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POLICY INSTRUMENTS AND PLANNING MODELS FOR
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by

Montek S. Ahluwalia and Jorge Cauas

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POLICY INSTRUMENTS AND PLANNING MODELS FOR INCOME DISTRIBUTION

Montek S. Ahluwalia and Jorge Cauas*

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POLICY INSTRUMENTS AND PLANNING MODELS FOR INCOME DISTRIBUTION

I. Introduction

We begin with the recognition that the profession at large has in recent years displayed increasing scepticism about the value (or more strictly "usefulness") of planning models in general. The reasons for this scepticism are too well known to bear detailed review but it is worth noting that the schism is not likely to disappear in the near future. The sceptics base their case on two propositions.

(i) Existing reality especially at economy-wide levels is far too complex to be captured in the stylized algebraic formulations of economic models.

(ii) The available statistical information in most cases is too poor even for the demands of existing "simple" models let alone anything more ambitious.

Both propositions taken together produce a natural impasse since any attempt to develop more general models must necessarily place even greater strain on the statistical infrastructure. This establishes an immediate distinction between academic advances in conceptualization, which will inevitably begin the direction of more sophisticated models of the general equilibrium type and the operational usefulness of these advances in providing tools for practical planners.

These problems would be serious enough if we were interested only in the traditional questions of economic policy such as output growth, 

1/ This distinction is not of course clear cut. Planning offices may well be interested in very general models that stylise broad "growth strategies" but what is lacking in economic planning is the availability of operationally useful models to determine specific policy choices.
comparative advantage, dynamic efficiency, etc. They be even more
overwhelming when we include considerations of income distribution where
there is much less agreement on the acceptability of the underlying

It is not surprising therefore if the attempt to build planning
models to deal with distribution problems leads to the obvious criticism
that we are trying to run before we have learned to walk. The point of
this criticism is not to deny the desirability of experimenting with
innovative prototype models which try to endogenize income distribution.
Rather it is to recognize that the applicability of such models in
practical planning exercises in the near future is bound to be fairly limited.
Indeed it may even be argued that it is counterproductive. Trying to run
before we have learned to walk may be entirely commendable in the interest
of long term athletic development, but in the interim it is probably not
the best way of getting from A to B!

The main purpose of this paper is to suggest a framework for
evaluating the potential usefulness of the available and prospective
planning models in providing policy guidance for planners concerned with
income distribution and employment objectives. One way of doing this is to
consider what the "ideal planner model" should be and use this as a

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0. evaluating available...0. suggesting practical extensions
to such models. The "ideal" planning model for income distribution and
employment planning is obviously one that approaches a fully blown general
equilibrium formalism, which not only actually generates "income distribution"
(a multi-dimensional concept) in a way explicitly identifies all the policy
instrumentation open to the government. Such a model should then be solvable
for given values of the exogenous variables and policy variables to yield
"income distribution" as a function of these variables. More ambitious
model builders might even hope that such a model can be recast in an op-
rimising framework as a control theory problem of determining optimum time
paths for the policy instruments (control variables) given some objective
function. Providing we have comprehensively identified and included all
available policy instruments, plan implementation would simply be a
matter of making these instruments follow this optimal time path.

It is obvious that we are a long way from even formulating such
"ideal" models let alone estimating them successfully for practical appli-
cation. In practice we have only the familiar crop of economy wide input-
output models and linear programming models (both economy wide and sectoral)
to work with. How far do these models get us in developing appropriate
policies for employment and income distribution? It is easily seen that
these models fall considerably short of the "ideal" on two grounds.

(i) These models do not generate income distribution in the
sense of a size distribution of income. At best they can
handle the problems of functional income distribution and
then too on very restrictive assumptions.

(ii) In general these models do not explicitly incorporate the
effects of the full range of available policy variables.
Both problems are of course equally important but we will concentrate initially
on the second problem as being more a technical problem of model design.
Whereas item (i) involves the fundamental question of the "theory of distribu-
tion" (of wage and employment levels for all factors) to be built into the
model, item (ii) relates purely to incorporating the effects of policy variables given a theory of distribution to determine factor prices and employment levels. This apparently technical problem is not however a "simple" problem given the wide variety of policy instruments that is usually considered when discussing income distribution.

II. Available Instruments of Policy

In this section we will attempt to classify the many policy variables that are suggested by conventional wisdom as potential instruments of income distribution. Our basis of classification is to group policy instruments according to the point of direct impact of these policies within an implicit framework of general equilibrium of the economy. Thus all policies affecting factor prices can be classed together as the feasible set of factor market interventions. Although initially directed at factor markets, such interventions obviously affect employment levels, production patterns, output prices, etc., and it is through all these effects that the so called "trade-off" between growth and income distribution can be traced. This classification scheme enables us to focus on "markets" or relationships that need to be affected rather than the precise policy instruments used to affect them. Tiinning models are necessarily aggregated constructs better suited to analysing the implications of broadly defined interventions in particular markets or relationships rather than the precise response of the economy to narrowly defined policy instruments. In general once the desirability of intervening in particular directions in particular
market is determined the precise design of policy (choosing between alternative instruments) can be worked out in some detail. Four areas of intervention can be distinguished corresponding to the general equilibrium linkage from (i) factor prices through (ii) personal income determination adjusted for (iii) tax incidence to (iv) demand patterns and output prices which are consistent with the factor prices. To these we add a fifth area -- public expenditure patterns -- which completes the picture.

(i) Determining Factor Rewards:

A whole range of government policies influencing "price determination" in this field can be listed: various forms of taxes on labor use; subsidies to capital in the form of "tax holidays", depreciation allowances and investment allowances; government intervention in wage policy both in the private sector through minimum wage legislation and in the public sector through direct wage determination. Wage policies are frequently implemented on "distributional grounds" with little attention to the relative price implications for employment levels or the "cost push" implications for inflation. These questions can only be examined in planning models which incorporate relative price determination and permit some scope for factor substitution.

(ii) Distribution of Income: Earning Assets and Factors over Population:

Given factor price determination and employment levels for each type of factor and the rental of each asset, it is the distribution of these assets and factors among households (and the patterns of concentration therein) that determines size distribution of income. This distribution is an "initial condition" for any planning exercise but its time path is...
encogenous to the model depending on institutional characteristics and other factors. Conventional wisdom suggests several ways in which government policy can affect these patterns by direct action. Expropriation and either collectivization or redistribution of assets is the radical policy alternative. It is a familiar recommendation in agriculture (land reform) but it is also viable in industry although in the latter "redistribution" is hardly feasible, and the choice is more likely to be nationalization or "socialization" (the Yugoslav pattern) of capital.

Less radical measures with a longer time pattern for effectiveness are property taxes and inheritance taxes, both of which are minimally effective in most countries. Even less radical are measures designed to improve the distribution of skills (and consequently earning power) in the population by expanding education and training programs. This is a familiar cornerstone of employment promoting programs, and one that we will uncocobtedly hear about in any discussion on income distribution.

(iii) Directable Income Determination:

Tax incidence on earned income (in combination with public expenditure policy) is the traditional fiscal device for redressing market determined income inequality. Its effectiveness obviously varies with the structural characteristics of the country. It is a potentially important tool at a relatively advanced stage of development but is of very limited

footnote: The Malaysian policy of increased labor participation in industry to be overtaken by 1950 which requires a certain ten government action requiring direction of control. The internal resistance to Malay to acquire ownership is a possible exception to this generalization.
significance at earlier stages where implementation problems are particularly important. In such circumstances tax evasion among high income groups may have to be accepted as an "institutional constraint". The trade-off usually associated with this policy relates to "incentives" which may be adversely affected by successful tax policy measures. Note that if the economy is closed for factor movements (an imported assumption) the incentives question relates essentially to the work-leisure choice and this may not be very serious if tax measures and implementation ability are uniform for all categories of economic activity.

In practice implementation capability in different sectors is widely different and this implies that increased reliance on tax measures inevitably introduces intersectoral distortions which may be serious. The classic example of this problem is the situation where the only institutionally feasible tax measures amount to taxes on exports or imports.

(iv) Commodity Price Determination:

The whole range of domestic taxes and subsidies on production/consumption and tariffs on imported goods may be classed as price interventions in the commodity markets together with the parallel set of quantitative restrictions which can be treated as discontinuous price intervention. These taxes and quantitative restrictions have both an "income" effect (reduction or increase of real incomes) and relative price effect both of which ultimately have income distribution implications. The

Optimality may not require uniformity except on certain issues about particular supply difficulties but we ignore this for the moment.
Relative price effects may be of two types. Firstly they might affect "real wage determination" by altering the relative price of wage goods. subsidising food prices is the commonest example of this type of government policy. Secondly they might alter the production pattern of the economy in favour of labour intensive sectors thus altering the absorption of labour. As long as the primary purpose of such intervention is to get at factor prices and employment levels (and not output composition) these interventions are 'indirect means' which are probably less efficient than direct factor price intervention.

(v) Public Expenditure Patterns:

Public expenditure is the collective potential benefit resulting from direct and indirect taxation and other government revenues. The allocational importance of public expenditure stems from two considerations:

(a) It is a very large and usually growing proportion of GDP compared to the share of lower income groups in total income. Thus, whereas public expenditure may account for 15 to 25 percent of GDP, the share of income accruing to the lower 43 percent in GDP may vary between 8 and 15 percent. These magnitudes suggest that a substantial improvement in the welfare level of this group can be achieved within a reasonably short time by easily achievable increases in real functions of public expenditure.

(b) Public expenditure can be highly selective in affecting precisely those lower income groups that cannot be helped by other policies discussed.

It is likely that the benefits of public expenditure may arise either from its distributional impact or from consumption in particular sections of the economy. The figures here are derived from income distribution studies by adjusting a framework similar to the method of the bottom 40 percent in income to allow for distribution based on production prices and GDP. The figures are purely illustrative in order to highlight.
implications. In a situation where public resource mobilisation is an important constraint, this poses an obvious problem of choice between the two categories and also of course within the two categories.

Given this wide variety of areas of intervention, the problem facing the practical planner is to devise a framework in which the net effects and relative merits (including complementarities and contradictions) of intervening at particular points can be evaluated. The purely "technical response" to this is to build bigger and better models which attempt to endogenise as far as possible all relevant interactions in the economy. 1/ Such a model would obviously enable us to experiment with the effects of alternative policy instruments on income distribution but as we have stated before this "ideal" is unattainable for some time to come (certainly for the vast majority of underdeveloped countries). In practice we have a range of less powerful analytical tools which help to quantify particular choices but not in any all inclusive framework. In such a world a strategy for income distribution involves two kinds of decisions.

a) Choosing broad areas of intervention as discussed above largely on a non-formal considerations

b) Using available planning models to illuminate particular trade-offs and policy alternatives within the very broad strategy

Informally defined in the next two sections we discuss briefly some of the problems and possibilities in both fields.

1/ See for example the paper on "Incorporating Social and Politics-Variables into Equity Oriented Development Planning", for a discussion of such "all inclusive" modelling.
III. Brood Strategic Choices

In this section, we will discuss some of the considerations that are relevant in choosing a "strategy of income distribution", i.e., choosing among the various areas of intervention listed above. In the absence of a formal model these choices must be made on an informal basis. In this context it is useful to distinguish between two polar opposites in terms of policy approach. The two approaches follow from the two key components of the determination of "income distribution" in the economic system. The first of these is the determination of factor rewards and employment levels for factors. This is what economic theory calls the distribution of income (into factor shares) and in the neo-classical framework it would be affected by the whole range of policies discussed in II (i) and (v) above. The second link in the chain is the distribution of income earning assets and factors over the population which determines the size of distribution of income. We may characterise income distribution strategies as aimed either at altering the distribution of assets or at affecting earnings and employment levels.

1) Asset Redistribution: The Radical Strategy

Asset redistribution in the widest sense includes not only expropriation and collective action or redistribution, but also the provision of public capital (over time) as a complementary asset to enhance low income earning and productivity levels. (Public investment in rural development schemes is an obvious example.)

One great appeal of this approach is that it separates the question of income distribution from "efficiency pricing" and the "rules of the
market". Given a set of efficiency prices in the factor market, any
given pattern of personal income distribution can be achieved by altering
the pattern of distribution of income earning factors and assets\(^1\).
Obviously the change in income distribution so induced will feed back
on efficiency prices in a manner which may or may not reinforce the
effects of the redistribution but it is reasonable to suppose that these
effects will be either reinforcing or merely secondary\(^2\). The problems
involved in this strategy are mainly the "political" and "institutional"
constraints on asset redistribution. We will not discuss the political
constraints here on the grounds that a quantitatively equivalent effective
redistribution will face the same political constraints whether implemented
through asset redistribution or other means. The "institutional constraints"
are more important because they are subject to policy action within the realm
of political feasibility.

By "institutional constraints", we mean constraints on the
earning ability of the redistributed asset. It is obvious that redistri-
buting assets is not enough if the earning ability of the asset is impaired.
Thus land reform may be ineffective as an instrument of income distribution
if other distortions in the system prevent small holder from being productive.

\(^1\) Note that educational policies aimed at dynamic redistribution of
skills are not really radical in this sense. The redistribution aimed at
is essentially relative since the total supply of skilled labor is expected
to expand. The "income distribution" effect depends therefore on whether
wages are maintained as supply of skilled labours expands which is essentially
a problem of functional income determination. These problems are important
however in providing social mobility i.e. equalising access to employment
of particular wage categories.

\(^2\) A good deal of speculation and some empirical evidence exist on the greater
labour intensity of lower income consumption. There is also evidence that these
feedbacks are relatively small in quantitative terms.
A whole range of institutional constraints are relevant in this context—education and skill level of tenant beneficiaries and provision of complementary inputs such as seeds, fertilizer, credit marketing facilities, etc. It is important to realize that the costs in terms of "output trade-offs" of pursuing an asset distribution oriented strategy depend critically upon the assumption of the "earning ability" of the redistributed asset in an optimal institutional framework. Undoubtedly, the cost of establishing these institutions (or refurbishing the old ones) is a part of the "trade-off" but the problem in most countries is that the need for the new optimal institutional framework is not always realised. This realisation is growing in rural-development program but it is not at all evident in policy formulation for the public sector. Nationalisation of industry as we have seen is a "feasible" asset collectivisation policy with income distribution benefits but hardly any attempt is made to ensure that these collectivised assets remain productive on any economic (not financial) considerations. Unfortunately these "non-essential" trade-offs are frequently perpetuated owing to a regrettable suspicion of "efficiency" concepts among radical reformers at least in the early stages of radical movements.

These problems suggest that a critical role for planning models in evaluating asset distribution strategies is to identify the institutional need of such redistribution. Models which fail to identify key institutional developments which are complementary to asset redistribution and to identify alternative "learning processes" in achieving efficiency in the new set up, fail in an important sense to identify the real problems with such a strategy.
Note that the failure is politically neutral. Opponents of such policies usually point to observed results without attempting to define alternatives which were feasible but have been ignored. Proponents of asset redistribution ignore "learning costs" and the need for complementary inputs. A programming approach to nationalising industry for example might show a steeply rising shadow price on skilled salaried management as we move from the private to the public sector with some loss of "private sector managers". In this environment rigid wage policies which limit access to managers amounts to incurring unnecessary social costs.

It should be emphasized that the key problem in the area is not so much techniques for handling these problem but rather information on what kinds of institutional systems are needed, i.e., research on the production function. This conclusion is very similar to the general agreement on the need for research on availability of "Intermediate technology" before incorporating capital labour substitution into planning goals.


The neo-classical alternative to asset redistribution is to try and operate on the levels of real rewards and employment levels. The success of such policies depends critically upon the feasibility of altering market equilibrium sufficiently to achieve the desired result. Broadly speaking, the strategy involves restructuring the "growth path" of the economy while retaining a largely market-determined system.
The feasibility of the indirect approach depends crucially upon the flexibility of the economy as determined by behavioural and technological characteristics. In the typical neo-classical framework behavioural characteristics determine price and income elasticities of consumer demand while technological characteristics determine factor substitution possibilities. The scope for altering the final equilibrium of the economy through price intervention depends on these parameters.

This is essentially an empirical question and one for which no simple answer can be provided. Frequently while policy makers demand evidence economists can do little more than ask for acts of faith. We should recognize however that neat neo-classical results based on factor price intervention or relative output price intervention will not carry much weight unless we can be sure of the size of the various elasticities involved. It is cold comfort to know that "the direction of change" will be right if we cannot be very confident about the amounts involved.

Note that this problem has also bedevilled analytical work on employment promotion. Except that it is more serious when the objective is income distribution than when it is employment. This is because high elasticities of substitution between capital and labour are after all only a mixed blessing if increased employment is only achieved at the cost of lower wage rates. For distributional ends to be achieved via factor shares, it is not enough for elasticities of substitutions to be greater than zero. They would have to be greater than unity.
in this context, it is worth noting that experiments with planning models incorporating reasonable parameters for demand and production flexibility did not suggest that relative price intervention offers much hope for altering the distribution of income either via demand changes feeding back on production or even via direct substitution between capital and labour. Thus Chenery and Raduchel in experimenting with such a model conclude:

"In the first place the possibilities for indirect factor substitution via demand and trade may not be extensive enough to accommodate very wide variations in factor proportions. Secondly, the feasible range of variation is made considerably narrower when we consider the implications of the equilibrium factor prices for the distribution of income between capital and labour."

These results lead to highly pessimistic conclusions on the scope for promoting income distribution via market intervention. If we are to be limited to direct factor substitution, labour subsidies or similar price intervention will have to be confined to those sectors with elasticities of substitution greater than one. Undoubtedly the experimental exercise described above may lose considerable flexibility through aggregation but nevertheless the results are somewhat sobering.

The above characterization of asset redistribution and market intervention policies as polar opposites does not of course imply that an economy wide choice must be made for one or the other approach. In fact we would expect that one or the other approach might be more suitable.

for particular production sectors depending upon various characteristics of the sector:

- the production structure of the sector and the degree of factor substitutability which determines flexibility
- the distributive character of the sector including existing patterns of asset concentration (particularly important in the case of land in agriculture or natural resources in mining and extractive resources)
- relationship of the sector to the production equilibrium of the rest of the economy. Output losses following from distributional policies may be particularly serious for "key sectors" where the economy cannot adjust easily in response to such losses. (Exports are an example).

As these characteristics vary substantially across countries we would expect the optimum set of distribution policies to vary accordingly and finding the optimum set is a major planning problem. In the absence of formal models these choices will obviously be made on the basis of informal evaluation strongly conditioned by socio-political, historical, ideological and even random factors.
IV Available Planning Models

In the preceding sections we have outlined the kind of policy choices and strategic alternatives that need to be incorporated into planning models. We have assumed throughout that the "ideal planning model" incorporating all these choices is not at present a practical reality. The next step is to consider how far available planning models illuminate particular choices relevant to income distribution objectives. In this section we will deal briefly with two familiar types of models—input-output models and linear programming models.

(i) Input-Output Models: Usefulness or Consistency Planning

The limitations of these models are well known. For our purposes they arise from (a) exogenously given technical coefficients which make the treatment of employment generation highly deterministic given patterns of final demand and (b) the absence of a link between factor prices and personal income distribution and thence to income-wise disaggregated consumption demand patterns. Various attempts have been made to extend the generality of these models on both counts but these have not so far been reflected in planning usage. In fact such extensions are quite feasible in many countries and would enable these models to be used for several types of "consistency exercises" in evaluating the implications of alternative distributional strategies.

The most obvious types of questions that can be examined through input-output consistency models are the "resource-use" implications of

1/ For the incorporation of capital-labour substitutability in input-output models see Chenery and Radcliff 89. On the demand side—there are several attempts at deriving income distribution by income class from value-added and wage-employment data. See for example R. Weisskopf "A Multi-Sector Simulation Model of Employment, Growth, and Income Distribution in Puerto Rico" (Mimeo)
changes in income distribution. It is frequently argued that the so-called trade-offs between income distribution and growth are greatly exaggerated because income distribution while it involves some costs also provides offsetting advantages. The most familiar trade-offs in this context is the effect on aggregate savings. Thus it is argued that aggregate savings will fall if the marginal savings rates are higher at higher income levels. Against this it is usually argued that income redistribution enables substantial economy in the use of scarce resources. This is because income distribution will shift consumption patterns in favour of goods which figure core prominently in the consumption pattern at lower income levels and it is argued that these are sectors with lower capital output ratios and also lower import intensity in terms of both intermediate requirement and capital goods requirements. This speculation has led to a series of attempts to compare output and resource use solutions for exogenously varied demand pattern changes. We note in passing that the quantitative results of these exercises do not seem to be significant, but this is probably due to the very high degree of aggregation involved on the production side. Typically whereas detailed budget studies are available these have to be aggregated into very broad categories to conform with the detail usually available in the input-output table.

Similar consistency exercises can be designed to explore the nature of specific sectoral constraints upon income distribution. Thus it is frequently stated that the supply of wage goods (mainly food and consumption items) is an important constraint on income distribution and employment growth. The argument is fairly obvious in a closed economy but it is also relevant in an open economy where the balance of payments
is an important constraint. The current Fifth Plan exercise in India explicitly undertakes this type of exercise by specifying target changes in consumption levels for each of twenty separate consumption expenditure classes of the population. The resulting solution for the model is expected to highlight the output growth implications for mass consumption goods sectors. Since a major use of input-output models is to identify investment implications (on alternative lag assumptions) of particular output patterns these exercises do provide a valuable guide to government policy in investment resource allocation and timing (whether by public sector investment or controls cum incentives for the private sector).

The critical weakness of these types of consistency exercises is obvious on reflection: they do not tell us very much about how to achieve the income distributional changes whose production implications are being examined. This is because input-output models do not deal adequately with the two key factor rewards and employment levels and the distribution of assets and labour skills over the population. Some attempts have been made to tackle the second problem by distributing various categories of income (wage and profit income) by sector over the population on the basis of survey data on asset and labour skill distribution. (This statistical relationship may be assumed to be given in the short period.) The basic problem

1/ Sectoral excess demands will spillover into the Balance of Payments while sectoral excess supplies may not be exportable. The absence of prices obviously cripples the model of any flexibility in this respect.

2/ The Indian exercise does not endogenously generate income distribution however so that target consumption changes imply specific savings rates by particular classes. The failure to incorporate income generation explicitly obviously makes this exercise of limited value for policy since achievement of savings targets by income class is critical.
however is that the absence of direct substitution between capital and
labour leaves the pattern of output as the only determinant of employment
levels. This rigidity leads to tremendous emphasis being placed upon the
"labour intensive sectors" such as services and construction with frequent
references to rural development and small scale industry which are typically
not separate sectors but represent intra-sectoral choices.

(ii) Linear Programming Models

These models extend the input-output models by adding technology
choice (but within a fixed coefficients framework) and an optimising process.
The uses and limitations of these models have been extensively discussed
elsewhere and our comments are therefore limited to identifying their
potential contribution to income distribution questions. We note that unlike
input-output models no linear programming model has been actually used as
a planning model at the economy wide level although several such models
have been built as research efforts.

It is important to recognise that linear programming models typically
do not endogenously generate income distribution patterns. They do yield
shadow prices for all resources that are fully employed in the optimal
solution but these shadow prices cannot be interpreted as market prices in
any sense. In effect these models do serve a useful purpose in incorporating
the supply scarcities of labour into the identification of feasible

\[1/ \text{E. Taylor "Multi-sectoral Models in Development Planning: A Survey", Harvard University March 1973 (mimeo)}\]
choices but they do not necessarily simulate market equilibrium for factor price determination.

Some attempts have been made in recent studies to incorporate market equilibrium behaviour in some factor markets in L. P. models of individual sectors. Thus agricultural sector models have been specified which incorporate upward sloping supply curves for labour. The availability of labour is no longer expressed in terms of an inequality constraint but as a function of wages which figure as a cost in simulating market behaviour on farms. Note that the objective function in these models is specified to simulate competitive equilibrium and does not have a social valuation aspect. The model can then be solved to yield employment levels and equilibrium wage rates along with shadow prices on those resources that enter in traditional inequality constraint form. Such models are essentially simulation models when the optimising process is directed solely at finding the competitive equilibrium. They can be extremely useful since they permit experimentation with alternative solutions given different types of distributional constraints or other policy interventions. Thus land availability constraints for different farm sizes can be altered in

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1/ See the paper on "Employment Planning Methodology" by C. Blitzer and L. Taylor submitted for the Working party.

2/ This approach was followed in the specification of CHAC, a static programming model for the agricultural sector in Mexico.
the programming model and "optimal solutions" calculated under these constraints. Similarly prices for variable supply resources can be altered to yield alternative simulations.

Most L. P. models do not explicitly incorporate distributional considerations into the objective function. This is not however an overwhelming loss. Indeed the simulation of alternative possibilities described above may well be the most useful analytical tool especially when different dimensions of the distribution problem may be relevant at different times -- productivity on stall vs. large farms? employment of hired labour? rural-urban wage equalisation by fixed minimum wages?

(iii) General Equilibrium Models:

The next step in model building is obviously in the direction of general equilibrium models and some of the first attempts in this direction have only recently been unveiled.1/ We reserve comments on these models on the grounds that the main interest in this field at this stage is conceptual and algorithmic. For some time to come these models will have a primarily pedagogic (although not unimportant) role and this is outside the scope of this paper.

Conclusions

Our general conclusions on the role of planning models in illuminating policy choices relevant for income distribution may be summarised as follows:

(i) The available areas of intervention are numerous and may be divided broadly into two approaches: asset redistribution and market intervention in functional income determination. Expenditure policy provides an opportunity to combine both approaches and also undertake "marginal consumption transfers."

(ii) Both asset redistribution and market intervention have their limitations and associated costs. The suitability of one approach or the other will depend upon other "structural factors."

(iii) So economy wide planning model exists which will sufficiently quantify the effects of all the various policy alternatives. Certainly these alternatives cannot be cast into an optimising framework for planning purposes.

(iv) Some partial or "consistency" type exercises can be conducted using available planning models of the input-output type and also L.R. models. A major problem with these exercises is that they do not focus on the key issue of how to change income distribution, except for some fairly standard prescriptions, e.g., emphasising "labour intensive sectors or undertaking land reform."

These conclusions should not be classed as "pessimistic." They are simply a reflection of the entirely plausible proposition that we know relatively little about the true long term structural flexibility of the economy in generating alternative income distribution patterns.