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NEED FOR FORMAL REPLANNING

by

C. Rangarajan

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MECHANICS OF PLANNING: NEED FOR FORMAL REPLANNING

By C. Rangarajan

Recent discussions on the rolling plan have brought to the fore issues relating to the mechanics of planning in this country. During the last 25 years the Indian planners have acquired a high degree of sophistication in terms of formulating plans. In this task they have been assisted greatly by the contributions made by the mathematical model builders. While the analytical models constructed by the mathematical economists and others have been very complex, the models that underlie the various Five Year Plans have been quite simple and straightforward. The plan models themselves do not evaluate alternative strategies to be adopted for ensuring a long term growth rate. These are left to be determined by discussions and analysis elsewhere. The plan models have been concerned more with the modest task of ensuring consistency among the various targets to be achieved during a given plan period. These models attempt to establish a relationship between the desired rate of growth in income during a plan period and the total amount of investment required to achieve it. The proportion of investment going to the various sectors would depend on the long term strategy decided outside the model. Given the proportion of investment that should go into the different sectors and the amount of investment required to generate one unit of output in each sector, the total amount of investment required to achieve a particular rate of growth in the economy can be determined. The plan then attempts to strike a balance between the total investment so determined and the domestic savings that can be generated and the external assistance. The total savings that have to be generated within the economy are themselves contingent upon the realisation of the targeted rate of growth in income. Given the vector of final consumption and investment, the input-output model incorporating the flow of goods from one sector to another determines what the output of the different sectors should be. Thus a plan emerges which matches a mutually consistent set of physical targets with a scheme of mobilisation of financial resources based on the fulfilment of the

physical targets. A typical plan therefore provides the initial levels of income, saving, investment and output of the different sectors and indicates what the level of these variables should be in the terminal year of the plan.

Need for Replanning

Even as a model attempting to ensure the consistency of targets in the terminal year of a plan, our plans require refinement. The matching of the demand and supply for the various commodities is sought to be ensured by the production targets set for the various products. There is no effective link between the demands that is to be forthcoming and the income generation process. Leaving aside such fundamental questions, even within the present framework of planning, there is need for formal replanning on the part of the planners as a mid-term correction to ensure consistency. The annual plans that are currently prepared at the beginning of each year are more in the nature of administrative rather than planning exercises. Even the mid-term appraisals do not make a systematic effort to reset the targets for the various sectors in the light of experience. These tend to be very often sermons of exhortation. In so far as recent discussions have tried to emphasise the need for continuous planning, they have made a contribution towards rethinking on the mechanics of planning. However, the idea of planning for five years at the beginning of each year is fraught with many difficulties, theoretical and practical. The speed with which the data are to be generated in order to perform such a task is beyond our capabilities now. It may be noted that at the present moment the Five Year Plans do not fix the targets to be achieved in each of the five years. Only terminal year targets are provided. It will therefore become difficult to figure out for each year how far the actuals deviate from the planned levels. Rolling plans can also become an alibi for the nonfulfilment of targets. Since the overall objectives cannot change from year to year, one should begin with the more modest task of formulating a five year plan and readjusting the targets for the

terminal year of the plan as the plan proceeds. A mid-term appraisal should perform not only the task of evaluating past performance but also of specifying the new targets to be achieved. It must be noted that the task of resetting the targets is not an easy one. There is no mechanistic formula by which this can be done. The present paper is to indicate the options open to the planners in terms of resetting the targets and the difficulties faced in performing such a task. In the context of a five year plan, the need for replanning after a plan has been in operation for one or two years can arise from various circumstances. We indicate some of these below :

1. When the plan for a five year period is being formulated the base year income and output of the various sectors are not known. The planners make a tentative estimate of these variables and build the plan on the basis of those estimates. When the base year actuals are known they may sometimes deviate very much from the original estimates calling for a substantial revision of the targets set under the plan. Everyone is familiar with what happened to the Fifth Five Year Plan. Because of severe shortfalls in the achievements of targets set for the Fourth Plan, the base year estimates incorporated in the Draft Fifth Plan document had to undergo revision which in turn called for a substantial modification of the targets set in the Draft Plan document. Thus a change in the initial conditions will itself necessitate replanning.
2. The attainment of targets set for some sectors in the terminal year of the plan might become impossible for a variety of reasons. Under these circumstances, it may become necessary to alter the targets set for the other sectors because consistency cannot be maintained otherwise. This is perhaps a major reason for replanning. Our past planning experience has shown that failure to achieve targets has almost been endemic. Thus monitoring in the Planning Commission should result not only in taking steps to correct the factors responsible for failing to achieve targets but also in roadjusting targets for all sectors, if the original targets for certain sectors are unachievable. There may also be situations where unplanned surpluses may be generated in certain sectors calling for modification of the original targets.
3. A plan may have a number of objectives. It may seek to achieve a particular rate of growth not only in income but also in employment. Thus implicitly or explicitly, there may be a trade off between these objectives. The planners may have opted for a specific combination of rates of growth in output and employment.

If it happens that in the first two years, there develops a hiatus between the rates in output and employment, the planners might want to correct this tendency and emphasize more the rate of growth in one variable than in the other in the subsequent years. The following example may make the position clear. The planners might have opted for a combination of a rate of growth 5 per cent in income and 4 per cent in employment. If it happens that in the first two years, the income growth rate has been maintained, but the employment growth rate has been only half of what was originally contemplated, in the next three years the planners might want to put greater emphasis on employment than in income. The need for replanning therefore arises in order to work out a new trade off between employment and income without drastically altering the targets originally set.

4. The necessity to replan may be imposed on the planners by external circumstances. A striking example of such a situation was the abnormal increase in the prices of petroleum products that the world witnessed in the early 70s. It can also arise from external situations such as foreign aggression.

We have ruled out the possibility of replanning because of a change in overall objectives. One does not expect the planners to alter the basic objectives within a period of five years. But we have indicated circumstances in which the planners might be compelled to readjust the plan even if the original objectives are kept unchanged.

Task involved in Replanning

The problems that arise in replanning in each of the situations mentioned earlier can be different. We briefly indicate below the issues that arise in relation to replanning in each of these situations.

The task of replanning does not pose any special problem when the base year actuals are different from the estimates built into the plan. The planners need to reconstruct their entire model by substituting the actuals for the estimates. Even here the task may become difficult, if the actuals deviate widely from the estimates. Since some variables such as population will tend to grow at the same rate as postulated in the plan document, the matching of demand and supply cannot be achieved

by simply superimposing the planned rates of growth on the new base year estimates. For example, the achievement of certain minimum consumption standards by all sections of population may compel seeking higher rates of growth than that originally planned for certain sectors. The task of replanning to take care of changes in initial conditions may have to begin quite early. As soon as the base year actuals are known the planners must begin to work on the basis of revised figures.

Replanning under circumstances when the targets set for some of these sectors cannot be fulfilled raises a number of difficult questions. When the targets of certain sectors cannot be fulfilled, the consistency model demands that the targets for other sectors must be modified. It is assumed that the planners cannot fill the shortfalls by imports or by inventory adjustments. In modifying the targets for the other sectors, the planners have a number of options. We can illustrate the issues raised by an example. Supposing the targets set for electricity in the terminal year cannot be reached and the shortfall is of the order of 10 per cent, what can the planners do? If the allocation of electricity to all sectors is cut by 10 per cent, the output of all the sectors will decrease by 10 per cent, since all the sectors of the economy use electricity as an input. Such a decision will have the worst effect on the economy. A more judicious reallocation of electricity can result in a much smaller fall in income. If the aim of the planners is to deviate as little as possible from the original vector of final demand, this will call for a different allocation of electricity. It can be seen even intuitively that if the major part of the shortfall in the production of electricity is borne by the consumers of electricity as final demand, the impact will be the minimum. However, the planners may not have the fullest freedom to do this. They may have to work with some limits set on the extent to which consumption demand can fall. To take another example, when there was a steel shortage in 1974, the planners decided to cut the allocation of steel to construction. This is justified only if the planners had decided that the goal that they wanted to achieve

was one of safeguarding the investment component of the final demand. If on the other hand, the goal had been to maintain the growth rate in national income, they should have preferred to allocate more steel to construction since per unit of steel income generated was higher for construction than for machine making industries. We have thus indicated that faced with a situation of a shortfall in the output of certain sectors, the planners can refix the targets for other sectors depending upon which objective in their opinion is the most important. However, the most dominant consideration may be to stay as close as possible with the originally planned vector of final demand. Such a criterion may be desirable for two reasons: 1) The new vector of final demand will reflect, with minimum alterations priorities implicit in the original vector of final demand which must have been arrived at to satisfy a variety of considerations and 2) since the implementation of the plan till that time period would have proceeded according to the original goals, deviating as little as possible from the original intentions would cause the least disruption. The planners also need to evolve appropriate criteria for dealing with unplanned surpluses.

Replanning may also arise as a consequence of disparate rates of growth of the different sectors. Apart from the impact on output, this may have implications for other objectives such as employment generation. From any plan, one can work out its employment implications even if the planners have not specifically worked towards this objective. Given the output levels of the various sectors and the employment per unit of output, the total employment generated can be calculated. When sectors grow at rates different from what was originally planned, depending on the sectoral imbalances this will have different effects on income and employment. The planners may therefore want to correct the situation by emphasising certain sectors than others in the rest of the plan period. This situation is similar to the situation which we have described earlier. However, the task is rendered more difficult because the reallocation of targets is to be done not in terms of a single objective but in terms of two objectives.

Replanning in order to take care of unexpected changes in the external environment may be quite serious if the external events are too severe and abrupt. Foreign aggression can result in preempting resources for defence from domestic productive investments. Such conditions may result in more or less total abandonment of the original plan and going in for a new plan. A serious impact on the balance of payments situation either because of the withdrawal of external assistance or because of a sharp rise in the prices of the necessary imports may compel replanning particularly, in import substituting sectors. However, given the need for overall consistency, this may require adjustments of targets in other sectors. If the shocks experienced are quite severe, this can also result in planning ~~de~~ novo rather than modifying the original plan.

Conclusion

One lacuna in the present process of planning is the absence of a systematic effort to modify the plan targets as surpluses and bottlenecks arise in the course of a plan. To meet this problem, it is not necessary to resort to rolling plan which involves planning for five years at the beginning of each year. A rolling plan for this purpose is too complex and cumbersome a procedure. It may in fact reduce the discipline required to implement a given plan. On the other hand, a formal replanning after a plan has been in operation for a few years will provide an opportunity for critically examining the past performance and for taking appropriate corrective measures. As this paper has argued, the task of resetting the targets is not a mechanical one. It involves establishing a new set of consistent targets bearing in mind the dominant objective to be fulfilled. In the case of multiple objectives to be satisfied this will require the planners to establish a new trade off among them.