioneering activities of the managing agents. On these grounds the opinion was expressed that it was no longer necessary to foster a system that had become defective in several respects.

On behalf of the Managing Agency system it was pointed out that Indian industry depended even now on the managing agents for its finance. Finance from banks was hardly available and assistance from specialist institutions was hardly adequate. This argument, however, received the retort that the very existence of the Managing Agency system hindered the growth of these facilities. On the promotion of new enterprises it was said that the function had become much easier at present. Statistical data and technical knowledge had become available in greater abundance and were no longer the exclusive privilege of a few managing

agents. A suggestion was made that it would be much better if managing agents, instead of dabbling in financing and managing, were to convert themselves into professional promoters whose services were valued in advanced countries like U.K., and U.S.A.

The Managing Agency System was attacked on the ground that it led to concentration of ownership. This concentration of ownership and interlocking of directorates hindered the optimum efficiency of the individual units. It was then pointed out that concentration of ownership would still be possible even if the Managing Agency system were to be statutorily abolished. One member said that so long as there was concentration of wealth in society, there would be concentration of ownership of industrial enterprises. Another said that it was not concentration that was bad, but the numerous stipulations in the Managing Agency system that were harmful. And these could, of course, be statutorily abolished.

A plea was also made to make industrial enterprises less dependent on the managing agents by affording, through specialist institutions, financial assistance as well as technical and managerial help.

INFLATIONARY THREAT IN A DEVELOPING ECONOMY

By

D. BRIGHT SINGH

The first part of this paper attempts to show how inflation constitutes a threat in a developing economy. The second part deals with one of the possible ways in which inflation can start in an economy when much emphasis is laid on industrialisation.

I

A rise in price in itself is no more an indication of inflation than a fall in prices of deflation. A rise in prices that occurs after an economy has reached the trough of depression is only a sign of recovery and a fall in prices brought about by monetary or fiscal policy after prices have touched a peak level indicates only that the policy has been effective. On the other hand, inflationary pressure can exist in an economy even when price level is kept constant by means of controls.

Normally, however, inflation is associated with a rise in prices. Prices rise when the demand for goods and services increases at a faster rate than output. So long as resources remain idle or unemployed, increased demand would lead to higher levels of employment and increased production. If the rate of increase in output is proportionate to increase in demand, there cannot be price rise but if supply is relatively inelastic either because full employment has been attained or because of the various bottlenecks common in an underdeveloped economy, increased demand would manifest itself more in an increase of money incomes than in real incomes. Such a rise in money incomes or prices is an indication of inflation.

Inflation then is caused by excess demand. Aggregate excess demand at any point of time in a national economy is the sum of excess of exports over imports, excess of government spendings over receipts and excess of private investment over savings. It is the net excess that matters here. Thus, if there is no excess of private investment over savings and excess of exports over imports is offset by excess of government receipts over government spendings, then there is no aggregate excess demand.

In a modern developing economy excess demand arises mainly through government activity. The primary objective of economic development is to increase real national income. This is possible only by raising the rate of investment. To the extent that governments play a prominent part in the development of the economy, a rise in total investment is accounted for largely by government outlays. Investment involves the utilisation of real resources for purposes of capital formation. If government investment is to increase, real resources normally used for consumption or investment in the private sector are to be transferred to the public sector. If the demand for these resources in the private sector remains the same, then government's increased investment represents an addition to total normal demand. In other words, increased investment by the government causes an excess of aggregate demand over the normal supply of resources. Now, if government by means of physical controls or other direct measures restricts consumption or demand in the private sector, the transfer of real resources to the public sector can be effected without any rise in prices. On the other hand, if this transfer is to be brought about through the normal market mechanism, then government would have to find the means of buying these resources; that is, government will have to use its past savings or issue currency or borrow from the central and commercial banks. This can lead to an inflationary trend in prices.

It is immaterial in which sector of the economy excess demand starts. The point to remember is that as long as excess demand in any quarter is not offset by restriction of demand in other quarters, there is the possibility of the development of inflation. If private businessmen are to raise the normal rate of investment, they borrow from banks and get the resources via credit expansion. If labourers want higher real incomes their money wages are to be raised, and if reduction in employment is not possible because of Trade Unions, employers will have to resort to borrowing from banks in order to pay higher monthly wages. However, in a developing economy where the government undertakes the responsibility to initiate the process of growth, excess demand comes from the government. And government's economic activity involving excess of outlays over normal receipts, causes prices to rise.

This would mean that if the normal market mechanism is not to be impaired—and democracies set a great store by this—transfer

of real resources to the public sector for investment purposes is done through a rise in price level. Now, if a case can be made for increased investment activity by government, i.e. if it can be shown that such increased investment activity can lead to better economic results, than it would be possible otherwise, then a rise in prices is not only welcome but is to be deliberately brought about. In fact, the entire argument of the protagonists of inflation as a means of economic development hinges precisely on this point. They point out that inflation is necessary and beneficial in a developing economy in so far as it facilitates the transfer of resources from where they are consumed to where they can be invested. A moderate dose of inflation by increasing the money incomes of profit-earners as against wage earners transfers real resources from the wage earners and the fixed income earners whose propensity to consume is high to the businessmen or the profit earners whose propensity to save is high and thus facilitates larger investment. The mechanism of transfer is the same when government takes the role of the investor.

Recent investigations however tend to show that this claim in favour of inflation is exaggerated. The validity of this case depends on two factors: (1) the transfer of real resources through inflation is of the magnitude required; (2) this transfer of resources results in productive investment which substantially adds to the income earning capacity of the economy. As regards the first, it may be pointed out that in the U.S.A. during the entire 1950-52 inflation, the labour share rose by 6% of the total personal income (from 64% to 70%) contrary to the general notion that wages and salaries lag behind during inflation. Union corporated businesses, excluding farming, retained a stable share of total personal income, again contrary to the general notion that the business share increases during inflation. On the whole, against all normal expectations there was a substantial gain in the labour share mainly at the expense of the interest share.* This would mean that inflation in U.S.A. was not good enough or bad enough to bring about redistribution of incomes of the type or order that was required. But then, the extent to which prices should rise in an underdeveloped economy is much greater than in a developed one to bring about that degree of redistribution which will ensure a substantial rise in investment rate. Given a rise in

* "The Redistributive Effects of Inflation" by G. L. Bach and Albert Ando (*The Review of Economics and Statistics*, Feb. 1957, pp. 1-13.

prices, the extent of the transfer depends on the propensity to save and consume of the profit earners, and the wage earners. If the marginal propensity to save out of profits is high, the price rise required would be correspondingly less. It is doubtful whether the marginal propensity to save of the business classes in the less developed countries is equal to that of their counterparts in a developed economy. Furthermore, since the transfer of resources is from wage earners to profit earners, the extent to which this transfer can be effected depends also on the proportion of wage income and profit income to total income. The ratio of wages to profits is much lower in the underdeveloped than in the developed economies. In U.S.A. and U.K., it is 2.1:1 and 2.3:1, while in Ireland and Chile it is 1:1 and in Kenya it is 0.6:1. Since the base out of which the transfer is to be made is relatively smaller, it is necessary to have a greater rise in prices in an underdeveloped country to achieve a given transfer of resources than in a developed economy.

Even assuming that transfer of resources of the required magnitude can be effected by means of inflation, the question arises whether these resources when transferred would be properly invested. There is always the possibility of an allocation of resources to luxury goods and consumption, and speculative investment in inventories or foreign exchange. Besides, the danger of a mild dose of inflation developing into hyper-inflation is much greater in an underdeveloped economy with an inefficient administrative machinery than in a developed country whose administrative mechanism can be depended upon to counteract any such tendencies.

The conclusion therefore emerges that inflation as a means to economic development has only a limited value. It is a real threat to stability and growth and is something not deliberately to be brought about but to be carefully guarded against.

II

If excess demand is the initiating factor in inflation, then attempts are to be made to keep it in step with supply or real income or output. But the nature of excess demand arising in an underdeveloped country is to be rightly understood. In this connection it is worthwhile to bear in mind the following facts:

(1) Most of the underdeveloped countries which have awakened to the need of economic development have only recently emerged from the state of colonial economies.

(2) They have before them as models well developed economies which are highly industrialized. Rapid industrialization is therefore their main goal. For them industrialization is almost synonymous with economic development.

(3) Since these countries lack adequate entrepreneurial skill, enterprise and tradition, the burden of giving a start in industrialization and development has devolved on governments. Besides, only governments can afford to make the huge initial investments necessary for providing the various overhead facilities.

This emphasis on industrialization has naturally resulted in the expansion of the industrial sector. Large investments by government for the development of industries and transport in effect mean a steady rise in the level of demand coming from that sector.

Now, what does this excess demand in the Industrial Sector mean? It means that for starting and expanding major industries and for the building up of factories, a large amount of real resources in the form of raw materials is required. It means the employment of more labour and that creates a demand for food. If the economy is a closed one, all these resources are to come from the agricultural sector. But from the point of view of the effect of investment on output, there is a difference in the two sectors. By and large, while investment in the industrial sector takes time to fructify in the form of real consumption goods, in the agricultural sector a good part of the total investment results in an immediate increase in supply. In other words, in the short period investment in the industrial sector leads more to the creation of additional money incomes than investment in the raw materials sector. Thus, while the demand for raw materials increases with every progress in the industrial sector, the amount of money that can be offered is also increasing. These exert a combined pull on the agricultural sector.

Obviously then, if this excess demand should not exert a pressure on the price front, there should be a proportionate increase in the supply of raw materials. Otherwise, when there is a relative shortage of primary products, the economy experiences a rise in wholesale prices. Manufacturers of final products raise the price of their goods in response to rise in costs; the cost of living goes up and wage earners press for higher wages. This

further raises costs of production and with more or less lag, other money incomes also go up, resulting in a full-fledged inflationary trend.

The situation is only slightly different in an open economy. Underdeveloped economies which are in the early stages of development, export quite a good proportion of their raw material products in return for much needed imports of machinery and other capital equipment from developed economies. This makes increased production of raw materials and agricultural commodities all the more important because such materials are required not only directly to meet the growing domestic requirements of industrialization but also indirectly for the earning of foreign exchange. This is the fundamental reason why underdeveloped countries find themselves face to face with balance of payments difficulties quite at an early stage of development. In these countries manufactured products can substitute raw materials as foreign exchange earners only after industrialization has sufficiently advanced. Even then the extent to which manufactured goods can be exported depends upon the availability of external markets and the demand for these commodities at home. For, it is a fact that as an economy develops and income increases, the income elasticity of demand goes up and people consume more of goods of the comforts and quasi-luxury category. To some extent such goods produced at home replace similar goods imported hitherto; nevertheless, because of increased domestic consumption, there will be less of such goods for exporting and therefore there is greater difficulty in getting manufactured goods of a higher order—viz. capital goods and machinery.

Lack of balance in the growth of output in the agricultural and industrial sector explains the inflationary rise in price in Britain in the 1890's. Too much concentration upon industrialization in Soviet Russia under the New Economic Policy led to an acute shortage of agricultural products and an inflation of their prices which drove up all other prices in a spiral movement. Due partly to the closed economic conditions prevailing in Russia and partly to the policy adopted by the government, the terms of trade, which remained at first favourable to agriculture, turned adverse to it and produced the famous Scissors crisis of the 1920's.

What has been stated above does not claim to be a full explanation of how inflation develops in a growing economy. It is

only an outline of one of the ways in which inflation can and does start when an economy is concentrating on industrialization. It only suggests that too much emphasis on rapid industrial development can lead to an inflationary situation. Recent price trends in India lend some support to this view. And the statement repeatedly made and emphasised by economists and publicists that agricultural prices, especially food prices, play a strategic role in determining the general price structure in a developing economy, fits in well with the analysis attempted here. Of the total outlay of Rs. 1960 crores in the First Plan period, 15% (Rs. 299 crores) was incurred on Agricultural and Community Development. Irrigation and Power accounted for Rs. 585 crores. Part of this was for industrial purposes. If this is assumed to be half of the total, Industries, Power and Transport and Communications together should have claimed about Rs. 923 crores or 46% of the total outlay. Investment on industries alone increased from Rs. 9.4 crores in 1952-53 to Rs. 39.9 crores in 1955-56, i.e. by about 4 times. This investment represents the initial release of money income by the investment process. Of late, there has been a fall in agricultural output and a significant increase in industrial investment. The effect of this relationship on prices of particular groups of articles and on the general price level is brought out in the opposite Table.

Figures in the last two rows of columns 2, 3 and 7 show that the recent rise in wholesale prices has been greater than the rise under manufactures but less than the increase of the prices of food articles and industrial raw materials. The influence of these groups of articles on the general price structure is obvious enough. The point to note is that simultaneously with a decline in agricultural output an upward pull on the prices of these articles has been exerted by higher investment in the industrial sector.

The foregoing analysis draws attention to the importance of balanced development as between agriculture and industry in a growing economy as a means of ensuring stable growth. Large investments in the industrial sector leading to the expansion of industrial capacity and involving a rapid rise in money incomes of a large section of the community would constitute a source of inflation if expansion in the industrial sector is not matched by an increase in the output of raw materials and agricultural commodities. Inflation is like a malignant growth which manifests itself only when it has assumed serious dimensions. Monetary and fiscal

Industrial Investment Rate, Agricultural Production and Price Trends in India, 1954-57

(Base 1953-54 100)

Year	Food articles	Industrial raw materials	Manufactures	Agricultural production	Industrial investment	Wholesale prices
1	2	3	4	5	6	7
1954-55	.. 88.4	93.3	102.7	101.9	116.8	95.6
1955-56	.. 81.5	89.8	101.5	99.5	216.9	91.3
1956-57	.. 101.1	107.3	104.7	—	—	104.1
July 1957	.. 114.4	116.4	106.4	—	—	111.5

measures are generally devised to check the evil when its dangers are known. But measures to bring about balanced growth are of the preventive type and are therefore more effective.

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Discussion:

The first criticism that the paper met with was that excess purchasing power and not excess demand was the cause of inflation. When it was said that excess demand could manifest itself through activation of idle money, it was said in reply that the proportion of such idle money to the total money supply was not much. Another view was even if inflation was caused by the activation of idle money, such activation actually amounted to an addition to money supply. Finally it was agreed that excess demand was the prime cause of inflation, but that such excess demand manifested itself in excess money supply, resulting in an inflationary rise in prices.

While the author had rejected inflation as a means of economic development since it depended on uncertain forces and sometimes did more harm than good, some members pointed out that inflation was never deliberately designed as a means of fostering economic development. Such inflation was only an accidental by-product. Moreover, it was said, that if inflation was resorted to for increasing the saving potential in the community, the transitional difficulties would be so great that the end-product would not be worthwhile.

While the paper had put forth the view that over-investment in industrial sector as compared to the agricultural sector would give rise to inflation, critics replied that what mattered from the point of view of inflation was not the quantum of investment but the manner of investment in the industrial sector. For instance, if investment was designed in such a way that it resulted in the quick production of consumer goods, inflation would not arise. It was also said that it was wrong to imagine that mere increased investment in the agricultural sector would result in increased output. Several social and technical handicaps had to be overcome before supply could be appreciably augmented. Finally, it was said that it was wrong to make agriculture the limiting factor in industrial development. Members, however, agreed with the author that one of the effective safeguards against inflation in a developing economy was a constant effort at augmenting food production.

STATE TRADING IN INDIA*

By

T. P. SUBRAMONIAN

I

Meaning of State Trading

State Trading is the term used to denote the trade carried on by the Government to distinguish it from the trade carried on by private individuals or firms. The term is usually applied to the government's monopoly of foreign trade; but it can also be applied to the government's organisation of internal trade. State trading might cover either all commodities or might be confined to specific commodities chosen on appropriate considerations. The State might monopolise the entire foreign trade of the country or might restrict itself to the trade with certain chosen countries, leaving the trade with other countries to private enterprise. State trading might be organised as a permanent feature of a controlled economy or might manifest itself as an 'ad hoc' measure to tide over temporary difficulties. Whatever be the purpose, degree or duration, all this is State trading.

II

State Trading Inevitable under Planning

In a planned economy, State trading has an honoured place. In the field of foreign trade, a planned economy will have to introduce State trading in some form or other at some stage of its growth. When all the important aspects of economic activity in the country are organised with reference to a centrally directed plan, it is undesirable that exports and imports should be left to private agencies concerned with short-term and sectional interests and motivated by considerations of private profit. All exports and imports should be considered in their relationship to planned results at home. It is natural that planned economies are reluctant to let their plans be endangered by such uncertain factors

* A more detailed version of this paper has appeared in *The Economic Weekly Annual Number*, January 1958. By courtesy of the journal.

as the ability to sell abroad, the terms of trade, the possibilities of foreign borrowing, the depreciation of foreign currencies, etc. Further, in a planned economy most of the important goods and commodities will be produced under the auspices of public or semi-public enterprises. The export of some of these goods and the import of materials or machinery to be absorbed in the production process in these enterprises will naturally be the responsibility of the State. What goods are to be imported for consumption and in what quantities will also be determined by the planning authority in accordance with the overall plan.

Thus in order to insulate the domestic economy from undesired international influences and to arrange for the exports and imports in conformity with the Plan, all the international trading of a planned economy would probably be done by a governmental monopoly created for the purpose. Individual enterprises and industries could export their products only through and with the approval of this governmental agency. The same procedure will apply to the importation of the goods desired by the consumers. Working in close co-ordination with the planning body, the State trading agency would be guided by considerations of general welfare, rather than the private desires of individual citizens or firms, in making decisions with regard to importing and exporting. Unlike private agencies, the State trading agency might choose at times to export commodities which might be needed for domestic consumption and might fetch substantial prices at home. This may be done in order to pay for vital imports, like machines or materials, which would be more necessary from the point of view of the economy as a whole. It is also possible for the State trading agency to disregard the costs of production if necessary to promote exports which would facilitate essential imports. Also it will be in a position to purchase imports even at very high prices.

In the field of internal trade also, State trading has a rightful place in a planned economy. A planned economy will have to ensure that supplies are available to producers and consumers in adequate quantities and at reasonable prices. It will be incompatible with the nature of a planned economy to permit the prices of individual goods to be determined by the unhampered action of market forces or to allow the prices of things in general to find their own level. Price control will have to be accompanied by monetary regulation and physical controls. Wholesale trading of

strategic commodities will have to be organised under State auspices in some form or other.

III

Evolution of State Trading in India

The idea of a State-sponsored agency to handle foreign trade was first mooted in India during the Second World War. The idea used to come up to the fore now and then, but no definite step was taken. In 1949 the Commerce Minister announced during the Budget Debate that the Government were exploring the possibilities of State trading in certain specified commodities and with certain specified countries. A Committee on State Trading was appointed in the same year to consider whether it would be of advantage to have a State-owned or State-sponsored organisation for any sector of foreign trade. The Committee was of the view that it would be better to leave the larger part of the normal foreign trade in private hands. However, they recommended (i) the continuance of State trading already undertaken by the Government in respect of the imports of foodgrains, fertilisers, steel and East-African cotton, (ii) State trading for the effective implementation of the barter agreements concluded by Government, (iii) that the State should take over the export trade of coal and short-staple cotton and (iv) that a State agency should pioneer the exports of the products of Indian cottage industries. Thus while accepting the principle of State trading, the Committee designed most of its recommendations to meet the immediate requirements of the situation.

With the acceptance of planning as the means of engineering economic development, the idea of State trading received added importance. As India is not yet a fully planned economy, it is not surprising that the idea of State trading has not yet received full implementation. All the same, the considerations outlined in the previous section apply in some measure to the Indian economy. Both in the First and in the Second Five Year Plans, the idea of State trading has received recognition and has been approved as a device of strategic importance possessing great potentialities.

Though since the war period State trading has prevailed in India in some form or other, the idea received institutional expression only a year ago. The Government of India set up the State Trading Corporation of India in May 1956 with a view "to organise and effect exports from and imports into India of such goods and commodities as the Company may from time to time deter-

mine and the purchase, sale and transport of and general trade in such goods and commodities in India or anywhere else in the world and to do all such other things as are incidental or conducive to the attainment of the above object”.

IV

Scope of State Trading in India

In the context of planning, the regulation of foreign trade becomes important. One method of effective regulation of foreign trade is State participation. This is recognised in the First Five Year Plan which says that “control and regulation of exports and imports, and in certain selected commodities State trading, are necessary not only from the point of view of utilising to the best advantage the limited foreign exchange resources available but also for securing an allocation of the productive resources of the country in line with the targets defined in the Plan” (page 42). Arrangements for the imports of essential machinery and materials for the prosecution of the Plan and the imports of goods and commodities for consumption could best be done by a State agency working in co-operation with the Planning Commission.

In view of our difficult balance of payments position, with which is linked our ability to obtain essential imports, export promotion has assumed urgency and importance. The important determinants of exportability are, as pointed out by the Export Promotion Committee, price, quality, terms of delivery and salesmanship. Through State trading it should be possible for us to offer our exports at attractive prices. Quality, in regard to which serious complaints have arisen about our private traders, could also be ensured by the State trading agency. Through more experience and better training of personnel, the State body could also acquit itself well in regard to terms of delivery and salesmanship. It is important to explore new markets for our exports and new uses for traditional exports. Steps in regard to these could also be effectively undertaken by the State trading agency. There is need for considerable diversification of our export trade, as at present a handful of commodities and a handful of countries account for about 50% of our export trade. We cannot rely fully on private enterprise to diversify our trade among new countries and new commodities.

Of late the Government of India has been entering into a number of bilateral agreements for the expansion of our trade,

The fulfilment of these agreements could best be expected through State trading. Our trade with Communist countries is expanding and a number of these agreements are concluded with them. As they deal through State agencies, we can best deal with them through a corresponding State agency. We are now trying to obtain our capital imports from a number of countries with concessions of deferred payments to ease our foreign exchange position. Foreign exporters would be more willing to grant such concessions to the Government Agency than to private traders.

With the progressive expansion of the public sector, a number of our export commodities will emanate from public enterprises and a wide range of our imported machines and materials will be absorbed by them. It would be logical to entrust these exports and imports to a State-sponsored agency. The import of food-grains through bulk purchase agreements with foreign countries should also be arranged for only by the State, as this vital responsibility cannot be distributed over a number of private traders.

In the field of internal trade also there is considerable scope for State trading in India. It would be an important addition to the strategic controls already being employed to ensure that trade broadly flows according to the basic requirements of the country's planned economy. To quote the First Plan, "from the larger point of view of controlling relative prices and profitability as also for gaining control over the economy at strategic points, State trading at the wholesale level in respect of selected commodities could be used as a potent instrument of planning" (p. 35). Through State trading in a few essential commodities like food-grains, cloth, sugar, kerosene and salt, it would be possible to exercise direct control on the cost of living. Emphasising the need for progressive expansion of the responsibility of the State in various directions, the Second Plan also recommends State trading on an increasing scale (P. 45).

In respect of foodgrains, internal State trading is indispensable if the Indian economy is not to be the helpless victim of uncertain forces and speculative activities. Both in the interests of the farming population and of the non-farming population and to ensure economic stability, the State must undertake the responsibility for the procurement of and the wholesale trade in food-grains. The Food Grains Enquiry Committee which reported recently has emphasized that step by step the proposed Foodgrains Stabilization Organisation should be enabled to control a substantial

proportion of the wholesale trade in the country and has rightly stated that the ultimate policy of the government should be the progressive and planned socialization of the wholesale trade in foodgrains.

State trading could also be used for enlarging the revenues of the State to meet the requirements of the Plan.

V

The S.T.C. — An Assessment

We may conclude with a review of the working of the one-year-old infant organisation for State trading in India. Its first Annual Report came out only a week ago, but from the extracts which have appeared in the Press it is clear that it has done a good job. Within a short period of its establishment, the S.T.C. has succeeded in concluding large and valuable contracts. On the export side, successful efforts have been made to consolidate and organise the trade in mineral ores which have constituted the major portion of the Corporation's export business. New markets have been developed for Indian shoes, woollen fabrics and handicrafts. The Corporation has been able to make economical arrangements for the import of cement, raw silk, caustic soda and soda ash. Apart from developing trade with countries regulating their exports and imports through State-managed organisations, the Corporation has built up satisfactory business relations with trading organisations in countries like Japan and U.S.A. Its monopoly of wholesale distribution of imported and indigenous cement has not only rationalised the supply of cement, but has enabled it to earn a large revenue. By its participation in exhibitions held abroad, the S.T.C. has helped popularisation of Indian products. It has also helped individual Indian enterprises to conclude valuable trade contracts with East European countries.

State trading has a great scope in India. Only a beginning has been made, and much more remains to be done. Complex organisational problems will have to be effectively tackled. But what else is Planning?

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Discussion

The meaning of State trading became the subject of controversy for some time. The question was raised whether monopoly was an essential feature of State trading. When the author of the paper maintained that State trading could take place either in the shape of State monopoly or in the shape of State participation along with private enterprise, some members said that in the latter case, most of the advantages claimed on behalf of State trading would not be reaped. In fact, if the State were merely to participate in trade along with private agencies, the benefits would be so meagre that the effort would not be worthwhile. Further some members said that State handling of certain commodities to overcome temporary difficulties would not amount to State trading, while others argued that any transaction by the State involving purchase and sale could be called State trading.

The assumption in the paper that State trading was inevitable under planning was questioned by some members. The author of the paper explained that the assumption related to 'total planning' as distinguished from the 'partial planning' that was prevalent in India at the present time.

Profit-making under State trading was objected to in principle. It was however pointed out that while profit was never the prime motive in State trading, such profit could arise incidentally and could be usefully utilised for development purposes. Except in the case of essential commodities like foodgrains, which figured largely in the cost of living of the vast majority of the people, there was nothing wrong in the State trying to gather revenues through appropriate price policies under State trading.

The performance of the State Trading Corporation of India also came in for discussion. It was agreed that this was but a small beginning in the direction of State trading. The introduction of State monopoly in cement was vehemently objected to by some members on the grounds that it was unnecessary and that the high price fixed for cement amounted to consumer-exploitation. The circumstances which led to State trading in cement were however explained by the author of the paper.

HYPOTHESIS CONSTRUCTION AND TESTING IN SPECIFIC PROBLEMS

By

M. S. RAMESH & M. R. GANAPATI RAO

I

The purpose of science is not only to observe and describe facts but also to connect and interpret them. In that process, the formulation of a hypothesis is important. It is a "tentative supposition based on cursory observations of known and available facts and adopted provisionally to explain certain elements and to guide in the investigation of others". The hypothesis reflects the attitude of science not to accept any statement without empirical verification. Its purpose is two-fold: to guide the enquiry and to systematise and explain known facts.

A crude hypothesis merely suggests the type of data that should be collected but does not lead to any higher theoretical result. A refined hypothesis, on the other hand, may be at three different levels of abstraction, viz., (a) the simple level hypothesis, which states the existence of empirical uniformities, (b) the complex ideal type aiming "at testing the existence of logically derived relationships between empirical uniformities", and (c) the complex ideal type with many variables which analyses the interrelationships among them where the complexity of factors and the multiplicity of influences are great.

The useful hypothesis should have the qualities of conceptual clarity, empirical referents and specificity. It must be related to the available techniques and should have theoretical relevance. However, these criteria are not very rigid and are at best guiding principles.

The validity of a hypothesis may be tested in many ways. However, three methods are mentioned below. Under the Method of Agreement, "if two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all the instances agree, is the cause or effect of the given phenomenon" (J. S. Mill). This method enables elimination of irrelevant factors. But it may fail to notice

other known and unknown relevant facts. For example, what should we suppose if in a dispensary all the mixtures have the common element, viz. water?

The Method of Difference states that "if an instance in which the phenomenon under investigation occurs and one instance in which it does not occur have every circumstance in common save one, that one occurring only in the former, the circumstance in which alone the two instances differ is the effect or cause or an indispensable part of the cause of the phenomenon" (J. S. Mill). This is only a negative version of the first method and as such has the same merits and defects.

The third is the Method of Concomitant Variations. According to this method, if a change in the *amount* of one variable is accompanied by a change in the *amount* of another variable in two or more instances, and the latter change does not occur in the absence of the first change, then one change is the cause or effect of the other. The scattergrams of the statisticians are an illustration of this method.

However, there are many obstacles in the way of testing a hypothesis. They are: (i) recognition and control of the variables. Control can be effected through precision-matching, frequency-matching and randomisation; (ii) causal relationships may not be clear; (iii) the lapse of time during the investigation may confuse the results of the experiments. Hence it is that hypotheses are "at best approximations stated in terms of probability".

II

In the light of the above explanation, a few hypotheses will be examined.

The Problem: Inter-racial marriages and morality.

The Hypothesis: "A deterioration in standards of behaviour and morals owing to increasing inter-marriage between different races may be one of the problems of the future".

(Sir Alfred Bossom, Chairman of the Royal Society of Arts, London. Reported in *The Hindu*, dated 13-11-1957.)

Its Drawbacks: This cannot serve as a workable hypothesis because it is vague and too general. It is not conceptually clear in as much as no precise definition can be had of the term "standards of behaviour and morals". The expression "deteriora-

tion" is a relative concept. It is also well known that Social Anthropologists are not recognising any rigid classification of races. This only means that determination of races is as difficult as it is important. Further, the hypothesis embodies a moral judgment which no good hypothesis should do. Moreover, a correct knowledge of the indices to measure "deterioration", "standards", etc., are not available.

III

A. *The Problem*: "The relationship between the size of the family and income".

The Hypothesis: "The size of the family is smaller in the higher income ranges".

This hypothesis has conceptual clarity. The term "family" refers to the head of the household and other dependants living with him. By "Income" is meant earned and unearned income, both in cash and in kind. The hypothesis has a specific objective, viz. to prove or disprove the common place observation that higher income groups have smaller families.

The validity of the hypothesis can be tested by the field survey method. Select the households for investigation on the stratified random sampling principle. Collect statistical information regarding income and size of the family (i.e. both earning and non-earning dependants living in the household). Divide the sample population into, say six, income categories. The groups may be —

- (i) Rs. 50 and less per month
- (ii) Rs. 51 to 100 "
- (iii) Rs. 101 to 250 "
- (iv) Rs. 251 to 500 "
- (v) Rs. 501 to 1000 "
- (vi) Rs. 1001 and above "

The first three constitute the lower and the rest the higher income groups.

The method of concomitant variations can be applied to test the hypothesis. A scattergram may be constructed on the basis of statistics.

This hypothesis was actually tested in the course of field work. Statistical information was collected and the classification of the

population into six income groups was made in accordance with the groupings effected by the City Survey Unit, Madras. The scattergram resulted in a perfect positive correlation, suggesting that higher the income range, bigger the size of family. It was thus discovered that while lower income ranges had only 5.6 as the average size of the family, the higher ranges had on an average 7 members.

The field survey results disproved the hypothesis framed on the 'popular' and 'well known' observations. This brings into bold relief the relevance of the remark that a good researcher should base no personal attachment to the hypothesis formed and be willing to kill one's own mental creation with no compunction whatsoever.

B. *The Problem:* The causes of occupational mobility.

The Hypothesis: "The lack of occupational mobility in rural areas is due to lack of opportunities, conservative habits and low general education".

This working hypothesis is a complex ideal type with many variables, viz., conservatism, opportunities of alternative jobs and educational standards. To make the hypothesis conceptually clear, the terms have to be defined.

"Occupational mobility" means the frequency with which people change occupations. "Opportunity" refers to an occasion offering a possibility. "Conservatism" is the tendency not to accept changes and "general education" refers to the usual accepted standards of education, like the illiterates, literates, elementary, middle, matric, graduates, post-graduates, etc. Upto the elementary level, the standard of education may be considered as being "low".

The hypothesis has a specific objective, viz., to find out the correlation between the different variables and "occupational mobility". Available literature in this field provides the method to be adopted and the way in which the problem could be analysed.

Conduct a sample survey (if time and resources do not permit a census survey) on a random principle. Collect the relevant data by gathering statistical information regarding the educational status of the population, occupational mobility of the currently employed persons, noting down the reasons for leaving or not leaving their

present occupations. Tabulate the data and the degree of correlation between the factors can be gauged.

In the course of the field work, it was found that people did not show any enthusiasm for changing jobs. Only 35% of the sample population changed jobs. Many of those interviewed were unwilling to move out of their place, displaying a great deal of conservatism. Some were choosy of the jobs to be had, others were unaware of the possibilities. The degree of correlation between the various factors was not actually worked out, but it is not impossible to do so.

IV

In this manner any number of relevant hypotheses can be formulated and tested.

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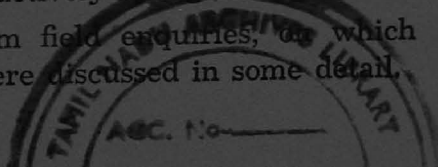
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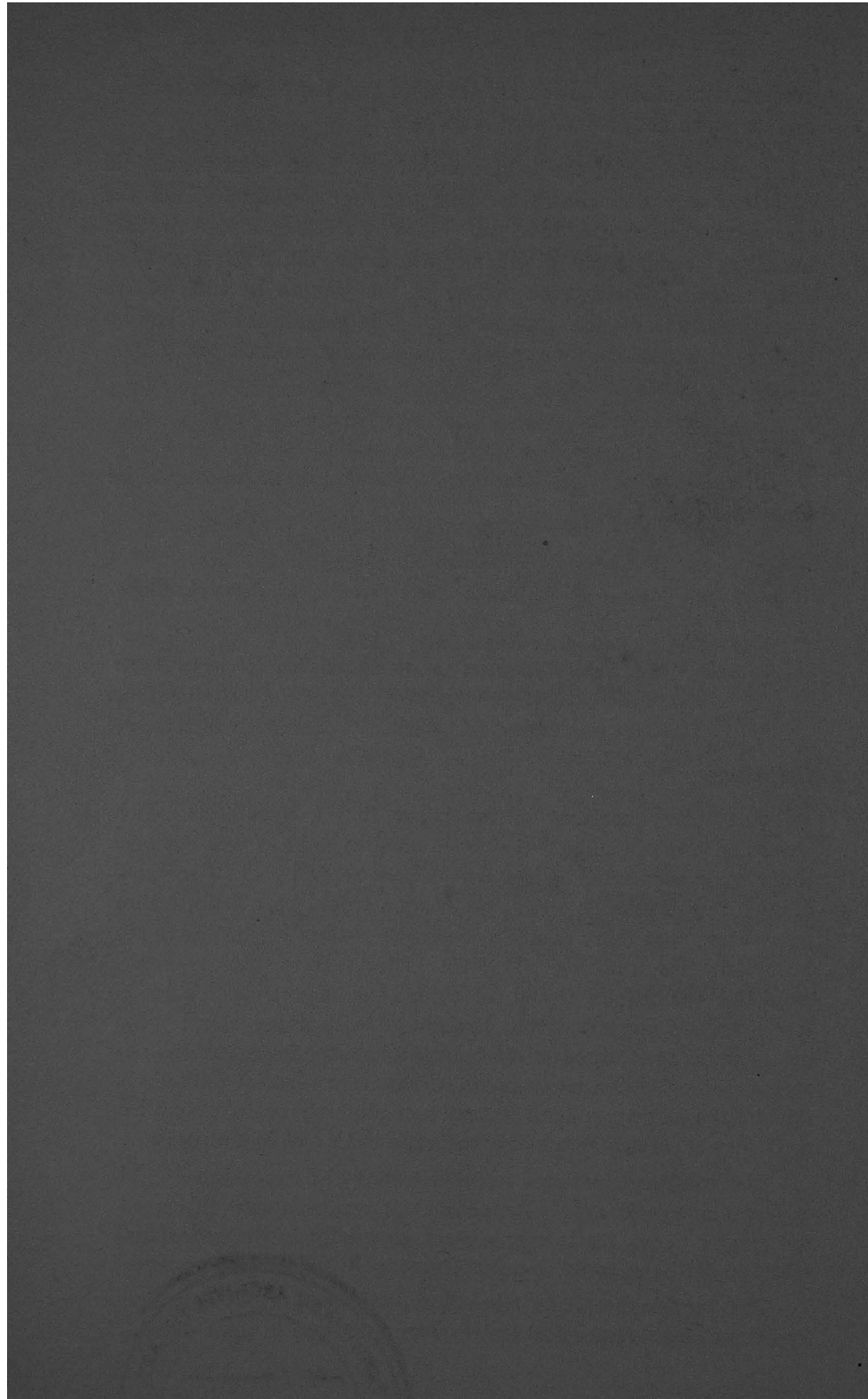
Discussion

The view expressed in the paper that a hypothesis which embodied a moral judgment was no good hypothesis was objected to by some members. When the authors replied that in the case of such hypotheses, empirical verification would be difficult, critics pointed out that there could be objective criteria for testing moral behaviour and attitude. If such criteria were not available, empirical verification would, of course, be impossible. While a few members suggested that hypotheses embodying moral judgments could be referred to the opinion of a superior authority, objection was raised on two grounds, firstly, that superior authorities might differ in their judgments, and secondly, that such a reference could not claim the status of a scientific testing of hypothesis.

The question was raised whether testing of a hypothesis should always and necessarily be empirical. It was said that this need not always be so, for in many cases, especially in theoretical research, hypotheses could be tested deductively by logical arguments.

The specific problems taken from field enquiries, on which hypotheses were stated and tested, were discussed in some detail.





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