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ECONOMIC PLANNING IN INDIA: FIVE COMMENTS

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# ECONOMIC PLANNING IN INDIA : FIVE COMMENTS

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## INTRODUCTION

The following comments follow from an effort to understand some of India's economic problems at the beginning of the Second Five Year Plan. One must always be self-conscious about suggestions that are made after a few brief weeks or months of study. The first four of these comments—on the strategy of inflation control, on the question of organization on the use of labour, intensive techniques of production as an unemployment remedy and on what I have called the Indian economic philosophy—are of some general interest. The final paper, which is directed toward the very large railroad budget in the Second Five Year Plan, is of more limited and technical concern and directed toward the possibility of some small economy of scarce resources in this vital area.

There being value in any critical reaction, I have allowed mine due rein. I should be very sorry were this thought my only reaction. The newcomer's first impression of India is of the work to be done. But his second is of the work that is being done and of the energy, skill and diligence with which it is being accomplished. The person who has a chance to visit India in these days, especially the social scientist, is favoured indeed.

## I

### RESOURCE SUPPLY AND THE STRATEGY OF INFLATION CONTROL

The most discussed aspect of the new Five Year Plan has been its size in relation to the available savings and foreign exchange resources of the Indian economy. Most of the people of India live at, or near, the minimum necessary for survival. They cannot be asked to make much provision out of their meagre livelihood for the investment needs of the country. The question is whether the Plan exceeds the resources that, by one means or another, can be mobilised from those who have a margin over requirements and from the increase in this margin that will become available during the next five years. After making generous estimates for prospective voluntary savings, tax revenues in excess of current outlays, yields from future tax increases and external assistance, there is still a large gap. Of the total projected public outlay of Rs. 4800 crores in the draft Plan as this is written no less than 1600 crores, or one-third of the total, remains uncovered. Of this Rs. 1200 crores is called permissible deficit financing and Rs. 400 crores is a further gap. In the Indian economy growth almost certainly requires and will be abetted by some volume of deficit financing. There must be an offset in the form of public spending to private

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hoarding and also to the currency accumulations (individually small but aggregatively substantial) of those whom economic advance brings for the first time within the monetary economy. The extent of the deficit financing which the Indian economy can afford is something which though much guessed about is not known and, in the nature of things, cannot be known. The estimate of allowable deficit financing in the draft outline of the second Five Year Plan is almost entirely arbitrary, as its authors concede. In any case it is probably desirable to think of the gap as the total difference between outlays on the one hand and on the other prospective taxes and borrowable savings. The great size of this difference in the Second Plan has made it a proper subject of attention—and concern.

However, there would seem to me substantial and even profound advantages in the policy that is being followed, provided some precautionary steps are taken. I should like first to say a word about these advantages and then suggest what would seem to be the appropriate precautions.

A large plan has the obvious advantage of being a direct inducement to a large effort. Anyone who is in the slightest measure sensitive to India's needs must, in turn, be conscious of the importance of the latter. Moreover, it would seem important that the people feel that the government is making a maximum effort on their behalf. Against the dangers of a big programme must be set the even greater dangers of frustration of the democratic spirit which would follow from one that seemed reluctant, inadequate or even insufficiently bold.

The danger of inflation, moreover, is not unique. Unemployment is also a source of unhappiness and frustration and while neither inflation nor unemployment is to be welcomed it seems likely that the latter in the last twenty or thirty years has been the source of the greater suffering and turmoil. Until recently in India stable or modestly falling prices and a strong balance of payments position have been subjects of satisfaction. However this plus unemployment and some excess capacity in industry may well have meant an insufficiency of demand and more unemployment than was necessary. India, in other words, was probably paying the price—it may not have been large—of an unduly conservative fiscal policy. The decision to accept risks in the opposite direction is wise.

Finally, a large programme has the virtue of forcing the measures which will make it possible. The first essential is a tax programme which, both by its design and its administration, will recoup for the government a proper share of the increased incomes that result from the common effort and which directly or indirectly insures saving by those who are in a position to save. Neither in India nor in other countries will revenue authorities ever address themselves to these problems in a vacuum. They will think and act only under pressure. In India, it may be added, taxation that minimises evasion, insures the maximum of public and private saving and which does not inhibit effective private activity will require great effort and also great originality in tax policy. Merely to take over the best features of the United Kingdom, the United States or other foreign experience will be gravely inadequate.

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### THE STRATEGY OF CONTROL

With all these virtues there is still the danger that spending will at some stage in the Plan be in excess of the supply of goods and that prices in general will come under pressure. This in turn, will lead to arbitrary and indefensible suffering by those whose incomes remain fixed, including, it should be noted, teachers, public-workers, research workers, writers and a great many of the other people who help to distinguish a civilized community from a barbarian one. At the same time speculators are enriched and inequality is increased. The balance of payments and indirectly the Plan itself will suffer.

The only certain way of avoiding these consequences is to have so small an effort and so large a tax revenue that no risk is run. As noted, this policy is unacceptable. The alternative is to have an elastic defense which is capable of dealing with any contingency that may arise, first by prevention, then by mitigation and finally, as a last resort, by withdrawal. The essentials of such a strategy would appear to be approximately as follows:

(1) The preparation of a tax plan of progressively more astringent levies to be invoked subject to need.

This will keep the tax programme adjusted to requirements and it is of importance that it be neither in advance of nor behind need. Since the logic of Indian tax policy calls for encouraging saving and discouraging consumption I am attracted by Mr. Nicholas Kaldor's recent proposals to the Indian Government for a graduated tax on spending. His proposals for improving tax administration also seem to me a plausible line of development to the extent that I am qualified to comment. I share Mr. Kaldor's dislike of high marginal rates and tax ceilings on income which are important more for their political showcase value than for practical enforcement. Rates should be at an enforceable level and at that level they should be enforced.

(2) The preparation of a plan for the stabilization of key wage goods.

This is important. Inflation occurs partly as demand *pulls* prices up. It occurs partly as it builds on itself—as price increases lead to wage and salary increases and to some retreat from the currency and as these increases in turn force and pull up prices. In the wartime experience of the western countries—which to be sure has only a limited application to India—the checking of this dynamic effect was found to be of fundamental importance. That they were able to do so was the reason that the major belligerents withstood the strain on resources of World War II without run away inflation.

In India, food and simple clothing comprise about seventy per cent of all consumer outlays. The stabilization of these two items—among foods, breadgrains in particular—is critical for the inflation control strategy. If these prices are stable, price advances elsewhere can perhaps be tolerated. In any case the dynamic effects by which one advance builds on another will not occur.

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(3) The first line of defense in the stabilization of food and clothing should be via supply. The position at the moment is favourable. Food supplies are strong. If three-shift operation could be assumed—a matter for some debate—then there is some additional capacity in the textile industry. One obvious line of policy, in the light of surplus stocks available in the United States, would be to seek to negotiate a contingent grant or loan for imports of grains (and also presumably of some cotton) sufficient to meet demand at present prices. In the event of a poor monsoon or a large increase in demand—both are essentially unpredictable elements in the present situation—the take-up on the loan would be considerable. Otherwise it would be much smaller. Whether the United States would be receptive to such a bargain I cannot say. I would hope it might. Unhappily, not even the most enlightened citizen can commit his government even to enterprises of the most serene wisdom.

(4) If demand in spite of these stabilisation efforts—and despite also the best efforts of the tax authorities—still outruns the supply of basic food and clothing, then the government will face a basic choice. They can use price and rationing controls. Or they can curtail expenditures including expenditures on the Plan. It is to be hoped that this choice can be avoided for it is not a pleasant one. However in the event that it has to be faced there are great advantages in seeing its implications in advance.

Direct controls are regularly labelled authoritarian and undemocratic. In fact they were extensively invoked by the liberal democracies during the war. Here as elsewhere totalitarianism is not a matter of the form but of the purpose.

On the other hand—I speak out of the experience of a wartime price administrator—price controls and rationing present a serious management problem and they are a wasting asset. They lose effectiveness from the day they are enacted and in almost every country they become after a time an impotent shell. As a result they should be reserved, as a practical matter, for situations of urgency.

Finally—although oddly enough there is some opinion to the contrary—controls in a poor country are regressive. They stabilise prices (and in the last analysis enforce saving) by controlling demand for food and clothing. If they do not succeed in this they are worthless. But food and clothing are the objects of mass consumption. The controls thus act to squeeze the consumption of the poorest of the people.

There are both technical and moral problems in cutting expenditure. It will not be easy to decide what must be given up. A cutback will provoke a sense of failure. On the other hand one of the advantages of a large plan is in having errors on the high side which can be corrected by curtailment rather than by increase. If this is so then the possibility of correction down must be conceded.

(5) The choice that should be made here cannot be prescribed—to do so is mostly to confess one's personal prejudices. Whichever the choice it requires preparation. Controls require planning and preparation; they are never so unfortunate as when they are hastily improvised and applied. Similarly if—after the best tax

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and stabilization efforts—a cutback should be required, there needs to be a clear view of where this can take place with the maximum of effect and the minimum of damage to the programme. Much more important with foresight there will be opportunity to develop a full understanding of the need for the action. In the public mind there should be a clear distinction between failure to reach targets that is the result of administrative, managerial or political inadequacy and failure that is the result of an absolute shortage of resources. On the first grounds, the Indian people may properly hold their government strictly to account. On the second, flexibility is the essence of sound planning. Slavish insistence on targets here means only that all thought must be put in abeyance; nothing may be done to accommodate the plan to an unforeseen reduction in resources. This is silly. Should some unexpected increase in resources enable the government to step up its effort within the period of the Plan it should obviously do so. There must be similar opportunity for curtailment in the face of absolute shortage. The alternatives, inflation or controls designed to force more saving than can be afforded, would be much more damaging to the people at large.

(6) At each stage in the employment of this defensive strategy there must be increasingly close attention to the balance of payments. Even if basic food and clothing prices are stabilised successfully, additional incomes will create a demand for both imported goods and goods that would otherwise be exported. The imports pose no serious problem. The control machinery exists and can be tightened as required. To maintain the level of exports will be more difficult. The allocation of supplies to export or, in the case of consumers goods, direct or indirect measures to repress domestic consumption involve rather formidable administrative problems. Again for this reason they should be anticipated.

### CONCLUSION

To think through problem of inflation control in the context of the Second Five Year Plan, is, on the whole, not a discouraging task. It is unlikely that the whole series of steps here outlined will have to be taken; a strong tax policy plus a strong policy of stabilising basic food and clothing prices from the supply side may well be sufficient. The government, if it sees the problem clearly, will spare no effort to avoid the ineluctable choice between controls and curtailment. This is some assurance that this stage will not be reached. However, even if all steps must be taken, the situation resolves itself into one not of great danger but rather of considerable administrative and political complexity. There are no dangers that cannot be met by appropriate organization and determination. And this indeed is the nature of the inflation problem. Inflation has never occurred where governments have had an effective administrative and fiscal structure and the will to use it. It has only been a problem where governments have been unwilling to act or incapable of action.

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### II

#### PUBLIC ORGANIZATION

The visitor to India cannot but be impressed by the number and variety of the tasks which the Government of India and the state governments are assuming. These responsibilities will greatly increase in the years ahead. It is in the field of organization and administration, not economics, where the most interesting problems will be encountered in the next few years and where the most serious dangers will be met. It is here, I venture, that Indian leaders are being least guided by experience and are reflecting least deeply on their course.

The pattern of the danger is not difficult to describe—and there may be some merit in outlining it. It centres on the new industrial enterprises. The visitor to India three or four years hence may well learn that some of these plants are lagging far behind their completion dates. Others will be in production but their costs will be discouragingly high. There will be at least one major plant which will be inoperable because of an inexplicable error in location or design or some shocking miscalculation of product requirements. In other cases there will be rumours of corruption or nepotism. One or two promising managers will have resigned in discouragement. A rather larger number who seemed promising at the outset will have been eased out for incompetency. Out of the whole effort will have come a sense of disappointment and frustration and doubts about the basic course. The political consequences of this would not seem to me likely to be happy. (Conservatives should not imagine that it will bring a demand for a return to private enterprise.) But the central problem is that the Indian people cannot, in their great need, afford failure in the present experiment and it would be almost equally damaging should there be a period of searing and doubt a few years hence. The success of the Second Five Year Plan requires, among other things, that there be an unfailing confidence in its success.

#### THE PROBLEM

The forces which could combine to produce the unhappy consequences outlined above are fourfold. They are more dangerous to the future of India than inflation which is many times more debated. One of the misfortunes of our time is that issues of public administration and organization are such unattractive topics of discussion, a condition which is derived, in turn, from the all but universal incompetence of those who discuss them. The dangers are as follows:

(1) *The preternaturally high standards to which public enterprise must conform.* It has often been observed that public enterprise, at least in democracy, where there is free and full scope for criticism, must conform to a much higher standard of morality, efficiency and general performance than a private enterprise. Oddities and inequalities in pay and staffing arrangements are taken for granted in the private firm. Errors in selection of high personnel are regularly corrected by promoting the individual into a better compensated and more honorific but less important post.

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Nepotism is not only taken for granted but approved. The son is expected to follow in his father's footsteps; for him to do otherwise is ordinarily taken as a mark of eccentricity of possible feeble mindedness. It is taken for granted that mistakes will be made in production or investment. What counts is the overall result—and no public outcry arises if there are occasional lapses even in that. None of these vagaries is vouchsafed to the public enterprise. It must have orderly pay and salary schedules. To supplement these from the expense account is heinous. Nepotism is a serious offence; for a relative to appear anywhere on the payroll excites suspicion. Mistakes in judgment are not regarded tolerantly. I observed above that during the coming Plan period some plant may well be built in a palpably wrong location. This will be occasion for much harsh talk. The highways and the railway sidings of the United States—as of other western countries—are replete with monuments to mistaken private investment. No one gives them a second look. In the postwar years the United States, like India, was attracted by the idea of the prefabricated house. A good many millions of dollars were lost in efforts to advance ideas which turned out to be bad. The only criticism was of one enterprise which enjoyed partial government sponsorship. The parallel with Indian experience is interesting.

(2) *The dynamics of centralisation.* This is related to the foregoing. Because the standards to which public enterprise is held are so high, officials and ministers in a democratic government will always be tempted to protect themselves as fully as possible from criticism. This they will do by reviewing and clearing decisions of subordinates and there will be a persistent and all but uncontrollable tendency to enlarge the number of decisions to be so cleared. Speeches will be made and resolutions will be passed endorsing the principle of decentralization and autonomy. The next irregularity or hint of one will cause these intentions to be set aside in favour of the even more fundamental principle of safety first. The tradition of close treasury control over finances and the institution of the parliamentary question hour both contribute to centralisation. However, they are not, as some have argued, its cause. The cause lies much more deeply in the standards of public performance and the traditions of official caution. It is important to recognise this else there will be hopes for a remedy by superficial tinkering with parliamentary or auditing machinery.

(3) *The peculiar nature of the productive enterprise.* The fact of importance here is that a sharp line divides the functions which comprise what may be called the ordinary ministerial functions of government and the business or productive enterprise. In the former, great store is set by careful and equitable rendering of a relatively small number of decisions in which, on the whole, the element of technical knowledge is not high. These decisions must be taken carefully. They affect many people; they must be right. Productive enterprise, at least until it reaches an advanced state of maturity like the railways, is very different. It requires a much larger number of decisions. The impact of most individual decisions is limited. Many of the decisions and all of the close ones are between alternatives which are almost equally favourable or (on occasion) equally disadvantageous. The timeliness of the



decision is often, and perhaps usually, more important than what is decided. Not many decisions are irrevocable and what counts is the average score. In addition to the above, the productive enterprise requires that there be an arrangement for bringing trustworthy technical or scientific knowledge and specialised experience quickly to bear on decision. This requires, above all, that there be an organization in which members know each other and know on what matters and how far they can trust each other's judgment.

(4) *The importance of organization and the comparative unimportance of individuals.* On the whole the ministerial side of government emphasizes the importance of getting the right men in the right places. Good training and staffing is also important for producing enterprises. But, broadly speaking, the success of such enterprises depends on organisation and not on individuals. It is often said that no organization will rise above the level of the people who comprise it. In fact the reverse happens every day. Organization makes possible a level of achievement far above that of any individual. It also compensates for the uncertainties and shortcomings which are the counterpart of individual performance. This point is of central importance. Governments think in terms of selecting the right man. But in the effort to select the right man to head each of its new enterprises, the Government of India cannot expect to be right in more than three out of four cases. This would be a very good average. But a twenty-five per cent failure rate will be intolerably high. If, however, an organization (or organizations) can be developed for the tasks the government faces it can count on a much higher chance of success.

The point can be illustrated in numerous ways. In the United States the General Motors Corporation or the Tennessee Valley Authority, to cite the case both of a private and a public organization, can be counted upon to do competently almost any productive task to which they are assigned. On the other hand no one could, with complete assurance, pick any man from either organization and be certain that he would be a success in developing the manufacture of an automobile or a diesel locomotive or in bringing into production a fertiliser or thermal electric plant, to cite activities which are common-place to the two organizations. In Germany, during the war, the Todt organization, formed initially to build the *Autobahn*, acquired a brilliant reputation for the competence with which it turned its hands to a great variety of construction tasks. Those of us who knew of the work of *Organization Todt* went to Germany after the war expecting to find some very remarkable men—even some geniuses. The organization was exceedingly good. The individuals comprising it turned out, on the whole, to be ordinary men.

#### THE LESSONS

All of the foregoing problems are revealed in one form or another in the contemporary Indian experience. It is plain that Indian productive enterprises will be judged by the high and even harsh standards which the Anglo-Saxon tradition reserves for public enterprise. The dynamic of centralisation is strong and

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perhaps not clearly recognised by officials who are caught up in the process. There is at least a danger that new productive enterprises will be operated without regard for their peculiar requirements in decision making. Most important of all, attention is now being centered, in one way or another, on individuals and not on organizations.

The combined consequences of these effects could be serious. The past experience of socialism under a civil service has not been heartening. The score is overwhelmingly adverse and this is in part the present character of the Indian experiment. On the other hand there seems to me little doubt that this problem can be solved if it is recognised in time and if it is tackled with the same energy that is being brought to bear on other problems. Below are some of the necessary steps.

(1) The basic unit of organization for the productive enterprises should be the public corporation. In one way or another, as Professor Adolf Berle has recently pointed out, the autonomous corporate entity in much the same basic form is the unit for managing production everywhere in the world. It exists in the USSR in somewhat the same structural form as in the United States. Its use by India, as distinct from direct production by ministries, serves not only to emphasize the difference in function as between the planning and facilitating activities of the ministry and the operating activities of the producing unit but it also emphasizes the vital difference in the kinds of decisions that are made and the way they must be made. The assignment of the task to a corporation also usefully helps the goal of autonomy and decentralisation by reminding officials, legislators and others that unnecessary or gratuitous interference with a public corporation is on all fours with like interference with a private corporation<sup>1</sup>.

(2) The corporation should have autonomy in decision making. This needs to be carefully understood. It does not mean that the directing authority of the corporation—the managing director or other responsible executive—should be a law unto itself. Autonomy does not mean an abdication of government responsibility and authority. The government must, of course, specify the tasks of the corporation and the objectives it is to achieve. And it can be as detailed, as it believes desirable, in the rules of operation which it prescribes—on staffing, salaries and wages, procurement practices, financial procedures and so forth. There can also be a full auditing procedure to see that these rules are enforced. While it is obvious that rules should not be unnecessarily restrictive, any reasonable management can live by rules. It must expect to be called to account if it violates them.

The vital thing is that the directing authority have freedom of decision within the rules and therewith also freedom to delegate decision itself. It should not have to submit individual decisions to higher authority either for prior approval or for later review. In the nature of things some, and perhaps many, of these

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<sup>1</sup> It is my understanding that the new iron and steel plants are to be developed directly under the Ministry of Iron and Steel with provision for possible later transfer to an operating corporation. There are persuasive arguments for this including avoidance of duplication in the handling of large initial decisions which, in any case, must go to the Minister. None-the-less it seems to me an unhappy precedent.

decisions will be questionable—or wrong. But, as noted above, this is precisely the character of productive enterprise. What counts is the results. Accordingly, it is by the results that performance should be judged. Needless to say the judgment of results must be as firm and uncompromising as the attitude toward individual decisions is liberal.

Autonomy in the foregoing terms is a requisite of success. It will require courage and imagination and also a measure of self-denial to see that the proper delegation of authority is made to the directing authority of the corporation and the proper autonomy maintained. It is my reluctant judgment that the need for such delegation is not yet accepted in India. Even after it is accepted vigilance will be necessary on the part of all concerned to see that what is accepted in principle is not modified in practice. One obvious danger is through the board of directors of the new corporations. The high public officials on these boards can easily become a channel for approving and checking management decision. In the end the public official becomes a link in a civil service chain of command running from the management of the corporation, so called, to the minister. The corporate form is merely a facade for an autonomy that has ceased to exist. It is particularly in the interest of public officials themselves that such tendencies be resisted. India, as the stranger comes quickly to realise, has one of the world's best civil services and is in the course of raising this profession to new levels of esteem. It would be a shame were this service implicated in misfortunes which resulted from its failure to understand the nature of the new tasks which the Government of India is assuming, and the new organization that it requires.

(3) There should be no thought of organizing a new corporation for each new enterprise. This will be the temptation and it is, in some measure at least, the present tendency. Men who have "proven themselves" in one assignment will be pulled out to initiate the next project. There will be a cadre of men organised to assist them. Such a procedure is—here I cannot be too blunt—dead wrong. This process dismembers and disembodies organizations which are the things to be valued. It means that a new and untried organization must be formed for the most difficult stage of all—the stage when the new enterprise is being brought into existence. And it is risky. A man may seem a wonderful success in the context of his organization and be a serious failure outside of it. In business enterprise of all kinds, organization props up the man far more frequently than men make organizations. Vanity argues the reverse but it is pure vanity.

It follows that the pattern of industrial organization in India should be a relatively small number of operating corporations each in command of a considerable and increasing number of enterprises. New productive tasks will be assigned to these companies as fast as they can be absorbed or as fast as they must be undertaken. The corporations will understand that they should plan for a steady increase in the number and range of their own activities. Staff services, technical services, executive development programmes and divisional organization would be planned.

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with this in mind. Instead of facing the risk of assigning tasks to a new man who in turn must organize a new crew at the most difficult possible stage, the government should hope at an early stage to be able to assign its new enterprise to one or another of a small number of public corporations.

The multi-purpose corporation involves no experiment. It is a proven instrument for initiating and operating productive activities. It was the pattern followed in the great Japanese houses—the great *Zaibatsu*—and it brought about the rapid and efficient industrialisation of that country. It is the essential form of the General Motors Corporation and the Tennessee Valley Authority. It is probable that any one corporation should have roughly similar enterprises assigned to it. But this is not essential; a going organization can do many things and can always do them better than a newly formed organization. The great Japanese houses like *Mitsui* engage in activities as diverse as paper manufacture, textiles and ship operation. The TVA builds thermal electric plants and makes synthetic ammonia.

Finally, it must be stressed that the fact that the Indian enterprises will be publicly-owned does not change the nature of the problem. The essentials of organization and management are the same in publicly-owned enterprise and a privately-owned enterprise.

(4) Energetic and sustained steps need to be taken by the government to bring to the attention of officials, legislators and the people at large the nature of the problems that are being faced in the operation of the public enterprises. Then and only then will public officials set themselves resolutely to counter the dynamics of centralisation. And then only will legislators and the public make a tolerant judgment of the performance of public enterprises not impossibly higher than that brought to bear on private firms. Then only will public enterprises be judged, not by the individual decisions of the managers, but by the overall performance.

In the months and years ahead there will be discussion of the wisdom of limiting the scope of parliamentary questions of the details of business practice and decisions in the public enterprises. Such a limitation already exists in Britain. And greater autonomy in financial matters will be urged. These steps may well be useful. They will not themselves counter the dynamic of centralisation and give managers the requisite freedom of decision and tolerance of error. These will only come with a thorough understanding of the problems faced by public enterprise in a democracy.

(5) As noted, one of the reasons that inflation is not a serious danger is that the problems associated with it are interesting and much discussed. The problem of management and organization is serious partly because it is so little discussed. Considering the importance of the problem there should be active research and discussion of the problems which lie ahead of the public enterprises in India.

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Public officials will, it may be hoped, take a leading part. In the next few years there needs to be an intense professional debate on these questions.

### CONCLUSION

A number of the proposals here, it may be urged, will have the effect of removing the public enterprises a greater distance from the representatives of the people and thus have the effect of making them less democratic. For some, this will be a telling argument. It will not pass unnoticed, moreover, that my roots are in a remarkably unsocialist land where we are presumed, perhaps somewhat harshly, to be too indifferent to questions of industrial democracy. However, I would like to argue that the issues here are technical and organizational not ideological, and that on examination the question of democratic control recedes.

The parliament can and must decide the broad lines of the national development. Subject to the necessary prior work by the Executive it must decide upon the steel and fertiliser capacity to be built, the choice between producers and consumers goods, the emphasis to be laid on small industry and the extent of the effort and the depth and distribution of the sacrifice. It should also specify the employment standards to be observed, the pricing policies to be followed and make clear its insistence on the rigorous observance of high standards of personal honesty. Not only must it do these things but having done them it has dealt with the essentials. The development and day-to-day operation of the enterprises involve no similar issues. Parliament or even ministers cannot conduct or pass upon day-to-day operations. For them to do so will be to defeat the broad democratic aims which parliament has itself prescribed.

Thus, on examination, decentralisation and a large measure of autonomy for public enterprises with prescribed rules is not a frustration of democratic process. On the contrary it serves the larger democratic decisions.

### III

#### LABOUR-INTENSIVE TECHNIQUES AND EMPLOYMENT

Perhaps the most perplexing problem facing Indian planning authorities is how far they may wisely go in substituting labour-intensive methods of production for more economical techniques which, however, require more capital and directly employ fewer people. In every industrial process there is opportunity for substituting labour for capital and vice versa. In ordinary economic calculation, some refinements aside, the choice lies with the combination of capital and labour which permits of production at the lowest cost. Subject to some problems in the calculations of cost there is no difference of importance here between socialist and capitalist societies. The question in India is whether and to what extent this criterion should be modified in the interest of providing increased employment. The issue is complicated by the fact that the need to provide jobs does not arise usually as an isolated issue. Certain

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of the labour-intensive techniques—the charkha and handloom for example—have a strong philosophical appeal and their use is regarded as conserving important traditional values in Indian society. Further, capital in India is scarce and a critical portion must be imported. It is rationed, hence its price does not reflect its relative scarcity. By contrast labour in India is abundant and its wage reflects in considerable measure the vast number of persons who are looking for employment. In some sense of market values, therefore, capital-intensive techniques reflect an unduly low capital cost and therefore an abnormally low final cost. To get a clear picture of the problem it is useful to separate the effect of labour-intensive techniques in providing employment from the further questions of conserving traditional values or making appropriate allowance for the relative abundance of labour and the great scarcity of capital. To these two latter questions I will return in the final paragraphs of the paper.

The *prima facie* case for favouring techniques which require a large direct input of labour in order to alleviate unemployment is very strong. Unemployment is taken lightly only by those who have not experienced it. To have work for all—or as many people as possible—is quite as defensible a social goal as to minimise aggregate production costs. India's unemployment problem, moreover differs in character and kind from that in nearly all other countries. In most other countries it results from a shortage in the demand for the things which labour produces. It can ordinarily be corrected by increasing the demand. This is not the case in India. Here there is an absolute disparity between the supply of manpower on the one hand and the land, materials, tools and equipment with which men can work on the other hand. As a result there is no presumption that the production criteria of other countries are applicable to India. On the contrary it would seem, at least at first glance, that the proper policy must be to combine the abundant manpower and the limited capital in such fashion that the first is used freely and the second is stretched to the utmost. Without *some* capital no man can work. What is available should be rationed to the largest possible number of workers.

### DIFFICULTIES WITH THE POLICY

However a policy of favouring labour-intensive industries is beset by serious difficulties. Moreover returns in employment which seem evident on first glance become less certain or even illusory on more searching scrutiny. There are three aspects of the policy which require especially close consideration and all of them are relevant to the current Indian experience. The three points are as follows:

(1) If the employment that results from the use of labour-intensive industries is to be substantial these techniques must be applied to industries like food or clothing production which produce items of mass consumption. If the labour-using techniques are as cheap as the capital-intensive techniques no problem arises. Nor does the question of implementation for these techniques will gain adoption on their merits. But if the labour-intensive techniques are more costly, that extra cost must

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be paid. In the ordinary course of events it is paid for in higher prices for the products—this is presently or perspectively the situation for handloom, khadi, shoes, gur, hand-pounded rice that are being produced or processed by labour-intensive methods at higher cost or for which such a policy is under consideration. In effect it is unemployment relief, which, if effective, is financed by a levy on the masses of the people who are least able to pay. The appropriateness of such taxation in a country where so many are so poor raises questions.

(2) The counterpart of the encouragement of labour-intensive techniques is the discouragement of the lower-cost capital-intensive techniques. This at present takes several forms—restrictions on total output, restrictions on investment in new plant and equipment, exclusion from a particular line of manufacture or the imposition of a cess which finances the less efficient manufacture. The consequences of all of these steps are in some degree unfortunate and the damage is probably greater than appears on the surface. The best test of industrial performance is a simple one and that is the progressive ability to produce and sell for less. When this simple test is abandoned the way is opened to all excuses for industrial inefficiency and incompetence. Public policy becomes a cloak for private inadequacy. It seems to me doubtful if any government should give any industry an excuse for anything less than the most efficient possible performance.

A limitation of output and indirectly also limitations on new factory investment have the further effect of creating the opportunity for monopoly gains under government sponsorship. This danger has been recognized; it is commented on seriously by the Village and Small Scale Industries Committee in its Report of October 1955 (page 31). But the extent of this danger, especially as the economy becomes subject to the pressures of the Second Five Year Plan and comparative price stability for textiles and food assumes a critical importance, may not have been fully appreciated.<sup>1</sup>

The Village and Small Scale Industries Committee expresses the hope that extra monopoly profits might be recovered by excise taxes. This would involve a difficult and probably an impossible task in tax administration and it would not deal with the danger of inflation which is inherent in increased demand pressing on an arbitrarily limited supply.

Finally, as others have pointed out, the factory textile industry is an important earner of foreign exchange. To be effectively competitive in world markets it must maintain a satisfactory level of investment and technological progress. The fate of textile industries in Lancashire and New England which have not so kept abreast is a warning. Even without public encouragement a textile industry can be very unprogressive.

(3) The most important problem of a policy of favouring labour-intensive industries is the virtual impossibility of comparing the employment in labour- and

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<sup>1</sup> See the companion paper on the strategy of inflation control (page ).

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capital—intensive techniques and the very near certainty that in any such effort, employment in the labour-intensive industries will be over-estimated and employment in the capital-intensive industries will be under-estimated. The employment in the capital-intensive industries appears only in the course of an extremely complex process of technical and economic dynamics. It is highly invisible. Employment in labour-intensive industries, by contrast, though it may in total be smaller is much more easily seen and counted. The point may be illustrated by an example.

India has a highly-developed railway system which is the alternative to much more labour-intensive movement of goods by bullock cart or, as is the practice in China over long distances, on the backs of human beings. There is no question that to substitute bullock carts or human carriers for the railways would, were the volume of traffic to remain undiminished, greatly increase employment. But it will immediately be observed that the volume of traffic would diminish. Coal and other bulk goods would cease to move over any considerable distance. There would be loss of employment not only on the railroads but in coal mines, ore pits, quarries and probably also in the surplus-producing farm areas. The result, almost certainly, would be a reduction in total employment—more men would be driving bullock carts but many less would be in work in factories, mines, fields as well as on the railways.

The effect of the railways in increasing employment are both important and exceedingly real. Yet if we turn the process around and start with an economy where the transportation is accomplished by bullock cart these effects are not evident. The increase in employment in factories and mines and farms as the result of the introduction of lower-cost rail transportation would be purely conjectural. What would not be conjectural would be the loss of jobs by bullock cart drivers to a much smaller number of railroad employees. If this were a time of unemployment, and particularly if there were no detailed experience with the effect of railways on development, a convincing statistical case could be made for keeping the more labour-intensive bullock cart as an unemployment relief measure. The technical gap separating the bullock cart and the railway goods train may not be greater than that separating the charkha and handloom from the modern textile mill. Plainly the policy as an unemployment relief measure would be quite wrong.

The plain fact, and it must be faced, is that the employment ultimately generated by a capital-intensive industry cannot be measured. The secondary and tertiary effects, as in the railway case, cannot be fully traced nor can it be assumed that their value in terms of jobs will be the same in different situations. Employment in the labour-intensive industry, by contrast, is measurable; it is on the site of the production and unlike the cost-reducing outlay does not set in train the dynamic sequences which produce jobs elsewhere. In a conflict between the measurable and the equally real but quite unmeasurable the first has an exceptional advantage.



CONCLUSION

The foregoing points lead to a number of conclusions which are associated with less capital-intensive production and with the relative shortage of capital supply. So far, it will be kept in mind, attention has been confined to the employment aspects of the problem.

(1) To adopt labour-intensive techniques in preference to less costly capital-intensive techniques is to risk trading visible and immediate employment for larger but invisible ultimate employment. To tabulate the visible and ignore invisible employment and to make recommendations on this computation has been an unfortunate feature of recent Indian planning practice. Evidences are to be found in the work of the Village and Small Scale Industries Committee and in the calculations of employment-creating possibilities of the Second Five Year Plan. It must be emphasized again, as the railway example makes clear, that invisible employment is no less real than the direct and visible employment. Moreover there must always be a presumption, based on the broad historical and empirical evidence, that it will be greater than the visible employment. The countries of the world with a highly developed capital structure based on a capital-intensive industry and agriculture do not have an unemployment problem or, if they do, it is one that as noted earlier can be solved by increasing demand. Intractable unemployment is confined to countries with labour-intensive techniques of production.

(2) A policy of encouraging labour-intensive industries is inherently regressive in its incidence on the public. It also supports damaging attitudes and tendencies in factory enterprise. Even if it is assumed that the public sustain the cost of developing a labour intensive industry—that for example the present or a larger cess on mill cloth is a tolerable levy—it still needs to be asked whether this is the best use of these resources. In line with what has just been said there is a presumption that money from this or other sources devoted to Ambar Charkha will produce less ultimate employment than if invested in development at the highest standards of efficiency.

(3) It follows that investment in labour-intensive techniques of production as distinct from the most efficient techniques is not a reliable or even a likely way of alleviating unemployment. Its advantages are ostensible but not real. To reach this conclusion is not to be in any way callous about the unemployment problem. If, the surface illusions to the contrary, labour-intensive investment does not provide the most employment it is the merciful course to be against it.

(4) The adoption of labour-intensive techniques in order to conserve capital resources rests on a different footing. If earthmoving equipment is not to be had then roads must be built at higher cost with hand labour. This substitution should be entered into unhesitatingly and it is of vital importance—as the final paper on railroads shows—for conserving limited supplies of foreign exchange. But the issue and the course of policy here needs to be clear. The roads should be built by the cheapest

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methods that the supply of capital permits. When earth-movers become available they should be used. It is the basic presumption that the greater amount of road-building, the lower tax cost, the better communications and the larger traffic will bring more employment.

(5) The development of industries that happen to be labour-intensive for their social and cultural value is also entirely defensible. The case for preserving, if necessary with subsidy, the historic and traditional arts of India is an obvious case in point. But so also, if this is the popular desire, is the effort to decentralise industry to the towns and villages. This should not be considered a policy to increase employment. It serves other social goals. To the extent that it results in more costly production this is the price of these goals. If decentralisation involves less efficient methods it must be assumed in general that it will result in less total employment. By the same token, decentralised industry should operate at the highest level of efficiency which the decentralised character allow, if it is to have the best ultimate effect on employment.

### IV

#### ON THE INDIAN ECONOMIC PHILOSOPHY

This paper has no very practical purpose and offers no advice—or not much. In recent times I have had occasion to reflect on the economic attitudes and folkways of the people of the United States. Immediately one begins to dwell on the peculiarities of other people it becomes a habit. In recent months I have been living and travelling in India and talking with Indian economists, university students, journalists and a few businessmen and politicians. I have found myself reflecting on the Indian economic philosophy and this is the result.

My central and dominant reaction, to go directly to the point, is the lack of real confidence of numerous Indian intellectuals in the economic policy of their country. I discover that other visitors have a similar reaction. No one can be in India long without finding that Indians identify themselves thoroughly with the foreign and broad political policy of India. An American, unless he lives a remarkably sheltered life in India, will be suitably impressed with the point. On economic matters by contrast one encounters doubt and even some cynicism. The Government ~~are~~ doing the right things, but only more or less. And the Five Year Plan is good but only so far as it goes. It is somehow regarded as a slightly aimless or compromised. There is no clear controlling doctrine or theory behind it. On occasion, I am forced to say, this feeling seems to boil down to a conviction that any Indian economic policy is inherently an inferior mixture. A certain degree of doubt and searching is undoubtedly wonder good for the democratic soul. Moreover the world has always been more menaced by those who have an undying conviction of the rightness of their economics than of those who if they might be wrong. Nevertheless I think Indians, in their economic policy, carry modesty to extremes.

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I leave the reasons for this lack of self-confidence on economic matters to those who know more than do I of Indian history and philosophy. Doubtless something is to be attributed to the long years of British rule and in economics British authority has always been formidable. Until very recent times no American economic idea really became respectable until like a trade bill, it was accepted in England. It still helps. Under these circumstances it is not perhaps surprising that the Indian habit of deferring to foreign authority in economic policy persists.

In addition, many Indian intellectuals clearly share the curious illusion, which is still so influential with men of ideas the world around, that there can be only one way to economic salvation and that must be written in a book. The most striking feature of recent economic progress has been the variety of patterns it has followed and the variety of policies that have been consistent with such advance. Since World War II West Germany has had a spectacular rate of growth under the well-advertised economic liberalism of Ludwig Erhardt. Norway, which considering the loss of her merchant fleet was just as badly devastated as Germany by the war, has had what seems to be a slightly more rapid rate of growth under a democratic socialist government which has planned savings and investment policy, used controls where necessary, and operated an intricate combination of public and private enterprise. There has been growth in the United States and in the USSR. None of these countries adheres, in its policies, to an immutable system of principles. The Russians no doubt make the strongest effort but they periodically change the eternal principles. The United States would not survive more than a few weeks the rigorous application of the competitive and *laissez faire* policies on which numerous philosophers believe our economic virtuosity to depend. Plainly an Indian economic policy, adapted to the Indian temperature and scene, is as possible as any other. Indeed it is doubtful if there can be any other.

It is important that this be recognised for other reasons. For a great many Indian questions there are no answers. Economics does not solve problems in the abstract; there is progress only as concrete problems are attacked. Many of India's problems do not arise in other countries—this is particularly so under the present conditions of well-being elsewhere. As noted there are no precedents for the Indian problem of unemployment—of an unemployment which is based, in the last analysis, on an absolute shortage of land, machines and materials with which men can be put to work. If the Second Five Year Plan is to be safely financed Indian economists will have to break new ground on tax policy. Even on such a matter as railroad policy, as I suggest in the next paper, one finds it necessary in India to invent new criteria for investment. Other examples could be cited. The days are drawing to a close when India can borrow much on economic matters from abroad. Problems will be solved only if the solutions are worked out in India. Because the problems are so numerous we should expect, incidentally, that Indian economists and Indian economic policy will come to set a uniquely high standard of achievement. So far from being able to borrow India must expect to lead.

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### THE MENACE OF DOGMA

Diffidence and the conviction that all answers are given by a system of doctrine have another evil effect. They make economic policy insufficiently pragmatic. Questions are decided by distant and inapplicable rules rather than by reference to indigenous data. In citing an example I tread on ground where, I have discovered, an American walks with some trepidation.

During the next five years, and no doubt for some time thereafter, a substantial share of Indian economic activity will continue to be conducted by private firms. (This involves no criticism of the socialist pattern of society which, it will be plain, these papers take as something that has been decided and therefore as part of the framework.) In these coming years it is obviously desirable that the private sector works as efficiently and as effectively as possible in the national interest. Accordingly there should be a model of efficient private business behaviour just as there is a model of efficient public business behaviour. Since India is to have businessmen it wants ones that produce efficiently and keep prices at reasonable levels, which have decent labour relations and which see profits as something to be invested in further development not diverted in high personal incomes and expenditures. Businessmen who conform to this model are good citizens of India. They are obviously to be encouraged and cherished.

Old-fashioned capitalist doctrine makes the foregoing business behaviour universal. Even the most rapacious commercial pirate is made by free enterprise into a public benefactor and has the right to be free from all government restraint and control. Marxian doctrine, similarly, denies that any businessman can be a good citizen. All exploit, squander and connive. Both generalisations are undoubtedly nonsensical. And what is important both exclude any and all constructive steps to get the most efficient and socially constructive behaviour in the private sector of the economy. One dogma says all is perfect. The other dogma says all is impossible. Needless to say the evil lies in the dogma.

### THE PROSPECT

In time in India there will be more self-confidence on economic matters and even growing pride. The habit of looking abroad for authority will recede. Empiricism as compared with the dogma, will become respectable—or, more precisely, the intellectuals will try to convert the practise into a new system of doctrine. The best proof of this is that where entirely new problems have to be faced, Indian economic policy is in fact striking out on new paths. And these efforts in turn are evoking pride. There was no precedent elsewhere in the world for dealing peacefully with the technical backwardness and social torpor of a population of small landholders. In the Community Development and National Extension Programmes means have been devised for coping with these questions on a large scale. This enterprise, as the visitor soon discovers, evokes much pride. Other innovations will have a similar effect.

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Presently there will be a structure of Indian economic achievement which not even intellectuals can entirely ignore.

There is an interesting parallel here with Washington in the early days of the New Deal. The first years of the Roosevelt administration were regarded with profound mistrust by nearly all American intellectuals. Socialists and communists could find no pattern into which to fit Roosevelt's unabashed empirism. The contradictions of the capitalist system did not allow feeding of the unemployed. Liberals were almost equally suspicious of the suspension of the antitrust laws, unbalanced budgets and tinkering with the money. No one supposed that Roosevelt knew what he was doing. Beyond his devout belief in doing what seemed necessary it is doubtful if in fact he did. By the end of the decade, nonetheless, intellectuals were seriously debating the "economic philosophy" of the New Deal. Some things they readily proclaimed were consistent with New Deal ideology; others were not which was bad. By now it is largely agreed that there was complete and coordinated system of doctrine underlying the whole experiment. A book has just been announced called "*The Economic Thought of Franklin D. Roosevelt*". Even Roosevelt who expected much from history could scarcely have expected this. If the experience is a guide India's economic improvisers of today, however dubiously they are now regarded, will be the sages of tomorrow.

Still it would be comforting could something be done to accelerate the discovery that there is an Indian way in economic policy. Perhaps it might help were it occasionally emphasized that a kind of social pragmatism is itself a highly respectable reliance in economic policy. There is no alternative to doing as intelligently as possible what the economic situation requires for the good of all. All good governments have done so while generally explaining they were being guided by some universal law. Perhaps the Indian Government might capture imagination by being the first to say that it makes a virtue of what has long been a fact.

## V

### RAILROADS AND TRANSPORTATION

In the draft of the Second Five Year Plan 900 crores of rupees are allotted for investment in the railroads. This is just under one-fifth of all public outlays in the Plan; in practice the proportion will likely be larger for there will be less difficulty in planning railroad investment and getting it under way than in the case of other outlays. The railroad investment contemplates foreign outlays for materials and equipment during the Plan period of 425 crores. This is not much less than half of the total of 950 crores which is projected for all such imports for the public sector. The magnitude of these requirements naturally attracts attention. And large as they are they represent a sizeable reduction from the initial estimates of need by the railway authorities. It is less than what many believe to be necessary if the Second Five Year Plan is to be carried through without grave transportation bottlenecks.

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Railway investment requirements are the aggregate of many individual items. They can be passed upon competently only after extensive study. The Indian railways, moreover, have a strong presumption of need. They were seriously starved for capital during the depression and war years. They are facing a great expansion of traffic and without anything like the supplementary role for road traffic that has eased the task of the railways in western countries. Nonetheless there are certain features of railroad operation and investment attitudes which are part of the tradition of the industry the world around and which, on the basis of limited study, appear to apply in India. A scrupulous re-examination of these attitudes holds the promise of at least modest savings in Indian railroad investment or what may be more important the possibility of making the now limited budget go farther in performance of the difficult tasks ahead.

The requirements of the railways for the Plan period are based on an estimate of the anticipated volume of passenger and goods traffic and of the equipment and plant investment necessary to handle the expected increase. In the case of passenger traffic the investment will fall considerably short of what is necessary to handle this traffic in reasonable comfort. In the case of fixed plant—track, yards and so forth—investment appears to have been estimated in accordance with general standards of good railroad practice and with a view to increasing the utilization of equipment and making appropriate economies in costs.

It is not the purpose of this paper to criticise the foregoing standards or their application—a task which, in any case, could only be discharged after extensive study. However three observations need to be made about such investment estimates in the context of the Indian economy. There is first the general nature and reliability of estimates of investment requirements in this industry. There is second the question of whether the Indian railways should plan to accommodate all the traffic they are offered or whether there are investment economies for the nation in the transfer of some business to other carriers. Finally there is the question of whether investment has been planned and reviewed with a view to effecting the maximum economy in capital outlays for the task to be performed.

### THE NATURE OF RAILROAD INVESTMENT ESTIMATES

This requires but a word. A railway system, as railwaymen will be among the first to agree, has an almost uniquely elastic demand for capital. Whether in the United States, Europe or in India and whether the system be privately-owned or publicly-owned, a railway has an insatiable hunger for capital. If everything is done to a road that ought to be done and that needs to be done, the total will always be all but infinite. The problem therefore is one of how much and what first. Moreover in the running of a railway capital and labour and, in even greater measure, capital and good management are substitutes. It is a commonplace of Canadian experience, with which I am somewhat familiar, that the box car supply for the heavy and highly seasonal movement of grain is usually just about equal to the demand whatever that demand may be. As shortages threaten they are offset by increased energy in mobilis-

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ing and making use of the available car supply. Needless to say railway car requirements are normally calculated before rather than after this extra outlay of managerial effort.

As noted the Indian railways in the depression and war years had a long period of capital starvation. A large increase in the movement of goods and passengers is in prospect. Requirements have already been cut. Accordingly it would be unwise in the extreme to suggest that too many resources have been allotted to the railways. The point to be made, however, is that there is a considerable range on any system within which management and organization can be substituted for investment and the traffic handled with suitable expedition. It is helpful and even necessary, in this connection, to have the railway plant under pressure. There is no suggestion here that the Indian railways are now inadequately managed. Any such observation would be gratuitous in the extreme. My point is that in the best-managed system management can substitute extensively for investment. In the next five years in India it is important that this substitution be carried as far as humanly possible.

### REDUCING PASSENGER TRAFFIC DEMAND

The projected workload of the Indian railways, and the estimated volume of required investment, are based on estimates of the volume of goods traffic and the number of passengers which will come to the railroads during the next five years for transport. In the past any increase in traffic has been considered a mark of progress. In India as elsewhere the notion that traffic should be discouraged or shifted to other carriers has, understandably, played little part in railway thinking. Yet in present circumstances in India it is a question that should be seriously raised.

The question arises first in respect of passengers. Unlike the United States a very substantial part of the energies of the Indian railways are devoted to the movement of passengers. These provide a little less than half of all revenues.

Between 1938-39 and 1954-55 the number of originating passengers on Class I Government Railways increased from 499 million on the pre-partition system to 1,234 million on the present system. The population in the same period has changed from 379 million to 381 million. There are a number of reasons for this increase in passenger traffic including the distinct probability that travel in 1939 was unduly depressed. But one reason, without doubt, is that railway travel has remained at a relatively low price. In 1953-54 third class fares were 157 per cent of the 1938-39 level. Commodity prices in general were 387 per cent of pre-war. In relative terms passenger travel now costs only half as much as before the war.

The railways have not increased their trains and equipment in keeping with this increase in travel. Instead they have allowed seat occupancy to rise and have accepted (along with the inevitable criticism) a marked amount of over-crowding. However this policy, for which a great deal can be said, has about run its course. During the Second Five Year Plan there will be a fifteen per cent increase in passenger train services. This will be in addition to extensive replacements of existing coaches and of locomotives in passenger service.

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Travel can be the most urgent and also on occasion the most unnecessary of expenditures. Those who must travel for reasons of family, faith or livelihood can find travel costs exceeding onerous. As a result the obvious solution to an excessive passenger movement, which is to raise prices, could be very cruel. On the other hand the discouragement of unnecessary travel would spare resources for other and urgent use. With all its needs India cannot give excessive support to cheap passenger travel. The people themselves would doubtless vote for, say, more schools instead.

In this situation the railway authorities might contemplate a number of steps which are all part of a general policy of discouraging passenger travel. The following would seem to merit consideration.

(1) Reduce or abandon all concessional fares and excursions designed to promote travel even where nominally profitable.

(2) Review passenger train schedules from the standpoint of maximising equipment usage. Where there is a choice between passenger convenience and more coach miles the latter within reason, should rule. (While the gains here may not be large, it is typical of the needed effort in substituting management for capital. Passengers who must travel will accept the inconvenience of departure and arrival or movement at odd hours and will not be punished by higher fares. Inconvenience will discourage some unnecessary travel.)

(3) Consider an increase in the fare schedule with concessions for categories of needy travel—travel occasioned by reasons of health, family tragedy, livelihood or religious motivation. (I am aware of the administrative problems and they may be decisive. On the other hand the relevance of such a step to the problem will be clear.)

(4) Explain and publicise the importance, in the national interest, of avoiding unnecessary travel. The choice is between steel for steel mills and steel for coaching stock and rails. This is something which people will understand. Nor is such an effort a confession of inadequacy on the part of the railroads. Similar efforts were common in India as also in the United States and the United Kingdom during the war. A war on poverty has its own urgency.

In addition to the foregoing steps, careful attention should be given to whether some of the rail passenger traffic can be shifted to other carriers at lower investment cost. Specifically are there particular routes or particular types of traffic which can be passed over to road transport at lower investment cost? In the United States, Canada and Western Europe bus traffic has bid successfully for a large amount of short-distance movement. There is at least a presumption that more of such traffic could be shifted to the roads in India. The matter is of special urgency in areas adjacent to the larger cities where rail traffic over existing facilities is reaching the saturation point.

### SHIFTING GOODS TRAFFIC

Concurrently with the consideration of alternatives to rail passenger investment there should be careful consideration of the possibility of shifting more



short-haul goods movement to the roads. This movement, it is unnecessary to emphasize, is extremely wasteful of rolling stock—wagons must be spotted, picked up, left at their destination for unloading and collected again for a very short line haul. The time spent in moving the goods is small compared with the time spent standing still.

In western countries this short-haul movement has been taken over largely by the trucks or lorries. On the whole this has probably been to the financial advantage of the railroads—long haul operations by trucks are something else again—and a certain number of railwaymen now concede the point. In the time at my disposal I have not been able to develop any satisfactory figures on short-haul traffic on the Indian railways by types of traffic. It is clear that the movement of goods by truck and bullock cart over short distances is considerable. The problem needs study and if a study develops that the railways are now moving any considerable quantity of general merchandise over short distance then there is a strong *prima facie* case for discouraging it. Rates of short hauls where alternative road is possible should be sharply increased—a telescopic rate structure with high rates for every short distance is very much in the interest of investment conservation in India. Stiff demurrage charges are also important. At the same time, of course, there should be adequate provision for investment in alternative road transport.

The development of short-distance trucking, it is worth noting, will relieve the railways of traffic in the vicinity of the larger centers which, both as to line and yard capacity, are or promise to be among the areas of serious congestion.

In parts of the country not now served by rail lines there may be investment economies in developing long distance road haulage. With this exception, however, investment in this industry should be viewed with scepticism. India has a chance to avoid the mistake, which elsewhere is reasonably evident as such, of making duplicating investments in long distance road haulage which could be performed more economically by concentrating resources on the railroads alone.

#### ECONOMISING INVESTMENT

Even after any desirable shifts of traffic to other carriers, the Indian railways will want to invest with maximum effect. In the past—as now on railways in other countries—the test of effective investment has been rendering of the expected volume of service at the lowest cost. There are other considerations—safety, avoidance of public criticism, observance of rule-of-thumb standards of operation and maintenance. But, broadly speaking, investment has been designed to do the job that had to be done at the least cost.

This standard, however, is not appropriate for the present situation of the Indian economy. As noted earlier, labour is abundant and the economy is very short of capital and particularly of capital goods that must come from abroad. Any unnecessary use of capital in the railways means a slower rate of development in other industries. An increased use of labour has no such effect.

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To put in effect a policy of economising investment is not simple. It implies a consideration of investment outlays—large ones at least—from all the following points of view:

(1) Whether labour can be substituted for investment in the performance of the prospective transport task even if at somewhat higher cost.

(2) Whether there are alternative types of investment which would have the effect of economising the total investment outlay.

(3) Whether by smaller investment now the traffic can be accommodated even though this might mean larger investment later.

(4) Whether the investment is economising imported as compared with domestically-produced capital supplies.

The foregoing points may be illustrated.

In the operation of any railroad there are important ways by which labour can be substituted for capital outlays. Thus a high sleeper standard—a larger number of sleepers or ties per length of rail—reduces the maintenance cost on the right of way. Sleepers are a capital outlay. Maintenance is mostly labour. Renewal of line a capital outlay reduces the costs of shimming and other kinds of patching. These have high labour cost. Old rolling stock as compared with new has to be shopped more frequently if it is to be operated at proper speeds. This represents a substitution of labour for capital.

There are limits beyond which this policy should not be carried. Railway morale deteriorates in working with equipment that is too old or methods that are too primitive. I am also aware of the fear of overstaffing and of giving too many people a vested interest in railway jobs. As capital becomes available they will be displaced. There are problems of management, however, from which no body, public or private, socialist or capitalist, can be excused and this last is one.

The problem of selecting investment so as to minimise the total investment outlays for the job is a twofold one. It involves first a preference for types of outlays which promise to accomplish the task even though at higher labour cost. And it involves a careful examination of investment programmes to make sure that investment is being made with the highest efficiency. As an example of the first, in India there is a *prima facie* case for investment in yard facilities which increase the speed of handling and thus the effective utilisation of rolling stock. Yard improvement which merely or mostly reduces labour cost has no such defence for the immediate future.

The examination of contemplated investment to see whether it minimises outlays for the work to be done (number 2 above) would seem at least to the outsider, to be even more important. One is struck by the very large programme of double-tracking in the Second Five Year Plan. In most North American experience Centralized Traffic Control—a master electronic charting of the movements of trains with frequent and lengthened passing tracks—get almost as much out of a single track as comes from a double one and at considerably smaller outlay. (A road with which I am familiar has in the last ten or twenty years torn up several hundred miles of second track, used that track in place of new rail for renewals and is enlarging its

capacity where needed by CTC as well as diesels.) I confess to some surprise at the extent of the electrification programme now under way although this obviously reflects much earlier decisions. Most recent experience would suggest that diesels are capital-saving as compared with electrification. Even their requirement of imported fuel might be offset by a smaller requirement of imported materials. However, these are questions that can only be solved by direct study in light of the Indian experience. I cite them only as examples. Doubtless many of my own questions would have been resolved had I the time to pursue them.

The last two criteria in appraising investment (numbers 3 and 4) can be disposed of quickly. Railways last a long time. For a hundred years there has been a conflict between the English system of building, which is to build for eternity, and the North American system of building which is (or used to be) to get safely by the next bulge in traffic. Railwaymen in all countries have a bias in favour of the former. But the next few years will be ones of special stringency in India; thereafter steel, electrical equipment, heavy engineering products and the like will be available from Indian source. Where there is a choice railway investment should be for the short rather than the long pull. Large steel using projects that can be postponed without handicap to operations should obviously be postponed. I am sure, incidentally, that many of these have been postponed.

The need for examining investment for its bearing on the foreign balance is also obvious. My own guess is that not much can be borne here. Most choices will in one way or another involve imported resources and the differences will rarely be decisive. The important thing is that the view of the problem be comprehensive. To recur to diesels for a moment it is obvious that they involve heavy additions to imports and that their fuel must also be imported. But they also raise train speeds and reduce rolling stock requirements and are far more tolerant in their grade and track requirements. Conceivably as a result diesels might reduce the burden on the balance of payments even in a fairly short period.

#### SOME FURTHER STEPS

The foregoing observations, as may indeed be evident to any railroad man encountering them, are based on a very brief study of the operating experience and on limited discussions with those who are informed on the subject. A detailed study is about to be undertaken by Sanderson and Porter, whose competence of these matters is high, and this will be of much value. The firm, moreover, will undoubtedly adjust its thinking to the Indian scene. On the other hand the Indian authorities will be doing both Sanderson and Porter and themselves a service if they impress on the latter the special character of their task. It is not to tell how India can have a better railway system. Rather it is to help show, in light of the very great claims on Indian capital resources, how the necessary goods and passengers can be moved in the next five years with a practical minimum of investment and while leaving the plant capable of the requisite expansion and improvements in efficiency in subsequent years. Even the minimum investment will not be small.