A paper prepared for the
Economic Council of Canada
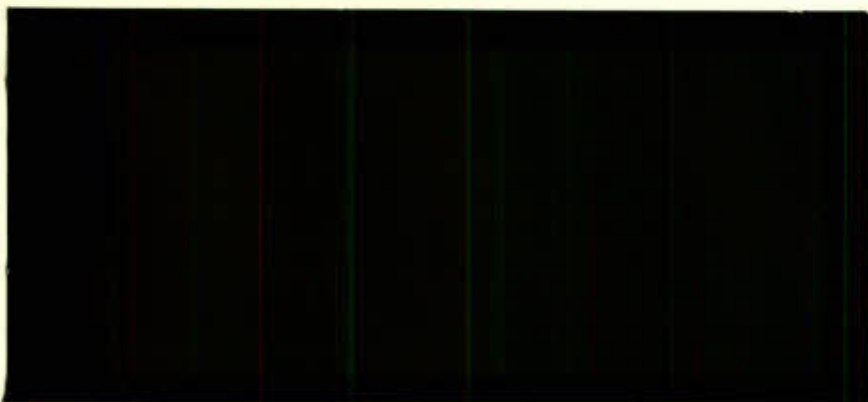
Un document préparé pour le
Conseil économique du Canada

DISCUSSION PAPER NO. 131

Two Views of Aid and Development

by John Buttrick and Louis Lefeber
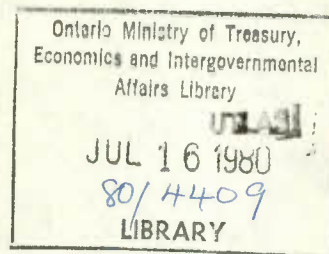
*The findings of this Discussion Paper
are the personal responsibility of the
authors and, as such, have not been
endorsed by Members of the Economic
Council of Canada.*

Discussion Papers are working documents
made available by the Economic Council
of Canada, in limited number and in the
language of preparation, to interested
individuals for the benefit of their
professional comments.

Requests for permission to reproduce or
excerpt this material should be addressed
to:

> Council Secretary
> Economic Council of Canada
> Post Office Box 527
> Ottawa, Ontario   K1P 5V6

May 1979

RÉSUMÉ

Dans le présent document, qui se divise en deux
parties, les auteurs examinent les rapports possibles entre
l'aide et le développement dans les pays pauvres.

Dans la partie I, rédigée par John Buttrick, les
sujets à l'étude sont présentés sous la forme d'un modèle de
croissance néo-classique reposant sur des hypothèses concur-
rentielles et diverses raisons sont avancées pour expliquer
l'existence et la persistence du "gaspillage", défini comme
la non-réalisation de l'optimalité de Pareto. L'auteur pour-
suit son analyse en accordant une attention particulière aux
diverses barrières à la mobilité des facteurs, aux rapports
de dépendance entre le développement et la population, le
chômage et la répartition du revenu. Il se place de ces
points de vue pour traiter du comportement des gouvernements,
de l'évolution technologique et de l'éducation.

Dans la partie II, l'auteur Louis Lefeber, adopte
une approche par laquelle, contrairement à l'analyse néo-
classique, les politiques visant à assurer la justice sociale
ne peuvent être séparées des décisions distributives et de
l'efficacité économique. Dans un tel cadre, il s'intéresse
particulièrement au rôle de l'emploi ou du travail autonome
qui peut assurer un niveau de vie minimal aux groupes à
faible revenu. L'argumentation en faveur d'une augmentation
de la valeur de l'emploi à un niveau plus élevé que ne
pourrait le faire la demande de travail sur le marché libre,
et par conséquent le relèvement du pouvoir d'achat des
groupes à faible revenu, n'est pas seulement idéologique, ou
fondée sur des valeurs, mais -- encore ici à l'encontre de
l'analyse néo-classique -- elle est également technique. La
raison en est que sans ces groupes, il est impossible de sti-
muler la demande requise en vue d'augmenter l'investissement
dans la production à des fins de consommation intérieure, et
d'assurer l'essor économique.

Dans cette perspective, l'auteur analyse ensuite
les effets de l'aide sur le développement. Il met en
lumière les relations entre l'aide et l'épargne intérieure,
les conséquences de l'aide sur la sélection des projets et
la composition de l'investissement, et la contribution
possible de l'aide aux déséquilibres dans la répartition des
ressources entre les secteurs urbains et ruraux. Il analyse
en détail l'importance du secteur rural, de même que l'aide
alimentaire et agricole.

ABSTRACT

In two parts, this report explores possible connections between aid and development in poor countries.

Part One, prepared by John Buttrick, introduces topics by means of a neoclassical growth model resting on competitive assumptions and considers various reasons for the existence of and persistence of "waste", defined as non-achievement of Pareto Optimality. In dealing with topics, particular attention is given to various barriers to factor mobility, to inter-connections between development and population, unemployment, and income distribution. In these connections, behaviour of governments and tech-nological change are considered and so is education.

Part Two, prepared by Louis Lefeber, uses an approach in which - in contrast to neoclassical analysis - policies for the attainment of social justice cannot be separated from allocational decisions and economic effic-iency. In such a framework particular emphasis is placed on the role of employment or self-employment of a type which can assure minimum acceptable living standards for the lowest income groups. The argument in favour of increasing employment over and above the free market demand for labour, and hence the purchasing power of the lowest income groups, is not only ideological or value based, but - again in contrast to neoclassical analysis - also technical. This is because without them the demand needed to motivate investment for production for domestic consumption, and the impetus for economic development, cannot be generated.

The effects of aid on development are then discussed with this framework in the background. Attention is called to the relationship between aid and domestic savings, the implications of aid on project selection and the composition of investment, and the possible role of aid in contributing to distortions in resource allocation between urban and rural sectors. The importance of the latter along with food aid and aid to agriculture are discussed in detail.

CONTENTS

What follows is a report directed primarily at the effects of foreign aid on poor countries. For our own thinking and, we suspect, for the reader as well, each of us has first set down in summary fashion a frame of reference for looking at economic growth and development. Only within such frames of reference may the possible contribution of aid be understood or evaluated. The role of economic aid is complicated by its use as an instrument of foreign policy in both commercial and military aspects. Thus, unavoidably, aid is a highly charged political instrument in both donor and recipient nations and its effects should be evaluated with this in mind, i.e., some of the economic effects of aid are incidental to its foreign policy objectives.

Aid can enter a recipient country at almost any point and will generally affect the behaviour of persons and institutions rather like a stone which when dropped in a pond causes small waves in ever widening circles. Data from which to measure even first-order effects of aid are usually absent or defective but the literature on aid is, nonetheless, filled with guesses regarding what some of these effects are. Some of these speculations appear to rest on strange views of the world and seem designed to serve client interests.

Foreign aid is not a big item in the economy of a country like Canada. It comes to only one-half of one per cent of Gross National Product and thus, whether well or ill spent, has no more than a tiny impact on Canadian life. A small change in the rate of unemployment would have a larger effect. Nevertheless, we hope our analysis, along with the rest of the Economic Council's study of international development, can be useful in helping to

improve the manner in which aid funds, inadequate as they may be, are employed -- that is, the way they are channelled toward poor people in poor nations, who must be viewed as the relevant population.

To date and on purpose, we have worked independently on problems and this report may display a lack of coordination for this reason. Reflecting a philosophical difference in analytical approach, one of us purposely adopted a more neo-classical approach than the other and so there should be differences and arguments from which we hope readers will benefit. Part I, prepared by John Buttrick, attempts to provide a neoclassical frame of reference for the analysis of aid and development policy. Part II, prepared by Louis Lefeber, deals in a somewhat different vein with problems and policies as they relate to aid, social justice and development planning.

TWO VIEWS OF

AID AND DEVELOPMENT

PART ONE:

THE DEVELOPMENT CHALLENGE

JOHN BUTTRICK

The extremely large differences in (measured) income per capita across countries cry out for explanation and for policies that will make poor countries richer. Canadians hope that aid, viewed as additional resources given to poor countries over a limited period, will set in motion or accelerate a process of growth that will, in time, alleviate poverty.[*]

The most important fact about poor countries is the gap between actual and potential output. This gap has two dimensions: (1) Employed inputs could be combined in different ways to produce a more valuable total output, although this may require institutional change. (2) Many available persons, capital objects and natural resources are left partly or entirely idle although total output would increase if they were employed.

Enamoured by the powerful hypothesis that human beings act as if they are "prems"[†] -- purposeful, resourceful, evaluating maximizers -- some economists suppose that the conditions required for competition are present in poor countries, albeit in attenuated form, and therefore argue that the gap between actual and potential output is a temporary phenomenon which could be made to vanish more rapidly by well-designed government action. They are encouraged in this belief by reading Adam Smith on mercantilism and Marx on

---

[*] That a long time will be required is clear. Take two countries: one rich with annual per capita income of $2000; the other poor with annual per capita income of $200. Suppose that the rich country is growing at two per cent annually in terms of per capita income while the poor country has a five per cent growth rate. The poor country will overtake the rich one in 79 years. For the first 48 years, however, the absolute difference in per capita incomes will increase from the initial $1800 to a maximum of $3094. Indeed, 71 years will pass before this difference becomes smaller than it was at the start.

[†] This word seems to have been coined by Karl Brunner "Comment", JLE, Dec 1975, p.838

early stages of capitalism. To clinch the argument, the development of
North America over the last two centuries is cited.

The settlement of North America is, however, less an example of
competition than a special case of foreign aid in which the movement of
already trained people and accompanying capital was both massive and
continued over many generations. Aid of comparable magnitude is not
contemplated now by any rich country or consortium. In addition, in
North America land and natural resources were cheap and kept cheap by
heavily subsidized transportation systems and direct handouts by govern-
ment. The indigenous population was driven away from natural resources
or destroyed. Some foreign owners moved to North America; others had
their property expropriated by bankruptcy as well as by political action.

Our aim in this Report is to describe what is currently known about
why some countries are so much poorer than others, why some countries
display higher rates of economic growth and more nearly equal income
distributions than do others and, on the basis of this understanding
to describe ways of insuring that Canadian aid is as effective as can be.
To this end, initial attention is concentrated on (a) the gap between
potential and actual performance of economies and (b) the growth of
potential output.

We begin with the second of these and use a simple model of potential
domestic growth.

A Simple Growth Model[*]

View the economy as if it were a single, large firm that produces efficiently "national output" by means of two inputs, "labour" and "capital", i.e., Y = f(L,K), with units of measurement suitably chosen. The third input used by classical economists, "land", is ignored and thus not treated as a constraint. Assume that this production function is linear and homogenous; let capital be augmented by saving which is taken to be an exogenously determined, positive fraction (s) of output; let labour grow at an exogenously determined, positive rate (n); insert a constant (α) to represent Hicks-neutral, exogenous technological change.

The force of these simple assumptions may be summarized in two equations: $y = \alpha f(k,1)$ and $dk/dt = sy - nk = \alpha s f(k,1) - nk$ where $y = Y/L$ and $k = K/L$. A diagram will show how the model works. (See the top half of Figure 1.) If k exceeds $\bar{k}$, dk/dt is negative which means that k is shrinking in value, and conversely. dk/dt equals zero when k equals $\bar{k}$, i.e., for given values of s, n, α (and the production function), there will be a unique value for k. Hence in a potential sense, an economy may be represented by $\bar{k}$. In the bottom half of Figure 1, the production function is used to transform values of k into values of y and one sees that $\bar{k}$ implies $\bar{y}$, i.e., an economy, again in a potential sense, may also be represented by a unique value for y. Now the derivative or slope of the production function is the marginal product of capital. Hence, using

---

[*] See R.M. Solow, "A Contribution to the Theory of Economic Growth", QJE, Feb 1956 and Growth Theory, Oxford, 1970.
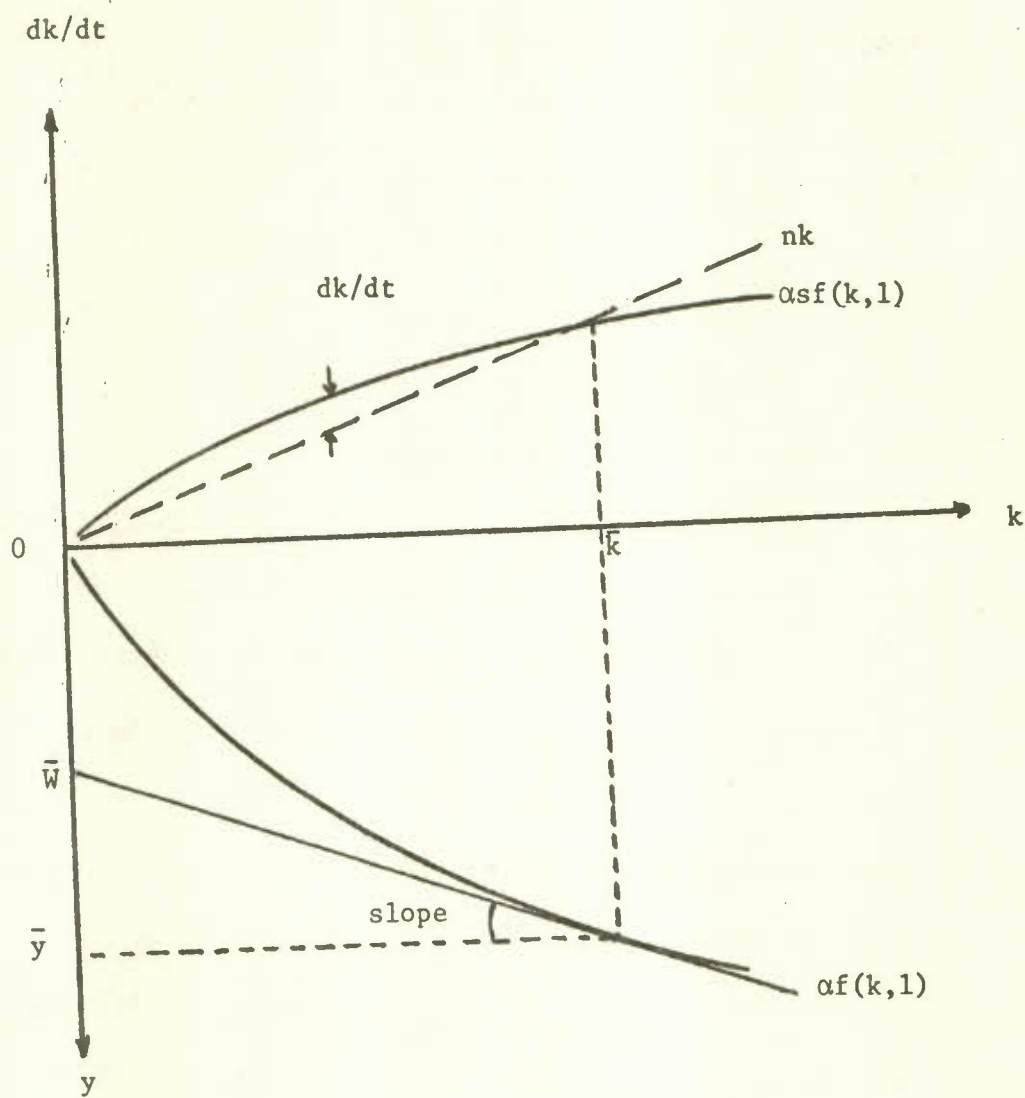
Figure 1

Euler's theorem, $O\bar{y}$ may be divided into two parts: $O\bar{w}$ and $\bar{w}\bar{y}$, the

marginal product of labour and the marginal product of capital times $\bar{k}$,

respectively.

As the reader may demonstrate, the following statements about poten-

tial performance of this simple model economy are correct:

- K and Y will both grow at the rate (n) at which labour grows.

- If n increases (decreases), both $\bar{k}$ and $\bar{y}$ will decrease
  (increase). What happens to $\bar{w}/\bar{y}$ will depend upon the
  form of the production function. If this function is
  Cobb-Douglas, $\bar{w}/\bar{y}$ will not change. (A Cobb-Douglas pro-
  duction function has the following form:
  $Y = \alpha L^b K^{1-b}$, with $0 < b < 1$.)

- If s or α increases (decreases), both $\bar{k}$ and $\bar{y}$ will increase
  (decrease). $\bar{y}$ will change more, however, when α changes
  than when s changes (with both changes having the same
  directional effect on $\bar{k}$). What happens to $\bar{w}/\bar{y}$ depends
  upon the form of the production function and again $\bar{w}/\bar{y}$
  will not change if this function is Cobb-Douglas.

A Competitive Version

Many economists have been seduced into using this model to discuss

the actual performance of an open economy. The standard way of doing

this is to make the heroic assumption that a real-world economy will

track its potential performance, an assumption that relies on the

stability of competitive equilibrium and Theorem I of welfare economics:

A mythical competitive economy would automatically go to $\bar{k}$, $\bar{y}$, $\bar{w}$ and

would then be Pareto optimal (for given values of s, n, and α). In-

creasing the number of productive factors and commodities does not change

this basic conclusion: both income and capital will, in time, come to grow at the rate at which the labour force grows -- at least until saving goes to zero or a shortage of natural resources uncompensated by technological progress starts reducing output. In brief, these competitive theorems in either capitalistic or socialistic versions have seemed to many economists strong enough so that a persistent gap between actual and potential performance of an economy is viewed as evidence that (1) "market failures" (including the use of force and fraud as well as costly and defective information) must be present,[*] (2) values of the exogenous constants s, n, α are changing over time to widen the gap between actual and potential output at about the same rate as the economy is adjusting to narrow this gap, or (3) the data are false.[**]

Matters change somewhat if n, the growth rate of the labour force, is not viewed as an exogenous variable but instead is made to depend upon output per (standardized) labourer. Then $\bar{k}$ and $\bar{y}$ could easily take on multiple (stable) values. To illustrate, suppose that both birth and death rates are negatively related to output per worker and that (for simplicity) the labour force is a constant fraction of population. Population and labour force growth are then found by computing the difference between birth and death rates plus net immigration. Now let this difference be a cubic function of y and hence of k.[***] Figure 2, which should be

---

[*] F. Bator, "The Anatomy of Market Failure", QJE, Aug. 1958; J. Hirshliefer, "Private and Social Value of Information", AER, Sept. 1971; G. Akerlof, "The Market for 'Lemons'", QJE, Aug. 1970.
See Appendix on Errors of Measurement

[***] See the next section for a plausible justification of a cubic function and J. Buttrick, "A Note on Professor Solow's Growth Model", QJE, Nov. 1958.

viewed as a replacement of the top half of Figure 1, shows one plausible possibility. k_1 and k_3 are both steady state values for $\bar{k}$ but to move the economy from one to the other requires surmounting the "hurdle" represented by $(k_2 - k_1)$. Hence it is logically possible that a competitive economy could get stuck in a low-income trap until such time as birth or death function changes, technology improves or the saving rate increases.

Aid may be introduced into a potential (or competitive) growth model in a straightforward way: as a gift of consumption or investment goods and services which changes "initial conditions", i.e., let aid be represented by $\Delta k > 0$. Hence, if the current value of k in the recipient country is less than $\bar{k}$, aid will enable the economy to reach $\bar{k}$ sooner; if the economy is already at or above $\bar{k}$, the effect of aid will be transitory. Notice that, if an economy has multiple equilibra (see Figure 2), then aid - if sufficiently large - could push an economy over the "hurdle" which separates a lower from a higher equilibrium. Aid may be too small to surmount the hurdle and then it will not bring long-run benefits.

Proponents of aid believe that it will have important indirect effects on growth. If aid comes in the form of machinerywhich embodies a new technology or in the form of advisers who know how to combine existing factors in more productive ways, then aid would increase the value of α. Further, aid may increase consumption and education and thereby improve the quality of labour, augment the non-human capital stock and in both ways encourage
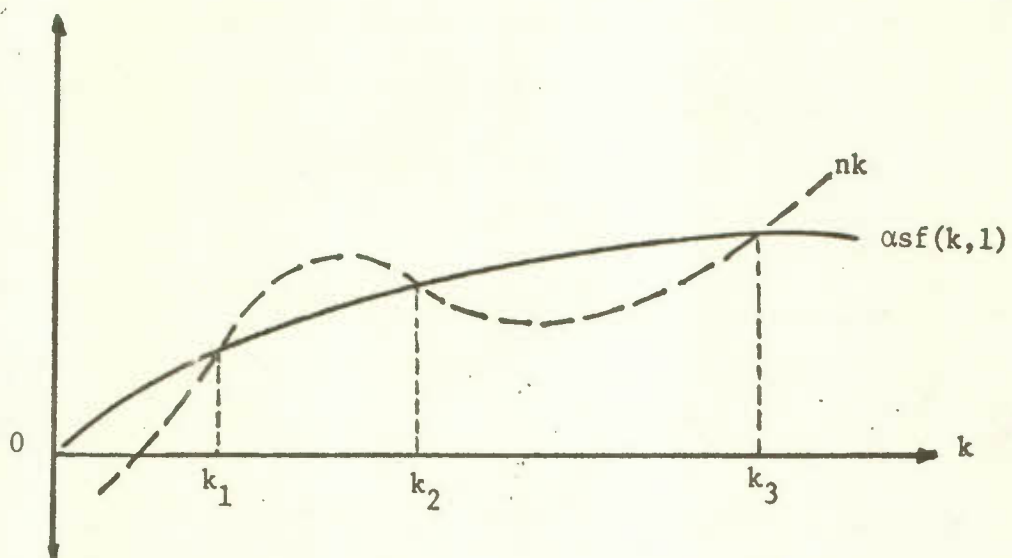
Figure 2

technological improvements. At the same time, aid might indirectly cause the saving rate to decrease and the rate of population growth to increase so that, on an overall basis, potential equilibrium output decreased. Of course, more favourable outcomes are possible. To discover likely possibilities we need to understand how the economy of a poor country functions, e.g., why inefficiency is present and why growth is not faster.

Comments on the Model

A competitive version of the model of potential growth is not help-ful in explaining why the actual performance of an economy remains for long periods of time far below potential performance. The model suggests that "market failures" are the problem but it provides little guidance as to how these may be overcome nor does it tell how to identify which are the most important market failures. Nonetheless, as a device for pre-dicting the direction of responses to changes in variables that enter an economy exogenously, a competitive model appears to perform reasonably well. This may be because barriers to factor mobility are most unlikely to increase as growth occurs. Further, by describing how an automatic social control mechanism would work, a competitive growth model does pro-vide a benchmark against which to compare other methods of social control. Whether this benchmark is useful however, is moot. Theorems I and II of welfare economics do not assert that competition is either the only or the best way of achieving Pareto Optimality. Competition as usually defined is, of course, inapplicable in the case of public goods or increasing returns to scale. And Hurwicz has recently demonstrated that majority voting procedures and Pareto Optimaility are incompatible unless individual

utility functions have a special and unlikely form.[*]

As a separate matter, a taxonomy of growth may be derived from the model by noting those ways in which per capita output may be increased: (1) narrowing the gap between actual and potential output; (2) moving the economy from a low capital/labour ratio to a higher value of this ratio; (3) making larger the steady state value of the capital/labour ratio by: (a) increasing the saving rate, (b) decreasing the rate of population growth or (c) im roving the technology. The adjustments denoted by (1) and (2) will be automatic under competitive conditions while changes in the model's steady-state performance come only from the three items under (3). These several categories are not, however, independent. In general, when a model contains several exogenous elements it is not safe to suppose that one of these is independent of others and, of course, a variable may be labelled exogenous for simplicity when in fact it is not.

This lack of independence is obvious also when one looks at the items under (3) from a normative point of view. If there is an "optimal" rate of saving as Ramsey may have believed,[**] what this rate is must depend upon the rate of population growth, the current value of the capital/labour ratio and likely improvements in the technology.

Especially from a normative viewpoint, a major defect of the model described above is that it says nothing regarding the personal or family

[*] See Appendix on Pareto Optimality and Equity. Useful references are found in J. Quirk and R. Saposnik, _Introduction to General Equilibrium Theory and Welfare Economics_, McGraw-Hill, 1968, Section 4.5 et seq. and L. Hurwicz, "On the Existence of Allocation Systems", Paper at Econometric Society Meetings, Toronto, 1975.

[**] F. Ramsey, "A Mathematical Theory of Saving", _EJ_, Dec 1928.

distribution of real income or wealth.[*] Output can be divided between that which goes to labour and that which goes to capital but this says nothing about how much (standardized) capital and how much (standardized) labour each person in the economy owns now, will own in the future or should own. This is a defect of macro models in which mechanisms for the inter-generational transfer of abilities and property ownership are treated as a separable and independent matter. Yet this view must be incorrect. Real world economies are subject to political control which is related to the distribution of wealth and the quality of labour, perhaps the rate of saving . Probably the introduction of new technologies are also affected by the distribution of income and wealth.

Often economists try to slide around such issues by supposing that, since the distribution of wealth and income usually changes very little over rather long periods of time, income distribution may be disregarded in a first approximation. But what may be a legitimate simplification when examining one economy over a few decades is not legitimate when looking at the process of development.

Unemployment

In a competitive world the only persons who would be unemployed except frictionally would be those whose marginal product was less than the real wage needed for continued existence. In a fully competitive, anonymous world, anyone who was permanently unemployed would soon vanish through starvation along with his/her dependents.

---

[*] A "family" in a poor country will not be the same as one in a rich country and not only because of differences in the age distribution.

In most poor countries, unemployment of labour is large, persistent and frequently accompanied by underutilization of capital as well. These phenomena weaken the credibility of the competitive model.[*] How could "market failures" be large enough to explain a persistent unemployment gap between actual and potential economic performance of, say, 20 per cent? The gap attributable to monopoly power in the U.S., for example, appears to be less than 2 per cent.[**] Yet from the time of Ricardo many economists have tried to preserve the predictive and normative usefulness of competitive models in the face of unemployment.

Perhaps the earliest explanation of unemployment when there is competition rests on the hypothesis that population and labour force will grow when the "market wage rate" exceeds the "natural wage rate", and conversely. Thus unemployment is self-correcting unless the market wage is somehow prevented from adjusting downward, e.g., because of charity. As originally stated, the hypothesis is almost non-refutable since the way to discover whether the natural wage is above or below the market wage is to observe whether the labour force is growing or shrinking. Nonetheless, this hypothesis still lies behind recent explanations of persistent unemployment some of which are summarized below.

With rigid barriers to occupational or geographical mobility, new entrants into a given occupation or region are, by definition, admitted only by birth or, e.g., by majority vote of existing members. These barriers can keep real wages high in some occupations or regions and force them down

---

[*] See (ed.) E.O. Edwards, Employment in Developing Nations, Columbia University Press, 1974.

[**] Cf. R. Carson, "On Monopoly Welfare Losses: Comment", AER, Dec 1975 and D.A. Worcester, Jr., Ibid.

in other occupations or regions.[*]   Discrimination is the reverse side of
the coin of nepotism. It is thus conceivable that members of some occup-
ations will become so plentiful that their marginal productivity will
fall below the wage rate needed for survival. If the wage rate does not
fall they will be unemployed and die off unless other sources of income
are available; if the wage rate does fall, they will also die but more
slowly.   By assumption, mobility is nil.

Real wages that are rigid downwards in some occupations or regions
could be produced by minimum wage legislation, collective labour agree-
ments that are strongly enforced or moral refusal of employers to pay
really low wages. In consequence, visible unemployment appears in lieu
of lower real wages for employed workers.

In most countries, the extreme lack of mobility and cruelty required
to produce starvation wages in some parts of the economy while higher wages
and excess supply of labour (and the associated rationing of jobs by means,
e.g., of screening) exist elsewhere seems unrealistic. Charity, perhaps
provided by sharing across an extended family, does exist. Ease of entry
into subsistence and small farms and infinitesimal business make downward
wage rigidity or barriers to entry implausible over a whole economy.
Especially is this the case during recent years when geographical movement
of peoples from rural to urban settings has been large and technological
change pervasive. Additional hypotheses are needed.

---

[*]   See K.J. Arrow's two articles, "Higher Education as a Filter", J Pub Econ,
      July 1973 and "Racial Discrimination in the Labor Market" in (eds.
      O. Ashenfelter and A. Rees) Discrimination in Labor Markets, Princeton 1974.

To this end, suppose that labour productivity is a function, not only of the quantity of labour employed and the amount of capital available, but is also a function of the real wage rate. Poorly paid workers will be less healthy, less well-motivated and, in consequence, less productive than better paid workers. Thus -- if there is unemployment so that employers could cut wages -- they may find that a wage cut would be unprofitable. The situation is like that of a slave plantation in which the manager must decide both how many slaves to employ and how much to spend on their consumption needs. The most profitable joint decision may result in fewer workers being hired than are willing to work at the real wage rate selected. If this is the case, the excess workers will be unemployed. Although output would be larger if they were employed, profits would fall and the wage rate would be reduced. Hence, employers and employed workers would not favour full-employment policies.[*]

While plausible, this model leaves unexplained how the unemployed survive. Presumably private and public charity in various forms plus occasional jobs and petty business transactions are the answer. Insistence by government that the unemployed be hired would eliminate this sort of unemployment and a modest guaranteed income floor could help but either method would require a Pareto Non-comparable change and a government able to persuade (or disregard the wishes of) employers and employed workers both of whom would be made worse off. An increase in the capital stock sufficient to raise the K/L ratio could also eliminate unemployment - unless population growth added to it as the extra capital subtracted from

---

[*] This possibility has been explored by H. Leibenstein, "Theory of Employment in Backward Economies", JPE, April 1957; J. Stiglitz, "The Efficiency Wage Hypothesis", Oxford Economic Papers, July 1976; and J. Buttrick "El desempleo entre quienes son pobres" in (ed. M. Urrutia) Empleo y Desempleo En Colombia, CEDE, 1968.

it. But high rates of return to capital should lead to increases in capital and in labour productivity and cause absorption of those among the unemployed still able to work.[*]

Uncertainty and incomplete information can produce persistent frictional unemployment as Harris and Todaro have shown.[**] Suppose there are two occupations or geographical locations, one of which pays much more than the other, and that limited mobility does exist. Members of the lower paid occupation or area move toward the higher paid one although only some of those who move succeed in getting jobs. Those without jobs will be unemployed until they return to their original places. If a person contemplating a move knew for sure that he/she would or would not find a job, this explanation would fail. It would also fail if barriers to entering the higher paid occupation or location vanished and wage rates were flexible. This explanation may be made more credible by supposing that employers also search and, until they have found suitable employees, leave jobs vacant. From this explanation, which parallels that of the corn-hog cycle, one can obtain a persistent rotating corps of unemployed but not a permanent corps of the same people.

These overlapping explanations of unemployment may also be applied to other factors of production, although with some modifications. Labour has a fixed expected working life and its marginal productivity declines with unemployment as   discouragement   and unlearning by not doing occurs. These characteristics do not apply to machines or natural resources. Labour differs from other factors also in that most societies place a positive value on a person even if unemployed or extremely poor.

---

[*] See also R.S. Eckaus, "The Factor-Proportions Problem in Underdeveloped Areas", AER, Sept. 1955.

[**] J.R. Harris and M.P. Todaro, "Migration, Unemployment and Development", AER, March 1970.

In the presence of uncertainty, the Harris-Todaro hypothesis helps
to explain the "unemployment" of natural resources, including land.
One option for an owner is to hold the resource in inventory, unmined,
uncut, untilled; another option is to put the resource on the market.
An individual owner will for profit compare the interest rate with the
expected (net) price increase and hold back if the former exceeds the
latter. This is only part of the story, however, since changes in (net)
expected price will affect the sale value of whatever portion of the
resource is not placed on the market. A rise in price and hence in sale
value will induce search for or manufacture of equivalent resources. How
successful such activities will be cannot easily be predicted and this
increases the uncertainty of the expected (net) price. In short, it is
easy to imagine circumstances that will lead owners to keep natural
resources off (or put them on) the market to the detriment of the rest
of society. Monopoly may in this respect bring decisions that more nearly
match society's long-run interest than would competition, especially
where ownership cannot be established because, e.g., the resource is
fugacious.

These various "explanations", while consistent with the general
notion of competition, are unsatisfactory in that they are insufficient to
explain the magnitude of the unemployed group found in many underdeveloped
countries, especially when other factors of production are partly idle
at the same time. One way around this difficulty is to invent a special

sector of the economy into which idle resources are placed. The connections between this sector and the rest of the economy are weak, rather like those between an Indian reservation and the rest of Canada. At an earlier date, Marx invented the reserve army of the unemployed to serve a similar purpose. Marx associated his reserve army with the development of capitalism and the virtual absence of this special sector in the People's Republic of China and several eastern European countries lends historical weight to his judgment.

In taking this route, however, economists would be forced to assert that capitalism is incompatible with competition (because competition is stable and leads to Pareto Optimality, i.e., no unemployment). But then one has to find "market failures" that come from capitalism and which create idle resources rather than misallocation of fully employed resources. Alternatively, one can assert that, in poor countries, it is the absence of capitalism (and of competition) that causes the unemployment. But competition is not the only way of achieving Pareto Optimality: Lange-Lerner socialism or a single, perfectly discriminating monopolist would serve as well. One needs what Keynes tried for but did not create: a model of an economy that leads to a less-than-full-employment equilibirum. One suspects that barriers to mobility enforced by private or state-sanctioned power is what is needed. These, in turn, appear to require an unequal wealth distribution and a social structure that isolates some parts of the population over time from other parts, e.g., a caste system.

If aid increases the growth rate of the economy, it will of course reduce the unemployment rate; if aid is used for relief, fewer of the unemployed and their dependents will be pushed into the category of "unemployable". As will be argued subsequently, however, the forms in which aid is likely to come are such that its employment-increasing ef-fects are apt to be of a trickle-down variety.

Population

If population growth exceeds growth of national income, per capita income falls and the possibility that increases in per capita income will themselves cause population growth to increase and thus be self defeating has worried economists for at least 200 years. Indeed, this possibility has led some policy makers to advocate a "do nothing" policy towards the poor who, it has been alleged, will expand to the limits of their food supply.

If births exceed deaths by more than net emigration, population growth in any geographical area will be positive, and conversely. By looking at the determinants of each of these, some understanding is possible. To some extent the role of children as producers' goods may be separated from their role as consumers' goods. Thus in a society with family farms and cottage industry, children can become part of the labour force at an early age if only as babysitters and are, in any case, a way of providing for one's old age and insuring against adversity. Child labour laws and mandatory schooling, publicly provided pensions

and social insurance against, e.g., illness and unemployment, thus reduce the desirability of children, as do the greater range of consumer goods in cities and the relatively higher costs of housing there.

Viewed as consumers' goods, children are not likely to be inferior goods but tastes towards including them in one's market basket can, of course, vary with circumstances.[*] Nuclear families probably enhance the belief that one is reproduced in the next generation by having children rather than by sharing in the upbringing of children whose biological parentage is not important. At the same time, the nuclear family reduces the probability that the costs of raising children can be shared with others, except through political manoeuvres, e.g., mothers' allowances, public schooling and day care, income tax deductions.

All of this is well known as are the connections between number of children and infant mortality and emigration rates. A family that aims for three live children when the parents are fifty but expects a mortality rate of 25% would start with four children; if, in addition, a 25% emigration rate is expected, the family would start with five children. Should these rates drop in an unanticipated manner, the family would end up with more live children than planned. Similarly, a family forced from a rural to an urban setting may come with too many children. A depression, a war or planned geographic migration can cause postponement of births and a subsequent population bulge that is transmitted to future

---

[*] See (ed.) R. Ridker, Population and Development, Johns Hopkins Press, 1976.

generations. And an increase in the extent of the market economy, particularly the participation rate of females in the out-of-home based labour force, can increase the apparent cost of rearing children.[*] An increase in educational attainment and income has led some investigators to predict fewer children but of higher "quality", i.e., more expensively reared. Probably this guess is correct although for a time parents may not anticipate changes in themselves and their circumstances correctly.[**]

In summary, we note that every human group of which we have knowledge has controlled number of children in some manner (including infanticide as an extreme). Suppose that this control has been exercised to give the next generation at least as good circumstances as are now enjoyed (measured perhaps by expected real income and Gini coefficient thereof). Then "too many children" would be the result of error, although an optimistic group would have more children than would a pessimistic group in identical circumstances. Such an hypothesis is too vague to be useful but does throw the burden of proof where we believe it should lie: on those who assert that, unless drastic exogenous action is taken, there will be too many people in the world. In principle, we suppose that the notion of an "optimal" population size may be defined, e.g., a population size which is associated with the largest per capita income (with redistribution of income permitted). To give an empirical estimate of what such a population size may be at a particular time is beyond our wit.

---

[*] If discrimination against women could be reduced, the impact on population growth might be quite large. Not only would the apparent cost of rearing a child increase because of the higher wages that would be available to women outside the home but because a wider range of consumption activities would also become available for her. In addition, female children would seem relatively more desirable which should increase the percentage of one and two-child families.

[**] Cf. G. Becker, "An Economic Analysis of Fertility", in Demographic and Economic Changes in Developed Countries, Princeton/NBER, 1957; P.A. Neher, "Peasants, Procreation and Pensions", AER, June 1971.

From these remarks, it does not follow that population growth will never hinder development. Return to Figure 2 and recognize that n, (the difference between birth and death rates) there treated as a function of y and hence of k, has a time dimension. This is because birth and death rates are not independent any more than the supply of and demand for labour (or saving) are independent although, for simplicity, we sometimes suppose that they are.

To illustrate, start with a society where birth and death rates have for some years been equal at 40 per 1000. Then suppose a technological change is introduced, perhaps in consequence of aid, which permits purification of water and elimination of malaria-bearing mosquitoes at very low cost. The death rate (as a function of per capita income) then shifts as shown in the top panel of Figure 3. The initial move is from A to B. Because the timing of the innovation and its consequences are not anticipated, nothing happens immediately to the birth rate. So, reading from the diagram, population growth rises from zero to 1.5% and the average age of the population drops. The society and its economy face a crisis: to prevent per capita income from falling, more must be produced but this requires a higher rate of investment or an innovation in production methods to make use of a lower capital/labour ratio. But a higher investment rate means either a fall in (measured) consumption or foreign gifts or loans. A reduction in consumption is especially difficult because the extra and unanticipated population consists initially of young children.
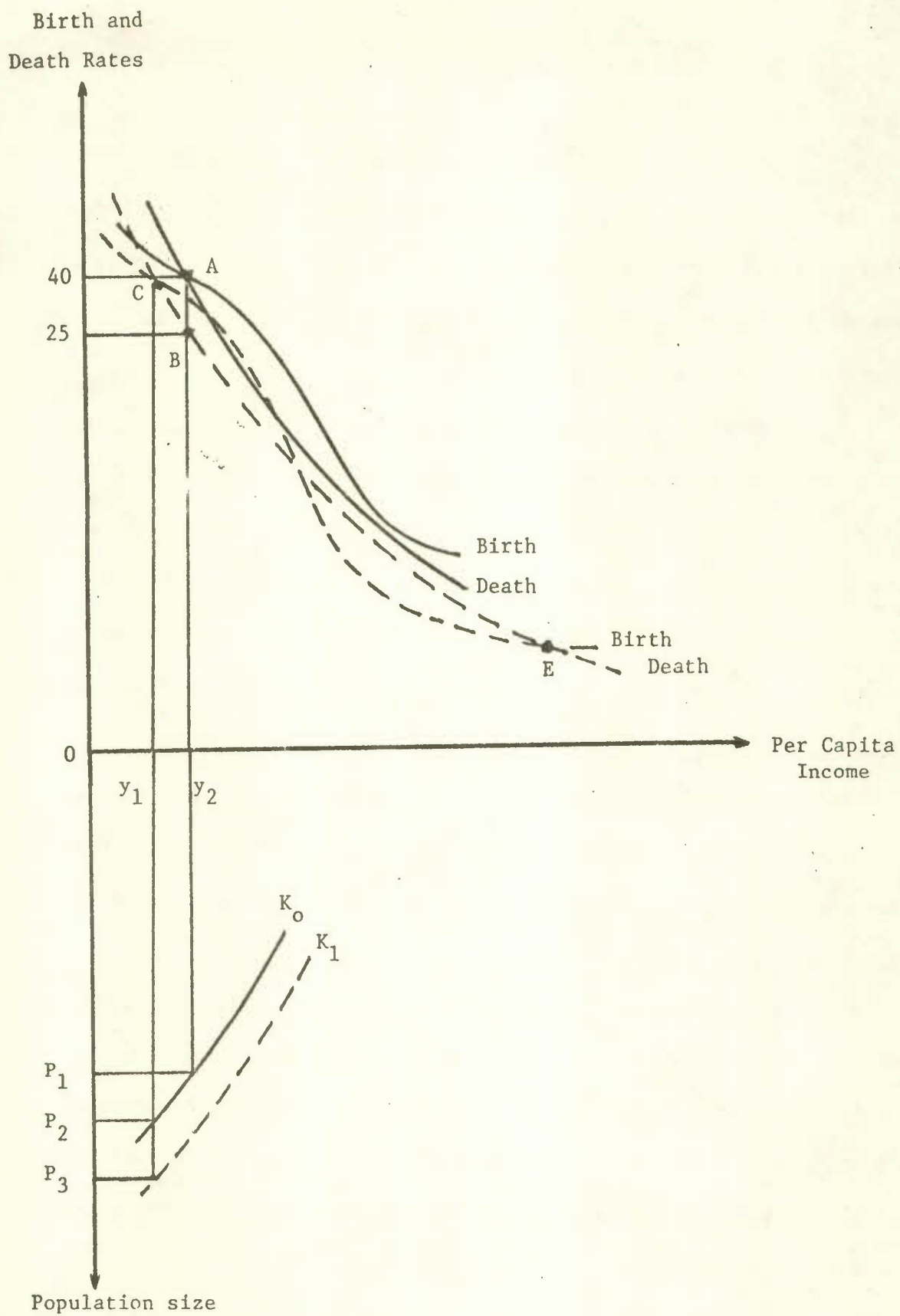
Figure 3

After a time, we may suppose that the birth rate function will shift so that zero population growth is again achieved but there is no way of eliminating the extra people. To dramatize the consequence of these changes, the relevant portions of two average product functions have been drawn in the lower panel of Figure 3: one when capital is K_o, the other when it has increased to K_1. If capital is fixed at K_o (and assuming for simplicity that employment is a fixed percentage of population), then the "equilibrium" levels of per capita income and population which match point A in the upper panel are y_2 and P_1 respectively. After birth and death rate functions shifted to produce a new intersection at C, equilibrium population increased to P_2 while per capita income decreased to y_1. If the capital stock then grew to K_1 because of saving or aid, equilibrium population would then become P_3. So long as the capital stock continued to grow, however, per capita would remain above y_1 and population would continue to grow. The birth-death rate intersection denoted by E is difficult to reach.

The analysis displayed in Figure 2 above can capture these changes by making the function labelled "nk" a cubic function of y (and therefore of k). The story does not end there. Public health measures will improve the productivity of the labour force which, if labour is calibrated in heads rather than in efficiency units, means an upwards swing of the curve labelled "$\alpha sf(k,1)$". The presence of more children than anticipated may also shift preferences away from leisure or, if the technology permits, increase the work done per hour. At the same time, however, more of the

resources available to the adult members of society will have to be devoted
to child rearing and education rather than food or an increaase in the non-
human capital stock.

Notice also that, looking at Figure 3, exogenous changes in the death
rate and consequent or independent changes in the birth rate may affect the
population growth rate associated with any given level of per capita income.
If an economy's resources and technological improvements are limited, per
capita income will ultimately settle at a value for which births equal deaths.
If there is more than one such value, where per capita income will settle
appears to depend upon an historical accident of where one starts.

Because of the complex interconnections among births, deaths, saving and the
functioning of the economy, the net effect of aid on population growth is moot.
Almost certainly, public health measures purchased with aid have increased
it as have housing subsidies. However, education and rural-urban migration,
induced by aid have probably reduced population growth. It seems doubtful
whether birth control clinics and gadgets have had much effect.

Migration

In this section, we discuss both domestic and international movements
of people of which the most important is and has been for many years rural-
urban migration. Nonetheless, to set the stage, we begin with international
migration which we assume will continue to be tiny fractions of the national
populations of countries losing or gaining members. Thus, if 1% of the
(standardized) labour force leaves a country and takes with it 1% of the
capital stock and each factor has been paid the value of its marginal pro-
duct and constant returns to scale apply, then the average income of those
remaining in the country will be unaffected by emigration.[*] In the case of
immigration, a parallel statement may be made. Countries losing and gaining
people are, however, most unlikely to have the same

---

[*] Cf. J. Bhagwati and K. Hamada, "Brain Drain, International Integration
of Markets for Professionals and Unemployment", Journal of Developmental
Economics, June 1974 and literature cited; J. Tobin, "Notes on the
Economic Theory of Expulsion and Expropriation", ibid.

capital/labour ratio, saving rate, production function or rate of labour force or population growth. Changes in these brought about by immigration will, however, be small, particularly if persons who move soon come to behave like the majority population in whichever country they find themselves. Then, recalling the simple growth model earlier presented, whatever the initial changes in these ratios and rates may be, each country will soon revert to the older values for α, s, n, and, therefore also to $\bar{k}$ and $\bar{y}$. If the migration is voluntary and not based on false information, the migrants will of course gain even though initially exploited or faced with discrimination.

To go beyond this neoclassical, benchmark analysis, the migration must be selective, accompanied by expropriation of capital, or large enough to disturb considerably the value of k or $\bar{k}$ in the country gaining (or losing) people. If relatively large, migration may also affect the constituencies of politicians, the location in society's pecking order of the pivotal voter or trigger enthnocentric behaviour. Of course migration is apt to be selective, i.e., migrants will not be a random draw from the population of the country losing people. Nor are they likely to be spread evenly over the geography of the country gaining people. Special problems and benefits, albeit mostly short run, may thereby be created. Transplanted entrepreneurs and professionals may sometimes bring innovations to the country of immigration that increase national incomes by more than they receive. And vacancies left after expulsion of a minority or even by "brain drain" may weaken barriers to occupational and social mobility. The incomes of those remaining may thereby increase, although the reverse possibility is probably more likely. There is evidence that migrants, if one controls for social class origin, are superior in many ways to non-migrants, perhaps because human capital of high value is as cheap to move as is human capital of low value.

From a political point of view, short-run and misperceived conse-
quences of migration may be important. Immigrants, especially if there is
unemployment in the receiving country, may cause "crowding" and seem to take
jobs from long-time residents (since the jobs created by consumption and
investment expenditures attributable to immigrants are not visible) and political
problems will thereby be created. Political responses to these problems
may reduce national income without helping those segments of the pop-
ulation who are actually damaged by immigration.

Internal migration is like international migration except that,
because governments have much greater difficulty in preventing it and
because cultural differences across the country may be small, it will be
larger and more variable. Problems of the sort underlined by Harris and
Todaro are therefore more likely to occur.

To illustrate other possibilities, suppose that, for a given technology and
income distribution, per capita income in a city (or region) is a function of
population size.[*] If city population is currently less than (greater than) the
maximum of this function, then in-migrants (out-migrants) will be encouraged by the
majority of existing residents. The "prem" hypothesis leads one to
believe that migration will be from low income (broadly defined) to high
income areas. It is conceivable but would surely be coincidental, however,
for the flow of migrants to produce everywhere optimal-sized populations.

---

[*] For example, take a circular city of equal and constant density every-
where. Then assume that travel and crowding costs are related to
population size as are the radius and area of a circle. Finally
write $B = aP - bPC$, with B being average net benefits, P population size,
C the aforementioned costs and a and b exogenously determined constants.
To find the maximizing value for P, set the first derivative of the
function equal to zero.

Thus, taking the case of two areas both of which have less than optimal populations, one could end up with very few people indeed while the other might still be without enough people to reach optimal population size. Or, with a total population much too large for the technology, both areas could end up with too many people. Only if the total population divided by the number of regions equals a maximal per capita income, would migration by prems lead in time to an optimal outcome.

The analysis just sketched suggests that the residents of a particular city or region may, to maximize their own incomes, wish to stop its population growth although potential migrants would gain and overall national income would increase if this city or region did grow. Notice also that, if internal migration cannot be prevented, efforts taken by a city to counteract the deleterious effects of migration can easily be self-defeating, i.e., the provision of public or publicly-provided goods that are limited to city residents may increase the optimal size of the city but, at the same time, will simply attract more migrants. An Alice-in-Wonderland world is a likely result.

In sum, we view geographic movement of peoples as arising from the behaviour of prems who seek higher real incomes and upward social mobility. These movements, like capital mobility, tend to eliminate economic rent. Thus barriers to occupational or social mobility in one place can lead to geographical movements which are an unnecessarily expensive way of circumventing these barriers. At the same time, barriers to geographical mobility may reserve higher than average possibilities for residents of favoured locations which, however, may be eroded by commodity and capital movements.

Aid is likely to increase international flows of people because it increases the contacts between nationals of different countries and because of direct subsidies to students from poor countries who study abroad. Earlier estimates of the benefit of these flows for poor countries were grossly optimistic, partly because it was assumed that most students from poor countries would return home and partly because it was assumed that strategic considerations of nations and multi-national corporations would not be important. Aid can also be used to encourage city and regional planning. But, given the state of this art, we are not sure that substantial net benefits will be generated.

Distribution of Income and Wealth

Classical economists used a model of an economy with three factors of production (land, labour, capital), three types of factor payments (rent, wages, profit), and three social classes (landlords, labourers, capitalists). Hence the question of how income was distributed over social classes could be answered by discovering what were the prices of these three factors, how much of each there was and what caused quantities and prices to change. Then, as an approximation, it was assumed that land was fixed in amount, that labourers and landlords never saved but that capitalists did and thereby augmented the stock of capital -- by the total amount of profits received -- and finally that labourers increased (decreased) in number whenever the market wage

exceeded (fell short of) the natural wage. The numbers of persons in landlord and capitalist classes were fixed. Government was small and ignored for simplicity, as were changes in the distribution of income within each class.

Since then, this model has been changed in two major respects and can no longer guide explanations of income distribution: the first major change was in the identity between factor ownership and social class membership. A given individual or family is now permitted to own some of all three factors and to change the composition of its holdings at will. Hence, the size and definition of each class, total population size and the rate of saving all now require explanation. To discover why one family is richer than another, one must find out how much labour, land and capital it owns and what the prices for each of these factors are now, are expected to be in the future, how many children it has, who they marry and how much it is saving. The second change has been in the role assigned to government which is now permitted in model economies to tax, subsidize, inflate and offer some goods and services at less than cost. But what motivates government is still often unspecified.

To go beyond sheer description and ad hoc theorizing, economists must ignore their traditional academic subject matter boundaries and, to a limited extent, this is happening. Stiglitz, for example, has demonstrated that, in a probabilistic sense, the income distribution will go to equality if:[*] (1) each child in a family shares equally in any

_____

[*] J.E. Stiglitz, "Distribution of Income and Wealth Among Individuals", Econometrica, July 1969.

inheritance, (2) the probability of marriage is equal over all possible pairs and (3) genetic characteristics are randomly distributed over all births. (Parenthetically, notice that if each birth is the result of a random draw from a single gene pool, intergenerational equality in a probabilistic sense already exists.) Using a variation of the model constructed for proof, Blinder has shown that, if values of these parameters displayed recently in the U.S. persist, the income distribution of the U.S. will move halfway to equality from where it now is within 50 years.[*] Until changes in these parameter values are predictable, however, Stiglitz-Blinder models give the illusion rather than the substance of knowledge. For short periods of a few generations, however, naive versions of these models may yield reasonably good projections although the recored of demographers who use similar models does not make one optimistic.

Characteristics of the income distributions generated over time by a Stiglitz-Blinder model tell one little about distribution at a moment of time. What the income distribution is now is of greater current interest than what will be the income distribution in probabilistic terms even one generation hence. The considerable attention paid over the years by economists to normative questions regarding the distri-

---

[*] A.S. Blinder, "A Model of Inherited Wealth", QJE, Nov. 1973.

bution of wealth and income is largely pie-in-the-sky if changes in distribution can only be achieved indirectly and require many generations for even small results.

Economists have found no reason to believe that the existing distribution of wealth or income is equitable. Hence, enamoured of Pareto Optimality, ways to redistribute income have been sought that do not impair efficiency. Head taxes and lump-sum transfers have been the answer, together with recognition that the existing distribution of wealth is the result of "historical accident." At the same time, however, investigation of decision making by government has led many analysts to doubt whether government will use these devices or indeed redistribute directly (or install institutions that will do so) in more than token amounts.

This somewhat jaundiced view comes from analysis of voting behaviour and politics. In a country with limited franchise, it will be the rich, not the poor who vote. In a mass democracy, entry into the industry of "politician" is not easy so the alternatives placed before voters will be restriced by those who control entry, e.g., interest groups that contribute money, experts or votes with which an election may be won. Such groups will not be representative of the interests of the poor. However, the distribution of votes is less skewed than is the distribution of wealth which implies that a government elected by majority rule should favour policies that shift the wealth distribution towards the vote distribution. Director, building on Hotelling's voting model, thus

guessed that the middle class would induce government to redistribute
income away from both rich and poor ends of the income distribution
towards the median (assuming a unimodal distribution).[*]

This body of analysis may be summarized by the invention of a
"pivotal voter" who, by voting this way or that can determine the out-
come of an election.[**] With full franchise, the pivotal voter would be a
bit above the median income; in an oligarchy, which may act like a club,
he will be the representative oligarch and thus, in terms of the whole
society, be quite rich.

Notice that the position of the pivotal voter will change if the
franchise is extended or the income distribution shifts towards equality.
This change in location may then reinforce through political channels
the precipitating shift in the income distribution. Under growth, however,
the pivotal voter will expect a higher future income and will therefore
probably identify with persons in the society who are now richer than is
he. Hence, as Niskanen has emphasized, the pivotal voter is most unlikely
to choose   policies whichfavour the poor (nor, we add, those that
favour the very rich who can, however, look after themselves - something
that is harder for the poor to do).[***]

---

[*]   G. Stigler, "Director's Law", J of Law and Econ, April 1970;   A. Downs,
         Economic Theory of Political Action in a Democracy", JPE,
         April 1957;   H. Hotelling "Why We Have the Two-Party System",
         Amer Jour of Econ and Social., Vol X, 1950.

[**]   See D.C. Mueller, "Public Choice: A survey", JEL, June 1976.

[***] W. Niskanen, Bureaucracy and Representative Government, Aldine 1971.

An important change over the past seventy-five years has been the growth of government. Once it was rare for government to take as much as 10 per cent of GNP in taxes; now less than 30 per cent is an oddity. This change of course has given government much greater control over the economy's performance and over the distribution of income. In consequence, political as opposed to market influences are of heightened importance. As the only regular supplier of goods and services at prices which do not cover costs, government hiring and purchase policies and practices can influence the income distribution. In addition, the benefits of the differences between these prices and costs may be distributed differently than are taxes, probably to the benefit of the well to do.*

Although in a general way and as indicated above, government responds to the wishes of the pivotal voter, the bureaucratic mechanisms through which these wishes pass can have a separable influence on the income distribution. Niskanen argues with force that bureaucracies, except under special circumstances, are likely to produce more than Pareto optimal output levels and do so wastefully. Government also protects some industries (including its own bureaus) from market forces and, in the process, creates jobs at salaries which bring forth more job seekers than there are jobs. Elimination of this excess supply is then apt to be done by rationing on an "objective basis" which often means that educational credentials are used as a filter to the disadvantage of the poor.**

---

*   Niskanen, op.cit.

** See Section below on Education.

Through its management of the economy, including special interest legislation, government also influences the income distribution. For example, an increase in the rate of unemployment will decrease the share of income going to those who are marginal to the labour force: new entrants, persons with relatively little education or who face discrimination. And an increase in the rate of inflation will impose relative damage on those net debtors who did not anticipate the inflation correctly. In selecting inflation-unemployment policy, however, government may be just reflecting the wishes of the pivotal voter.

Following Arrow and in a general way, one can view government actions, including tax laws, as adding to or subtracting from the incomes that would otherwise be associated with each "position" in the society.[*] For those persons who, in the first instance, occupy these positions, windfall gains or losses are thereby created. Subsequently people manoeuvre to take advantage of what is available, at least "prems" do so. But, since people are not all the same, some will be better able to take advantage of attractive possibilities than others. Social Darwinism will suggest, for a given environment, what these favoured characteristics will be. Social Darwinism also suggests who will possess these characteristics as one generation replaces another: those already in favoured positions will have easy and relatively cheap ways of giving their children favoured

---

[*] K.J. Arrow, "A Utilitarian Approach to the Concept of Equality in Public Expenditures", QJE, August 1971.

characteristics. Unanticipated social changes of the sort that accompany war, revolution, major technological or taste changes or the disappearance of important natural resources may, by accident, reduce the advantages that adhere to the children of the relatively well-to-do. If conditions that might lead to such changes are predicted, then affluent parents can arrange for different skills than they possess to be transmitted to their children and sometimes even prevent or postpone a change.

These remarks force attention to be paid to the intergenerational transmission of wealth, of which the inheritance of non-human capital (which usually occurs late in life) is probably not very important by itself. Childhood training, motivation for success and subsequent learning, inherited social contacts, etc. are probably much more important.

The growth rate of an economy is essential to understanding the intergenerational transmission of wealth since the rate of growth in the number of elite positions in a society is positively related to it. If the birth rate of the elite group equals or exceeds the rate of economic growth, there will be few/elite positions available for children whose parents occupy lower social positions. And the converse is also true.[*] Indeed, ideas of "equal opportunity" and "one man, one vote" may have spread widely only in and from societies where a substantial fraction of elite positions had to be filled by children of lower social origin over several generations.

---

[*] See D.G. Champernowne, "A Model of Income Distribution", EJ, Sept. 1953.

If economic growth is higher than population growth so that per capita income rises, then upward social mobility will be accentuated, often across many social classes, and a significant number of people will find themselves in positions for which they were not trained. Then, as has sometimes been the case with immigrants (e.g., overseas Chinese, Huguenots, Jews), old ways of doing things may be re-examined with technological progress being a consequence. Formal education and learning-by-doing may accentuate this process, provided that the conditions necessary for upward social mobility are present.

Tinbergen has pointed out that, on the historical record, economic growth is largely the result of technological change and that it increases the dispersion of incomes by pushing the economy away from competitive equilibrium.[*] Those who move into higher income positions -- if the data Tinbergen has collected are accurate -- will probably be persons who have received relatively large amounts of formal education in consequence of parental background. Feedback is present in that formal education may increase the probability that technological change takes place. Thus, in order that a shift of the income distribution towards equality will occur, the educational attainment of the population must grow more rapidly than does per capita income, i.e., the supply of persons equipped to occupy high-level positions must exceed the demand for such

---

[*] J. Tinbergen, Income Distribution, North-Holland, 1975.

persons and conversely for low-level positions.*

In contrast, societies in which each population segment displays nearly the same growth rate (which is also the rate of economic growth) appear, on the historical record, to develop rigid class or even caste divisions . The idea of equal opportunity dies aborning while . one's · birth position is accepted as God's Will. There may be historical evidence that a period of negative growth may set the stage for revolution, although whether to the Right or to the Left seems difficult to predict.

Economists have not yet been able to define an "equitable" distribution of income either within the same or across several generations except under very special circumstances. In consequence and conservatively, economists have tended to separate questions of efficiency from questions of equity and have talked mostly about the former. Nonetheless, the suspicion that people "should be" thought of as identical, in a probabilistic sense, coupled with evidence that most people are risk averse, has led many economists qua citizens to believe that existing income and wealth distributions should be pushed towards equality -- unless efficiency is thereby damaged or growth rates thereby reduced. Thus rent has always been expropriatable,** exploitation abhorred and inheritance, as well as windfall gains or losses, looked upon askance. In part, these views rest on the essentially moral position that benefits should not be separated from costs, e.g., that price should

---

* If government itself employs many of these well-educated citizens, this shift in income distribution may be slowed down.

** Differences in profits, wages and prices generally are needed prior to attainment of competitive equilibirum but how large these differences need be is not known.

equal marginal cost. To demonstrate that more will be available collectively if benefits are wedded to costs is, however, a weak justification, unless the collective is a special sort of family.

If growth is desired, there are strong suspicions that extremely unequal distributions of income and wealth, persistent inefficiency and an absence of social mobility are counterproductive. If there are large indivisibilities or for other reasons increasing returns to scale are present in the production of commodities demanded by lower income residents (or conversely), then a redistribution of income towards the poor would increase total output. Further, if productivity is directly related to the real wages received by low-income workers, then redistribution to these workers will increase output. Nonetheless, one has to be careful since redistribution of income could adversely affect managerial or entrepreneurial incentives, increase non-market activities and might even reduce the rate of saving. And an income guarantee could reduce fear of unemployment and, if work effort is heightened by fear or turnover increased, output would be reduced.[*]

As is already clear from the above remarks, any simple cause and effect relation between aid and the distribution of income and wealth does not exist. Indeed aid, unless in the form of cash distributed to designated people, is most likely to bring some changes that will shift the distribution towards equality and other changes that will do the reverse, with the net effect being uncertain. From this, it does not follow that

---

[*] See W.R. Cline, "Distribution and Development", Jour. Devel. Econ., Feb. 1975.

possible effects of aid on the distribution of income should be neglected.
Suppose, for example, that analysis identifies some groups or institutions
within a recipient country as important in preventing progress or in
redistributing income from poor to rich. Then, assuming different ob-
jectives for aid, it should be designed to weaken the control exercised
by these groups or institutions. Perhaps alternative, differently
directed institutions are needed. Particularly difficult is a country in
which the government with which aid agreements are negotiated is itself
an institution that perpetuates the status quo.

Government and Aid

An aid program is the result of negotiations between representatives
of donor and recipient countries in which each has a veto. The discussion
above   suggests that a poor recipient country will prefer aid
that does not change the country's distribution of wealth or otherwise
create political problems that are beyond the government's power to
control.

A parallel analysis can be made of the politics of aid within a
donor country. By definition, aid takes purchasing power from citizens
and transfers it to foreigners whose expenditure patterns will be dif-
ferent. In consequence, some domestic producers will gain sales and
profits while others will lose. The aid program will be a domestic pol-
itical failure if producers who lose carry more votes than do those
who gain. Further, the pivotal voter in a rich donor nation will not
wish aid to benefit persons in recipient nations who are already as well
or better off than is he. But the pivotal voter in a poor but oligarchic

country may be just such a person. These possibilities impel bureaucrats often to clothe the effects of aid in secrecy.   Often , however, this is impossible: the purchases made with aid monies are simply too visible. Then it will be politically important to make sure that aid does not bring losses to any vested interest group or, if this is impossible, that government policy is manipulated so that protection against loss is provided in other ways, not directly related to foreign aid.*

In short, the form in which aid is provided, as well as the amounts disbursed, are unavoidably political matters in both donor and recipient nations and further complications are created by competition among donor nations for especially "worthwhile" projects which are located in strategically important poor countries. Governments of recipient nations, competing with one another for aid, and recognizing the sorts of political pressures just mentioned, will include items on their aid shopping lists which will be attractive to important interests in donor nations. But this may not much affect what the recipient government actually does: it usually can and often does rearrange its budget to use aid in ways not intended by donor. If this were not going on, it is difficult to understand how such large fractions of GNP (10-20% is not uncommon) in many poor countries are devoted to military expenditures; of course, some interests in donor nations will be well served by larger military expenditures in recipient nations.

---

* See section on Private Foreign Investment.

If a donor nation respected the wishes of the government of a
recipient, poor country and trusted its judgment, aid would be provided
in the form of foreign exchange with no strings attached: a simple
government-to-government gift.[*] This does not happen and analysis suggests
that it will not happen. Since the two countries will have somewhat
different objectives for aid, an evaluative problem arises: movement
towards objectives not desired by recipient country will be valued
negatively   and similarly for donor country. Aid
valued in terms of donor country prices will be an overestimate from
recipient country's point of view while, from donor point of view, a
portion of aid will be seen as "bribes" required to get an aid program
accepted. There appears to be no way of resolving these various points
of view and thus discovering a single measure by which to evaluate aid or,
more generally, economic and social change. The discovery of a world-wide
social welfare function would permit unambiguous measurement but the
existence of this function has not been and almost certainly, like God,
cannot be demonstrated.

The most important fact about aid, however, is its size which, from
the point of view of donor nations, is small. Taking the major, rich donor
nations as a group, aid comes to less than one-third of one per cent of
their combined GNP. Their combined military expenditures are perhaps
20-fold larger.[**] Expenditures in rich countries on candy, tobacco and soft

---

[*] If some donor nations tie aid, others will be compelled to do likewise
for second-best reasons.

[**] In the case of Canada, only about six times larger.

drinks are about three times larger. Milton Friedman's speculation is probably correct that, in place of aid, poor countries would gain more from removal of tariff and non-tariff barriers to their exports which have been imposed by rich countries.

One hears the argument that, since aid is frequently misused and cannot be clearly demonstrated to have increased the rate of economic growth in recipient countries, there is no reason to make aid larger. A parallel but much stronger statement, however, may be made about military expenditures. No matter how wasteful economic aid may be, military expenditures must be more wasteful.*

Taxation and Inflation

Governments need cash for direct investment, transfer payments, repayment and service of domestically and foreign held debt, as well as for schools, post office, armed forces, police, roads, ports, etc. A conscious development policy increases the need for revenue. Hence, government (all levels combined) must borrow, tax or inflate. Foreign experts visiting poor countries frequently recommend much heavier use of taxation, especially taxation of personal income and wealth but such recommendations are made without adequate recognition of the problems of assessing tax liability and of the costs of collection. Not until well after World War I did governments in rich countries begin to make regular and substantial use of personal and corporate income taxation and nonetheless have frequently also used inflation as a source of funds.

---

* Where military service provides upward social mobility for youngsters from poor families, a contrary assertion is sometimes made.

A first and obvious problem with taxation is how to tax income from
non-marketed activities which are a large fraction of the economies of
poor countries, e.g., subsistence farming, production in the home, barter
or income from a multitude of very small businesses. Excluding such
incomes from the tax base is, in a poor country, however, both sensible and
equitable by most standards. Efficiency is, however, thereby damaged.[*] But
then one is left with the incomes of larger companies and rich individuals.
They control the government and thus legislate taxes and tax loopholes at
the same time. Further their activities are difficult to audit, under-
reporting is widespread and bribes of low-paid tax officials difficult to
prevent. Foreign owned or registered firms producing for export and using
imported materials may be able to protect themselves and their foreign
workers from taxation. The sale of government bonds to persons who face
the possibility of taxation is also not easy since a large purchase can be
used as an indicator of the underreporting of past income and, in any event,
the expected after-tax yield on these bonds must be competitive with the rate
of return expected on other possible domestic and foreign investments.

Faced with a choice of increasing the flow of revenue from a defective
tax system or inflation, the choice of inflation may be wise as well as
necessary. Evaluated as if it were a tax, inflation is likely to be fairer,
is anonymous and has virtually no assessment and collection costs. Ex-
cluded from its reach will be the subsistence sector and home or leisure
produced goods and services; included will be marketed goods and services
which bulk large in the expenditure patterns of the well-to-do. Especially in
a poor country, the "optimal" rate of inflation will be well above zero.

[*] See appendix to H. Mohring, "The Peak Load Problem with Increasing
Returns and Pricing Constraints", AER, Sept. 1970.

As inflation comes to be anticipated, the heightened uncertainty associated with inflation and helter-skelter redistributive effects will decrease. Not that inflation is without problems. Saving will be in foreign currency, gold and jewelry, kept outside the country or in the form of things, and this will bias production and increase storage costs. There will also be adverse effects on the balance of payments which can, however, be alleviated by a flexible exchange rate. But it is difficult for people and firms to anticipate changes in the exchange rate just as it is difficult for them to anticipate correctly the effect of inflation on individual prices.* So inflation is not a panacea and has frequently been made more costly than it otherwise would be by rules imposed by international lending and aid-giving institutions.

Our general conclusions, given the location of the pivotal voter in the distribution of wealth in poor countries, are: (1) Income taxation will not be undertaken to an important extent until persons considerably poorer than the pivotal voter can be taxed, and wealth taxation will be still longer in coming. (2) Excise taxes, tariffs, license fees will unavoidably be used and fall heavily on agriculture, partly because agriculture is usually the largest sector and partly because of a (doctrinaire) desire to "balance" the economy by encouraging industrialization. Royalties on exported natural resources will look like a boon but may be set far too low as the OPEC nations have recently demonstrated. (3) Inflation will continue to be used but, because of opposition to a

---

* In poor countries, one cannot expect to find well-developed future markets in foreign exchange and commodities. It is moot whether the encouragement of speculative activities, one likely consequence of inflation, is damaging to economic development.

flexible exchange rate policy (partly associated with debt service problems), will be accompanied by attempts to license imports, control foreign exchange and prevent capital flight. Those with political influence (most of whom are rich) will be able to get around these restrictions but a great deal of waste will be generated in the process. Anne Kreuger has estimated, for example, that foreign exchange and other, similar domestic regulations in India result in about 7% of India's reported GNP being waste[*] and perhaps 20% of Colombia's coffee exports are smuggled out of the country. (4) Attempts to limit government expenditures will continue to be difficult if the probable beneficiaries fall above the pivotal voter, which can easily mean that expenditures for police-like control and surveillance activities are difficult to control. (5) There is no reason to suppose that bilateral or international aid programs will much affect these conclusions.

EDUCATION

A few years ago, impressed by calculations of rates of return to education and encouraged by the high correlation across countries and over time between per capita income and educational attainment of the population, many economists argued in favour of education for development and donor countries directed aid towards it. The expected benefits have not appeared and we should consider possible reasons for this shortfall. Of course, they may still be there; the gestation period may just be longer

---

[*] A. Krueger, "The Political Economy of the Rent-Seeking Society", AER, June 1974. India's reported saving rate is only about 7%.

than was expected. Or there could be a "critical mass" problem so that, with only a bit more expenditure on education, all the expected benefits would pour forth. While logically conceivable, these possibilities are not convincing.

We view education as playing a dual role: (1) As students pass from grade to grade, some are discouraged by teachers and the school setting and are screened out; other students are encouraged. In consequence, entrants into the labour force carry different credentials which may then be used by employers as indicators of skills, ability and motivation. (2) Students do receive information and learn skills in the classroom and from textbooks and other teaching materials. Schooling, however, is not well designed to transmit all sorts of information and skills and there may be a poor fit between what is taught in school and what is required at work. An educational credential can be a defective indicator of competence, although this may not soon be recognized.

If there are many applicants for a given job, e.g., because there is substantial unemployment, employers will search for a cheap and simple way of selecting the most suitable applicants. Educational credentials are available and may seem better than height, sex, age, skin colour, residential location or some other easily detected indicator of individual differences. Suppose educational credentials are used and that, subsequently, learning-by-doing takes place. Then the employed will have both better credentials and stronger job-learned skills but the correlation could be spurious. Nonetheless, those who desire some sorts of jobs will have to obtain the requisite credentials. To have affluent or educated parents is a clear advantage.

For these sorts of reasons, the usual computations of rate of return to education are, in part, examples of false labelling of variables: what is called education is really a hodge podge of variables only one of which is instruction received in school. Indeed, as Arrow has demonstrated,[*] discovery that persons who remain longer in school earn more does not necessarily indicate that society benefits. A large private rate of return to the variable called education may be coupled with a small social rate of return. Definitional ambiguities and measurement problems prevent one from discovering what are the "facts".

Certainly public investment in additional schooling may be socially valuable and so may be screening by means of educational credentials. It depends on the alternatives. Suppose at present in some society that occupation and income are determined by the accident of who one's parents happen to be. This is one method of assigning people to occupations. In comparison, the use of educational credentials for assignment could be an improvement in that then some occupational mobility between one generation and the next is possible. Further, schools do provide instruction in subject matter as well as in social graces and discipline. Then, even if educational screening were identical with screening by the accident of birth, the society might be better managed in that those assigned at birth to administrative and professional occupations would know more and have been subjected to academic discipline. Arrow has shown that maximization of that

---

[*] K.J. Arrow, " Higher Education as a Filter", op.cit.

portion of the sum of individual utilities which come from what government

provides is inconsistent with equality as reasonably defined.[*]

If schooling is public, and if the historical record indicates that

schooling guarantees better jobs and a lower rate of unemployment, then the

social costs of extra schooling may well be distributed in a way that match

poorly the distribution of benefits. This distributional question cannot,

however, be separated from that of size.[**] As Tinbergen argued, "overloading"

the job market with highly educated applicants will bring a narrowing of

wage differentials across educational credentials. Governments that are

obliged by political pressures to provide employment for university grad-

uates may for this reason, as well as to preserve traditional intergenerational

transmission of social position, try to restrict educational budgets. Thus

the social rate of return to education cannot be defined solely in terms of

efficiency and the proper amount of education cannot be found by comparing

private rates of return across different types of investments.

---

[*] K.J. Arrow, "A Utilitarian Approach to the Concept of Equality in Public
Expenditures", QJE, August 1971.

[**] A box diagram will illustrate issues. Measure the scholastic aptitude
of youngsters horizontally and parental income vertically (rank order
is sufficient). If a country provides only a little formal education,
those who receive it are apt to be drawn from persons coming from the
south-east corner of the box. As an educational system grows, it will
seek students who have unusual academic promise but will be unable to
exclude less well-prepared students whose parents are rich. When the
school system was small, the society was making the error of not educating
students whose academic promise was high and thereby was, in effect,
streaming these students into deadend jobs. Talent was being wasted. A
large school system makes the reverse error of trying to prepare children
whose parents are rich for difficult jobs that they will be unable to
perform well. One should recognize that rich parents do manage to raise
children who have higher scholastic aptitude scores than average.
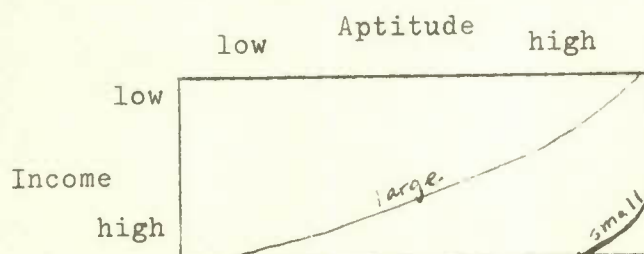
In terms of aid, what does all this mean? If faster growth and a shift of the income distribution towards equality are desired and the educational attainment of the population is currently relatively low, two principal (net) benefits of more investment in education seem likely: (1) better management of the economy by persons who are already members of a traditional elite from which some "trickle down" benefits may come, although the elite itself may be the main beneficiary; (2) wider literacy which could lead, in time, to a movement of the pivotal voter downward in the overall income distribution and a modest increase in social mobility. Nonetheless, education investment is probably not a panacea and direct efforts to reduce unemployment may be more successful in increasing GNP and widening the distribution of income and wealth. After all, one does not need to be literate to be an excellent auto mechanic, linotype operator or work on an assembly line or farm.

Once a negotiated decision has been reached regarding the amount of aid to spend on education, important subsidiary decisions are required: Should foreign teachers be provided or fellowships for overseas training? Toward which level and type of education should aid be directed? Clearly data (and definitions) with which to answer such questions will not be available in more than sketchy form. In any event, as already suggested, education will be a highly charged, political matter, closely connected with the distribution and intergenerational transmission of income and wealth.

Saving and Investment: Data Problems

In national income accounts, (gross) investment is narrowly defined as new machinery and equipment, new construction and change in inventories, all measured in market prices. Comparable expenditures by government are

sometimes added. To obtain net investment, depreciation and destruction

of existing capital goods are then subtracted. Saving must then be

defined so that, ex post, it equals investment.

There is general recognition that the definitions used in national

income accounts do not match their theoretical counterparts. To show

this, imagine that the capital stock of a country is counted both at the

beginning and at the end of a period. The difference somehow evaluated,

is net investment and should include changes in the stocks of human capital

and natural resources. During the period bracketed by the counts, con-

sumption (including leisure)[*] and investment take place and their sum is

defined as income. If relative prices have not changed during the period,

then any commodity may be used as numeraire. But usually prices do change.

Thus what commodity bundle should be used as numéraire to evaluate beginning

and ending stocks of capital is a debatable but unavoidable question.

It is sometimes argued that capital gains and losses should be

excluded from national income because nothing has been "produced" when

an existing capital good is sold and national income accounting is

purposely blind to changes in the distribution of wealth or income.

We argue that the total value of the stock of capital in a country (or

owned by residents of a country) often changes simply because prices

change and in the absence of "production". Thus the formation of a successful

oil cartel does increase the capital stock of all countries which have

---

[*]   But not the undesired "leisure" of the unemployed which reduces the
stock of human capital and enters income (if properly measured) with a
negative price.

or expect to find oil. At the same time, the real incomes of oil-using countries fall along with the value of some of their capital stock, e.g., uninsulated houses and other energy-using facilities. But there is no reason to suppose, even on a world basis, that capital gains will equal capital losses.

Once the definitions of ' capital and income are broadened to include net capital gains as theory dictates, the definitions of ex ante or desired saving and investment must also be changed.

In theory, the distinction between saving and consumption is clear: insofar as an activity is intended to bring gratification in some future period, then some or all of it should be counted as saving. Thus, as is well known, increases in the stock of gold, durable consumer goods or a decrease in the incidence of illness is at the same time both saving and investment. Promises by government that, e.g., banks will not fail, pensions will be provided, unemployment will not exceed 4%, or that capital destroyed by acts of God will be replaced, will increase the value of the stock of capital (including human capital) and, in this way, will also be both saving and investment. These and other examples reinforce the view that current accounting definitions are poor proxies for what theory dictates.

Individual savers wish to keep accumulated savings in a safe and profitable form and place and these form and place decisions have important consequences for investment. At one extreme, a saver may decide to hold

savings in gold, a Swiss bank, or in real estate outside the country;

at another extreme, a saver may decide to invest in a family business,

the education of progeny, or gamble on the development of a new domestic

product or process. Given the ease of moving financial capital from place

to place, the saving available to one country or region need not match

very closely the saving reported for the residents thereof nor counted as

"saving" in national or regional accounts. Notice also that conventional

definitions classify as "residents" (subsidiary) firms whose owners all

may live outside the country and persons who live in the country for more

than a year even though they are known to be leaving and who, in the

meantime, are remitting monies to families and bank accounts overseas.

Our ideal reference group is the citizens and landed immigrants who

reside in a country. Thus we wish to exclude foreign-owned enclaves from

the economy of a poor country but wish to include financial and other

capital owned by these residents regardless of where located. Unfor-

tunately, data with which to construct national accounts to fit this

definition do not exist. A recent U.S. estimate, however, suggests that

available official income data may be grossly misleading.* Whether saving

as a percentage of income, both defined as we desire, is higher or lower

than currently reported cannot be ascertained.

---

*
P. Musgrave reports in "Foreign investment in the National Income Accounts",
Rev. Econ and Stat, February 1977, that, in terms of a variation of the
definition advocated above, the U.S. is understating national income by
about 7% which means that some poor countries could be overstating their
incomes by as much as 20%. Remember also that exports and imports may be
fictitiously reported because of over- and under-invoicing designed to
avoid regulations and enlarge after-tax income or move capital to a more
agreeable location.

Saving

Friedman, after making some of the corrections mentioned above to
reported national income categories, reached the conclusion that the
hypothesis could not be refuted that desired saving is a constant fraction
of "permanent" income (with the interest rate held constant).[*] Whether
additional corrections suggested by theory would leave his conclusion
intact is not known. To examine possibilities and in the absence of
suitable data we turn to theoretical formulations:

Start with a "representative" member of society whose preference
ordering may be represented by strictly convex indifference curves which
have the same slope where cut by a ray from the origin and are symmetrical
around one ray (see Figure 4).[**] A two-period analysis will suffice since
one can start with the last year (in which there will be zero saving
carried forward) set against the next-to-last year and then work back
to the present, year by year. The solution of this problem for a "prem"
is well-known: Utility is maximized at point A where the marginal rate of
substitution equals $(1 + r)$, and saving from current income equals $(Y_1 - \hat{C}_1)$.
If point B (which is what consumption would be if all of this year's
income were consumed this year and all of next year's income were consumed
then) happens to fall on the expansion path, which is a straight line

---

[*] M. Friedman, The Consumption Function, NBER, 1955.

[**] A Cobb-Douglas utility function with exponents of 1/2 on the consumption
argumentswould be a simple version of what is found in Figure 4.
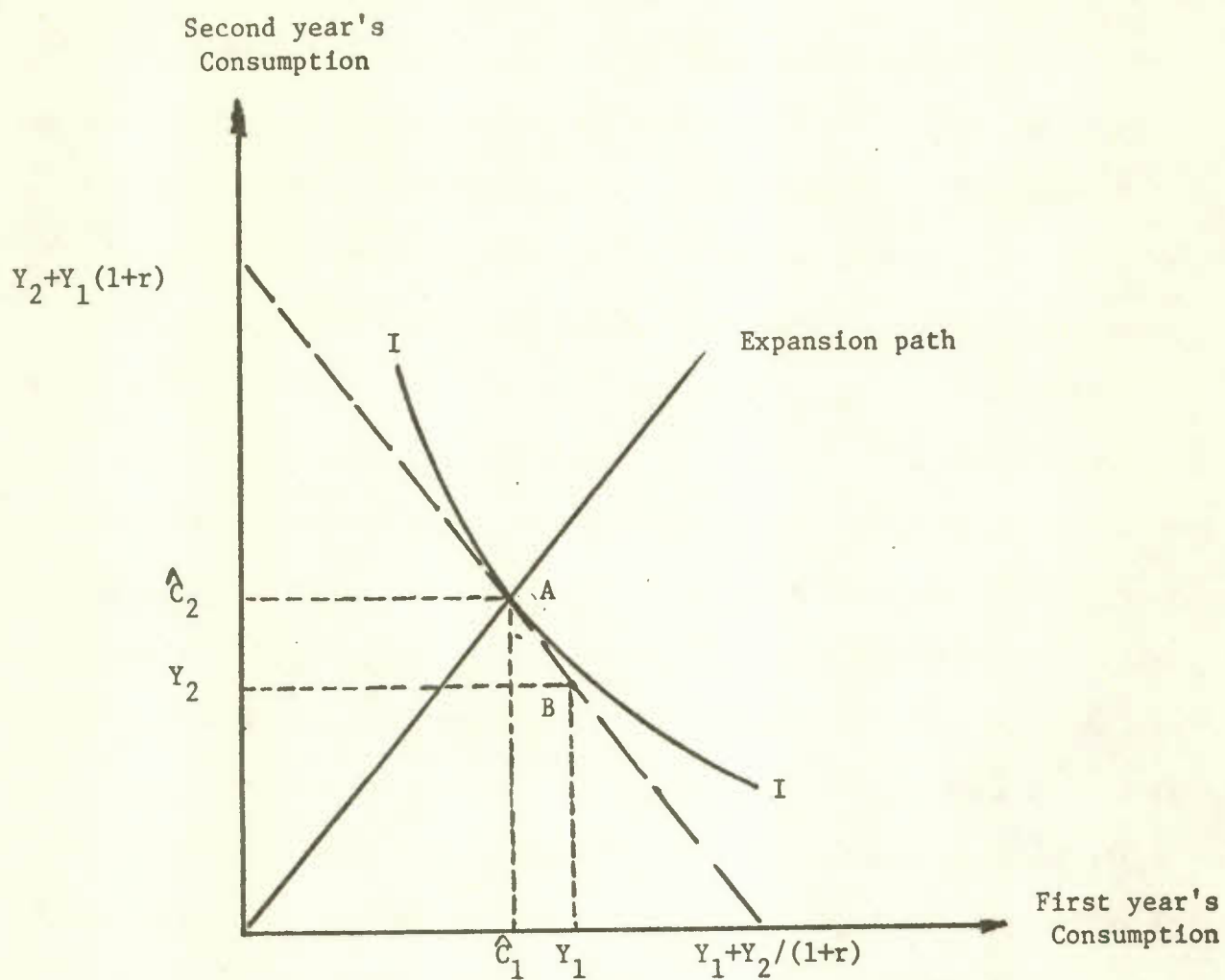
Figure 4

through A, saving will be zero; if B falls below the expansion path, then
there will be positive net saving and conversely. In this simple model
there is no room for a separate "wealth effect", i.e., initial wealth is
$Y_1 + Y_2/(1 + r)$.

Exogenous to this simple model are the interest rate, the pure rate
of time discount and income in both years; one can deduce the effect on
saving of a change in any of these. For example, an increase in the
interest rate will boost the saving rate, and conversely, while a lengthening
of the time horizon will rotate counter-clockwise the line of symmetry
and increase the saving rate and conversely. The 45° ray is the line of
symmetry if the pure rate of time discount is zero. If Y_2 increases
relative to Y_1, saving out of current income will decrease (and conversely)
while a change in incomes that does not affect their ratio will not affect
the saving rate.

A society that is experiencing growth may come to expect higher future
incomes, a higher interest rate and find time horizons lengthening.
Whether uncertainty will increase or decrease if the growth rate rises is
not clear. Since one of these effects will increase saving while another
will decrease it, the overally effect of growth on saving is not clear.
Hence, the effect of aid on domestic saving is also not clear and, as
already mentioned, the data are too poor for reliable empirical estimates.

The rather fruitless analysis and discussion above ignored government.
But government can effect saving not only, for example, by raising the

interest rate for savers while keeping low the interest rate applicable
to investors but also by putting resources obtained from taxation or
by a deficit directly into saving and investment. If the goverment's
marginal propensity to invest exceeds the population's marginal
propensity to save, the result may be inflationary but will be an in-
creased overall saving rate. Such a policy, however, is not always easy
to manage because expectation of price increases may be induced and become
self-justifying, unless the interest rate for saving is substantially
raised.[*] This, in turn, could bring an international capital inflow,
affect the exchange rate and harm exports.

Our general conclusion, necessarily speculative, is that the so-called
"low income trap" (in which poverty means very little saving which, in
turn, prevents the investment required to raise incomes) is not a con-
straint. Saving in forms and places that make it inaccessible to investors,
however, may be a problem. A trusted, widely supported government should be
able to eliminate this problem but if such a government existed, the problem
would not be there. Aid of course may be used to support and strengthen
a government but, instead of building toward the wide base needed for trust,
an aid-supported government could instead use   resources for repression.
Economic growth could thereby be achieved and, in time, a more responsive
government might come into being. Or it might not. Since many years may
pass before this happens, one wonders if the candle is possibly worth the
flame.

---

[*] The presence of unemployed but employable labour should prevent in-
   flationary pressure from raising prices.

Investment

Net investment increases the stock of capital used in production and is undertaken by profit-seeking entrepreneurs whenever the price of the investment object is less than the present value of the expected stream of future net revenue, suitably discounted for risk. Equivalently, one can compare internal rates of return with the interest rate: if the difference is positive after conversion to certainty equivalent, then investment will take place. The prices used in these computations should, for achievement of Pareto Optimality, represent marginal social benefits and costs but the prices found in a real world economy may be far different and not only because the distribution of income (and wealth) is suboptimal or risk premium too high. Interferences with competitive outcomes abound.

All this is well known and various observers have emphasized one or another "market failure" to explain why investment (and the consequent capital stock) is not larger. If even one per cent of income had gone into net investment annually over the past 1000 years, the world would be far richer than it now is. We believe but cannot demonstrate that investment in the past was for long periods suboptimal. But bygones are irrelevant except as object lessons for the future, at least they are in a competitive environment. We wish to focus on ways of increasing investment in poor countries, which include changing the composition of the capital

stock through gross investment on the one hand and depletion, depreciation and capital destruction on the other hand. In this connection, foreign aid and foreign private investment may play special roles, especially if ways can be found to reduce the world's military expenditures.

Start with investment by foreigners which may provide net benefits to a recipient country as well as to the investors. Using current accounting definitions, one wishes to compare the value of exports net of depletion from the enclaves of foreign-owned firms with imports net of those made for sale to temporary foreign workers and net of full depreciation on capital imported into the enclaves. Net taxes and import duties paid by foreign companies and workers (which are, in effect, paid with foreign currency) are also benefits. Domestically produced goods and services sold to an enclave, if labour or capital are unemployed, will bring high benefits, in part because similar goods and services have been turned into unprofitable exports by foreign-imposed tariffs and quotas. Less tangible but not less important benefits come from learning-by-doing on the part of domestic labour employed by foreign-controlled concerns. At the same time, foreign subsidiary companies can insure against risk in ways not available to small, domestic concerns and may therefore to some extent replace rather than augment domestic output and investment.

One special offset that should be mentioned in connection with foreign investment is the purchase by a foreign company of an existing domestic company. The prior owners thus realize capital gains, may expand their

consumption and invest abroad. A domestic company is thereby moved into the foreign enclave. Net benefits to the poor country are apt to be small, especially if the sale price is underreported and taken out of the country. The presence of the foreign company probably does increase the fraction of domestic saving that goes out of the country or into a foreign enclave.

Although   addressed to foreign investment, the discussion above has implicitly been about domestic investment as well. Indeed, tax advantages offered to foreign-owned firms will induce local residents to establish "foreign firms", a practise that makes the data additionally misleading. With the accounting procedures we have advocated, however, capital goods from abroad placed in a foreign enclave would not be treated as imports but similar goods purchased by a domestic company would be. These may, in general, be paid for by a reduction in consumer goods imports, expansion of exports (including exports to foreign tourists and workers and firms in a foreign enclave), sale of domestic firms to foreigners, foreign borrowing or aid.

The poor quality of data on the composition and magnitude of the trade balance on current account (net foreign investment) and the corresponding capital flows force one to rely on theoretical understanding which, unfortunately is often unclear. For example, as a logical proposition, capital imports could but need not lead to immizerizing growth or encouragement of import substitution by means of tariffs could but need not reduce rural incomes, or agricultural or raw material exports could be encouraged by

subsidy or low relative tariffs in importing countries with a parellel effect. In any case, however, what is actually happening cannot be established unambiguously from available data.

In conventional models of international trade under competitive conditions and mobility of capital (but not of labour), every trade and every movement of capital will increase world income, although not everyone will gain. Applying this model to present circumstances in poor countries, one suspects that those who invest in them where returns to capital are relatively high will gain from trade along with workers in poor countries whose marginal productivity will be increased by additional capital, especially if it embodies an improved technology (unless dramatically labour saving). Wages, however, may not rise until unemployment is reduced by quite a bit.

Barriers to trade or to the movement of capital are installed to provide government with revenue (and bureaucrats with jobs) or to bring (or prevent the erosion of) monopoly profits. In so doing barriers necessarily create inefficiency and thus reduce incomes in exporting or importing countries. At the same time, it is argued, these profits may increase the growth rate by placing savings in the hands of persons who can easily find attractive investment opportunities. A static inefficiency of even twenty per cent of GNP will obviously soon be dominated by even a one percentage point increase in the growth rate. Logical possibilities are not the same as political realities and evidence that, on balance, monopoly or monopsony brings higher growth rates is mixed.

Growth on the historical record has mostly been the result of technological progress; what is unclear is the nature of the relationship

(if any) between monopoly or protection against risk and technological progress. Net foreign investment by firms from rich countries into their subsidiaries in poor countries is the principal channel for technological (and institutional) improvements and not only because such companies own valuable patents and employ experts.[*] Because of size, diversity and the possibility of intra-firm sales, multi-national companies can obtain investment funds at lower rates, self-insure, and shift products, costs and profits to reduce taxes and tariffs. They are also better able to exert or transmit political pressures.

On balance, net foreign investment has probably raised income in recipient countries but the lion's share of the gains have probably accrued elsewhere. There are dramatic instances, however, in which poor country benefits are concentrated in the hands of the local elite and are dominated by losses imposed on other segments of the population, e.g., sale of an exhaustible natural resource for less than its expected present value.

Aid and private foreign investment, of course, are closely linked. Consider: (1) Expropriation of the assets of foreign companies would bring a reduction of aid and aid monies cannot normally be used by a recipient country to nationalize a foreign company. (2) Projects funded by aid are sometimes selected because of the positive externalities they will bring investors and especially foreign investors. (3) Aid seems

---

[*] Cf. R. Miller, "The Multinational Corporation and the Underdevelopment of the Third World", in (ed.) C.K. Wilber, The Political Economy of Development and Underdevelopment, Random House, 1973.

regularly to be used as a basis for negotiating favourable tax, tariff and foreign exchange treatment in recipient countries and frequently brings a subsidy to the company exporting capital goods some of which is passed on to the importer (which may be part of the same company). (4) Aid funds may be used to provide insurance against default on private loans made to firms in recipient countries. (5) Aid monies used to hire experts or send students and others to rich countries for training may increase the profitability of foreign investment in poor countries.

Because of these linkages and the faulty data on net foreign investment mentioned earlier, possibilities for finding evidence regarding the gains from trade or the net benefits to a poor country from private foreign investment (or of aid) are remote. The empirical problem is further compounded by the need to consider the present value of ` future debt repayment created by net foreign investment.* Even if an increase in the stream of future incomes is established by a particular bundle of imports, there may be no way of easily extracting foreign exchange from these future incomes. Future taxes levied mostly on unrelated incomes may be required and these may have deleterious effects on growth.

Technological Change

The simple growth model presented earlier suggests that technological change is an effective way of getting a higher equilibrium value of the capital-labour ratio and hence of per capita income. Investigation of

---

* There are circumstances which, from a donor country's point of view, make a gift more attractive than a loan.

the "residual" over the past several decades in some rich countries provides empirical support for this view: Some estimates attribute more than three-quarters of the measured increases in per capita income to technological progress, interpreted broadly enough to include organizational change as well as new and better machines and products.

In earlier sections, possibilities for growth in per capita income were also found in the difference between actual and potential national output, in higher rates of saving and investment, and in lower rates of population growth. While economists have found convenient in model building an assumption that each of these factors is independently exogenous, in truth they are not. But what may be their two-way connectedness with one another and with variables traditionally labelled endogenous is not well known. Speculation and ad hoc theorizing are therefore unavoidable if one does not wish to stand mute.

We have argued that unemployment and other forms of waste in poor countries are largely attributable to barriers to factor mobility which are maintained by those who now occupy favoured social positions in these countries, e.g., class-preserving educational screening and marriage, rationing of credit and jobs by parental occupation, social position and educational credentials. These barriers are weakened by growth of per capita income, especially if it comes from technological change. The reason is clear: The profit possibilities brought by technological change

are not easily predicted and may create loopholes through the existing set of barriers to social and factor mobility which cannot easily be closed. Changes in the distribution of income and wealth may then occur which will bring further possibilities for change.

Emigration could have similar effects but, unless it is the result of expulsion, those occupying prestigious social positions are unlikely to be among the migrants. Hence, emigration is unlikely to bring as much change as does technological progress. Immigration is another matter, especially if the immigrants are well-educated and accompanied by sub-stantial capital or contacts useful for trade. Because of their previous experience, well-educated and well-to-do immigrants may be more likely to introduce technological change and avoid existing barriers to social mobility.

The movement of commodities provides an alternative route for tech-nological change to be transmitted from one country to another. Not only may a new process be incorporated into a machine or displayed in a product but the induced effects on the prices and outputs of complementary and substitute domestic products may create conditions conducive to innovative behaviour elsewhere in the economy. And, as has long been recognized, invasion of a market by imported goods sets the stage for the production of import substitutes. That the possibilities for technological change and higher incomes which can come from import substitution have frequently been misused to redistribute incomes towards a favoured few does not deny

the existence of these possibilities.

In historical perspective, some countries seem to welcome technological change while other countries at various times do not. Our speculative explanation of these differences rests upon the barriers to social and factor mobility discussed earlier and upon the Hicks-Boulding observations that monopoly protects against recession but makes a lazy life possible.[*] Start with production efficiency, a necessary but not sufficient condition for Pareto Optimality. We speculate that the more closely this is approached (e.g., the lower is the unemployment rate and the more pronounced are bottlenecks in production) the weaker will be the barriers to mobility. Putting the cart in front of the horse, the experience of noticeable growth will lead people to guess that they do not need so much protection against adversity and, in consequence, but with lags, barriers against mobility may weaken. Certainly increasing unemployment and weak markets will trigger ethnocentric and protective behaviour which may be reflected in legislation and nepotism of various sorts, e.g., seniority, tariffs, quotas. And, as possibilities for mobility and profit become fewer, motivation for search may be replaced by resignation and repression. The climate for technological change will worsen.

Misallocation of fully-employed resources will have comparable but much weaker effects. Indeed, as Schumpeter argued, large-scale business firms, which are frequently formed on a monopolistic base, may devote more

---

[*] J.R. Hicks, "Annual Survey of Economic Theory", Econometrica, 1935; K.E. Boulding, "In Defense of Monopoly", QJE, August 1945.

resources to research and innovative experiments than will firms located in more competitive parts of the economy. And large-scale firms may be able to self-insure and thus reduce the uncertainty they face. The larger outputs thus induced may well lead to higher investment and, therefore, more technological progress. A monopolist who is in a declining market, however, may be less likely to innovate.

Economists trained by a study of comparative statics, have stressed the difficulty of transmitting technology used in a rich country to a poor one in which the structure of factor and product prices is quite different. They stress the wastefulness of using a capital-intensive technology in a country where labour is relatively cheap. They are alarmed by 'modernization' brought by imported machines which replace labour, especially in construction and agriculture, but are made profitable by import subsidies on the one hand and by higher than market-clearing wages enforced by government on the other hand. Clearly they are correct as the People's Republic of China has dramatically demonstrated.

Sometimes an inappropriate technology is imported because of a subsidy provided by tied aid money -- tied in order to benefit producers in the donor country initially and subsequently in terms of repair parts and complementary products. Other times, however, the subsidy comes from the government of the poor country and is to be viewed as a reward for success-ful lobbying by some domestic producers and importers, with the necessary bureaucratic paraphernalia an unintended, additional item of waste. A producer, desirous of reducing his labour force in order to gain greater

control over land or reduce the possibility of conspiratorial violence by workers will need and may be able to obtain an import subsidy. The resulting redistribution of income is not consonant with usual definitions of development.

Even without direct subsidies, the importation of a labour-saving technology is implicitly subsidized because the underlying research and product development have been paid for in the rich country of origin where formal and on-the-job learning has already also taken place. Research output is a public good. Because of this, the importation of an inappropriate technology can be avoided only by autarckic means.

Autarcky is, however, a second-best solution. Growth rates could be higher without it and, in principle, the extra resources thus available could be distributed as desired over the population. Eckaus dealt with this problem some years ago and found that, as a matter of logic, the introduction of a modern technology into an economy could bring unemployment.[*] In his model, to prevent this outcome, demand for goods and services must increase to provide jobs for workers displaced by a labour-saving technology. In the short run, the problem would be easier to solve if this extra demand was for labour-intensive goods which might, of course, be exported. Import quotas and tariffs imposed by rich countries make this outcome difficult to achieve and, domestically, the poverty of the lower classes militate against it, particularly as this low-demand group

---

[*] op.cit.

is augmented by the newly unemployed.

From the point of view of development in which the distribution of income as well as the growth of per capita income are considered, the transfer of technology from rich to poor countries will not spread its benefits equally; the poor and illiterate, who may constitute a large fraction of the population, will benefit in trickle-down ways which will be slower in coming if education does not expand. If the receiving country is essentially controlled by an oligarchy and has a very unequal income distribution, these trickle-down benefits may not reach the poor for a very long time: a separation between modern and traditional sectors is likely to develop. Indeed, so pronounced has been this phenomenon that several two-sector models have been designed to fit it.[*]

Notice that the existence of an economy with modern and traditional sectors makes domestic "aid" from one to the other a possibility. To illustrate, return to Figure 2 and suppose that one sector is at k_3 while the other is at k_1. In time, the k_3-sector may become large enough so that a transfer of resources from it to the k_1-sector would put both sectors above k_2. This possibility is, however, politically unlikely. Will the rich willingly make themselves poorer?

On balance, we find ourselves favouring the spread of modern technology and blame the anti-development results sometimes noted not on the new technology but on

---

[*] W.A. Lewis, "Economic Development with Unlimited Supplies of Labor", The Manchester School, May 1954. G. Ranis and J.C.H. Fei, "Development of the Labor Surplus Economy", Irwin 1964; D. Jorgensen, "Surplus Agricultural Labour and the Development of a Dual Economy", Oxford Economics Papers, 1967.

a prior and entrenched social structure and the barriers to mobility
there found. Thus we favour aid that is designed to transmit newer tech-
nology and hope that it will not be misused. In every country, the im-
portation of a modern technology has been accompanied by the growth of a
middle class (professionals and skilled labour) and the pivotal voter
has, in consequence, shifted to a lower position in the income distri-
bution. Under special circumstances, the planning possible with autarky
could both speed this process and prevent deleterious outcomes for those
at the bottom of the income distribution. But without a prior revolution
(which may require a war of other calamity as precondition), autarky could
be used to ensure that even more of the benefits of modernization were
reserved for those who are already rich.

Toward Policy for Aid

Official aid is about 0.5 per cent of GNP in Canada and less than
this in most other rich countries. Hence the effect of aid on macro
indicators of economic performance in donor countries must be insignifi-
cant. A one percentage point change in the unemployment rate, for
example, will have much more important effects. The question thus arises
why anyone should spend a lot of time and energy in examining and analysing
aid. Perhaps the importance of the subject is exaggerated; but, be that
as it may, we are motivated by a desire to see Canada increase aid and, in
any case, adopt policies that will make more effective whatever level of
aid is selected -- in terms of the "needs" of donor countries. For the
record, the authors define these needs to be higher per capita income

coupled with an income floor of not less than half of the median

income. Aid, we believe, should be directed to these desiderata

and therefore evaluated in terms of them. A diagram will illustrate

(see Figure 5). Suppose that the aid-recipient economy is initially

at P. Then only a move into the first quadrant (including its bound-

aries) is an improvement, with the recipient country free to choose

among changes (such as PR or PS) which carry the economy into the first

quadrant. Ideally, once the recipient country has selected a direction

for change and donor nation has chosen an aid total, recipient and donor

countries together will try to maximize the length of the vector.

One immediate problem with these desiderata arises because rural and

urban sectors of a poor, recipient country usually have quite different

distributions of income. Thus migration from the low average, more

nearly equal rural sector to the higher average, more unequal urban

sector will, ceteris paribus, move the economy into the second quadrant.

Technological and institutional changes designed to increase marketable

agricultural output per unit of land often save agricultural labour.

Furthermore, improved public health measures reduce death rates and soon

increase the man-land ratio in rural areas beyond that required for cus-

tomary agricultural practices and institutions. Coupled with higher

average wages in cities, induced by industrialization, rural-urban migration

thus takes place even though unemployment in cities may be quite large,

especially if the subjective probability of getting a job is higher than
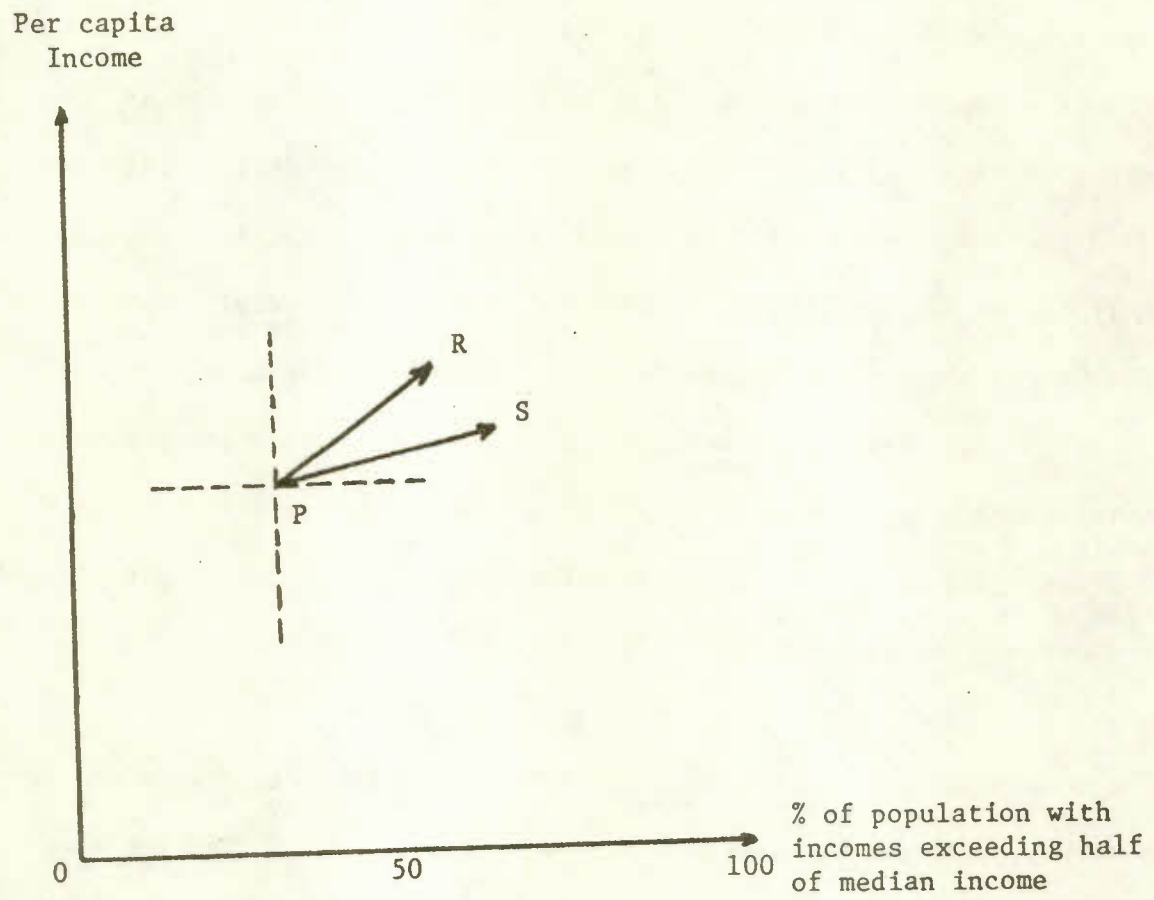
Figure 5

the objective probability. In any event, rural-urban migration will
increase the variance of income and may, for a time, increase the per-
centage of persons with less than half the median income. (Of course, if
no correction is made for the younger age of migrants and for unrealistic
expectations, some of this will be fictitious.)[*]

Given our objectives, a way around this likely difficulty is the use
of agricultural labour for rural projects: roads, schools, irrigation,
small factories and associated electrification projects, reforestation
where indicated, good wells for drinking water: In general, measures
designed to boost rural incomes without encouraging out-migration.[**] Aid
can be earmarked for these sorts of projects and, to prevent re-allocation
of recipient country budgets, monitoring of rural-urban migration on a
sampling basis could be simple and effective, e.g., take a sample of urban
dwellers and enquire regarding place of residence one year and five years
ago.

A more substantial difficulty for aid comes from its government-to-
government nature. This means two bureaucracies and the creation of a
grab bag that is attractive to politically influential individuals and
groups in both countries. Further, these bureaucrats will tend to employ
planning mechanisms (which provide a focus for political influence) rather
than market mechanisms to allocate aid. The presence of monopoly, exter-
nalities and important indivisibilities, coupled with an undesirable distri-
bution of income (by the above standards) does make planning, in principle,

---

[*] Cline, op.cit.

[**] See, e.g., A.A. Walters, "A Development Model of Transport", AER,
May 1968.

a better allocative mechanism -- but only if the planners are competent and adopt goals that conform with those we have stated above. Otherwise "planning" can easily produce worse results than would market mechanisms, especially if planning and control arrangements are captured by special, elite interest groups and then exploited for private gain. In other circumstances, even a helicopter drop of currency over villages and poor urban districts could easily produce better results than usual aid programmes. Fo⁻ this reason, a helicopter drop of money provides a useful benchmark against which to evaluate proposed or actual aid programmes.

Ignoring the utter political impracticability of an actual helicopter drop, its likely consequences (in terms of Figure 5) would be: (1) An immediate improvement in the distribution of income which would boost consumption of commodities bought mostly by poor people, e.g., food staples, some clothing and probably some medicines. These expenditures would improve the health and morale of the population, increase the size of the standardized labour force and, if continued for an extended period, would reduce unemployment insofar as the poverty of job applicants has prevented their employment. (2) It might be supposed that the rate of investment would decrease because the poor recipients of the helicopter drop would spend nearly all they received but a contrary speculation is also plausible. Increasing the demand for goods purchased by poor people would generate unexpected profits and investment. Thus per capita income should increase and in ways that need not lower the longer run growth rate.

Planned and well-integrated aid projects could do all that a
helicopter drop might accomplish and more besides in that existing in-
efficiencies could be removed, future inefficiencies be prevented and,
perhaps more important, modification and adoption of technologies avail-
able elsewhere could be planned and carried forth so as to take advantage
of possible positive externalities. That this may not happen or that
the poor may not share in the net benefits is clear. Further, aid may
be so small that, if "hurdles" to growth exist, no long-run benefits will
be realized.

In order to pay back borrowed monies as well as to gather the re-
sources to purchase foreign-made capital goods, the developing country
must export. Natural resources, particularly exhaustible ones, are fre-
quently attractive exports. Tariff and quota barriers in rich countries
to such imports are less common than for manufactured or heavily pro-
cessed commodities and governments or other owners of these resources in
poor countries may be induced to sell at less than shadow prices. To
expect residents and investors from rich countries not to view and use aid
as a lever to extract better terms when purchasing natural resources and
as a partial, seemingly moral offset for tariff and quota barriers to
manufactured imports is probably expecting too much. Ideally, the aid
bureaucracy in a rich country would, to some extent, put itself in the
shoes of a poor country citizen and prevent the worst abuses and would
also obtain tariff concessions from its own government for poor countries
on grounds that otherwise repayment of debt will be difficult if not

impossible. In this connection, an effective full-employment policy in
a rich country will weaken pro-tariff, pro-quota sentiment and thus benefit
exporters in poor countries. Fear of inflation is thus to be viewed as
a middle-class fear that operates in part to the detriment of poor people
both domestically and internationally since it is used to "justify"
planned unemployment.

In this same vein, technological change -- broadly enough defined to
include organizational change and consequent improvement in resource use
and morale -- is probably the most important way by which poor countries
will improve their circumstances. Nonetheless, rich countries have induced
poor countries to honour international copyright and patent laws to their
disadvantage. One would hope that a rich country's aid bureaucracy by
treaty and training programmes would improve access to newer technology
and knowledge. Again, however, this may be too much to hope, except (sadly)
in the case of military and police technology and training. Indeed, in
many poor countries, military and police expenditures are much larger than
are expenditures for economic development. And military and 'public safety'
aid   from important donor nations such as the United States or the USSR
are often larger than economic aid.

Rich countries have less unequal income and wealth distributions than
do many poor countries and also have more open social structures in the
sense of less nepotism and more accessible educational systems. Thus we
do believe that aid can be used to improve the opportunities open to at

least middle-class residents of poor countries, probably at the expense of the very rich. As this happens and expansion of the economy takes place, substantial trickle-down benefits may accrue in time to the poorer half of the population. We believe that these benefits will be increased if an entire population is made literate and if the franchise is extended.

Development processes may not be smooth and probably contain "hurdles" which may change size as time passes. In the case of a large, poor country even a consortium of rich countries may be unwilling to put forth enough aid over enough years to overcome some set of hurdles. For a rich but relatively small economy like Canada this probably means joining a United Nations or other consortium and reserving its own direct aid for pilot projects, the demonstration effects of which may be viewed as a public good. Demonstration projects are, however, difficult to operate and evaluate: migration of peoples and movement of commodities make the results difficult to untangle.

For pilot purposes, a relatively self-contained community could be selected whose members have frequent face-to-face contact with one another and in which class divisions are not prominent. A commune or cooperative form may permit a new and presumably profitable technology to spread widely its benefits while common schooling and recreational experiences may prevent a fracturing of the community and the capture of gains by a minority. If successful, other communities and donor agencies will copy the format used. Pilot projects are, however, not a substitute for large-scale aid

and are not helpful unless, if they were replicated in many places, they would still be beneficial.

As one member of aid consortia, Canada may be able to prevent economic aid from permitting increases in military expenditures by poor countries. Perhaps more important, Canada may be able to help negotiate a reduction in US-USSR military expenditures and thereby make possible major increases in the size of aid budgets without reductions in living standards in donor countries. In this same connection, however, the slack now present in the economies of rich countries would permit much larger aid budgets with no important reductions in the production of non-aid goods and services. Nonetheless, aid budgets are currently declining and governments of rich countries insist that they cannot afford more aid.

APPENDIX

Pareto Optimality and Equity

In an attempt to separate "efficiency" from "equity", neo-classical economists define a Pareto Optimal social state as one such that any change will lower the utility index of at least one member of the society. The resulting set of social states is labelled "efficient". It is hoped that at least one Pareto Optimal state will also be judged to be "equitable" however this concept may come to be defined. An optimum optimorum of social states would (as an article of faith) be both efficient and equitable and to search first for the (full) set of Pareto Optimal social states and second for the equitable subset thereof is sensible procedure, at least until equity is defined.

Some critics of this approach argue that the notion of Pareto optimality includes too much. They assert that the preference orderings or equivalent utility functions found in the real world can easily be such that, whatever may be the existing social state, it will be Pareto Optimal. These critics could be correct if some members of society have utility functions that contain as an argument their own positions in society's pecking order. Indeed, with extreme altruism, a Pareto Optimum may not exist.

To avoid this criticism, Pareto Optimality can be defined more narrowly by substituting for the utility functions that represent society's

members, contrary-to-fact utility functions that have as arguments only the scarce goods and services each person has or expects to have. Narrowing the set of permitted utility functions in this way widens the number of social states that are efficient but can create difficult empirical problems: For example, with different, atomistic utility functions there would be different market demand and supply functions but how would one discover what these would be?

Other critics argue that the intersection of efficient and equitable sets of social states may well be empty. For them "equity" is defined as the outcome of an explicit decision process in which each member of society has a predetermined number of votes, including as a special case one vote per member and majority rule. Hurwicz has shown that with majority vote the probability is high that no Pareto Optimal social state will be equitable. Further, there are game-like situations in which individuals will be induced to misrepresent their preferences when voting and, conceivably, even when spending money.

Still other critics -- but them we disregard -- argue that emphasis on Pareto Optimality will "necessarily" lead economists and policy makers to advocate and choose Pareto Superior changes over Pareto Noncomparable changes. There is, of course, no logical necessity here. Finally, there are critics who point to the obvious fact that efficiency and equity can at most provide short-run guidance to society. Individual preference orderings change in response to births, deaths, aging, and changes in life circumstances and, in any case, the same voters may make inconsistent decisions in what are

identical circumstances. These critics we also ignore on grounds that these problems are not uniquely bound to notions of efficiency or equity and, at the present time, are unavoidable.

The upshot of these remarks is that we will make use of efficiency, defined as Pareto Optimality, based, however, on utility functions that contain as arguments only the goods and services each person expects to have. Equity, we suppose, has many meanings but, in simple cases, can be defined as "fairness", i.e., if a pie comes as manna from heaven to two persons chosen at random from a population, fairness usually means equal division. If it is known that the pie will not or cannot be equally divided, "fairness" dictates that insurance be provided which, however, only implies that some compensation will be paid by the winner to the loser; it does not imply full compensation (which would mean equal division).

In the real world, hints that come from zero-sum, fair-division games are not directly applicable while notions of "deservedness" and expectations of future income appear to be important. Thus, if there is upward social mobility, a desire for less inequality (and a belief that existing inequality is "unfair") seems to be one consequence. And upward social mobility is traceable to a positive difference between the growth rate of the economy and the growth rate of the elite and managerial population subgroup. Increases in per capita income and educational attainment seem frequently to bring a movement

towards democratic voting procedures which means a lower income position for the pivotal voter. "Director's Law" then tells us that the middle class (which contains the pivotal voter) will use political means to re-distribute income unto itself from both rich and poor ends of the income distribution (using taxation on the one hand and government expenditures on the other).

Increasing per capita income may reduce risk aversion or produce false estimates of the probability of future upward social mobility. Hence, members of the middle and politically dominant social class may protect the rich in anticipation of becoming rich themselves.

In short, while an outsider might suppose that a constant per capita income economy would come to be viewed as a zero-sum game in which "fairness" meant equal division, this does not seem to be the case. The Bettleheim-Kardiner hypothesis that the "oppressed" will come to see themselves through the eyes of the dominant group and accept their poverty as "deserved" seems closer to reality.[*] Hence, while an outsider might suppose that growth of per capita income and upward social mobility would make inequality of incomes more bearable, the reverse seems closer to what happens.

---

[*] B. Bettleheim, "Individual and Mass Behavior in Extreme Situations", reprinted in (eds.) T. Newcomb and E. Hartley, Readings in Social Psychology, Holt, 1947 and A. Kardiner, The Mark of Oppression, Norton, 1951.

Errors of Measurement

The simplified growth models discussed earlier rest, in an empirical sense, upon national income accountingconventions which assign a price to each input and output of production. In the case of non-marketed goods and services, including public goods, the missing prices are to be somehow imputed from behaviour. In every country, however, the list of goods and services that are counted and valued in computations of national income and product is incomplete. If those omitted were a random and fixed percentage sample of all, there would be no objections. But this is not the case and, in consequence, measured growth rates and both intertemporal and international comparisons of income are incorrect and may be misleading. The principal errors are:[*]
(1) Important categories of final goods are omitted, e.g., some household services and leisure-time or volunteer activities.[**] (2) Some intermediate goods are treated as final goods, e.g., commuting, public safety. (3) Some investment goods are treated as entirely consumption whereas this is only partly the case, e.g., education, appendectomies, furniture. (4) Depletion of natural resources are set at zero along with externalities both positive and negative, e.g., fish, oil, pollution. (5) Public goods and community purchased goods are valued at the cost of inputs, e.g., national defense, most bureaucracies, highway services. (6) Capital gains for households are ignored.

---

[*] See also W. Nordhams and J. Tobin, "Measures of Economic Welfare", reprinted in (eds.) Robert and Nancy Dorfman, Economics of the Environment, 2nd edition, Norton, 1977.

[**] The enforced leisure of unemployment should, of course, be given a negative value.

Clearly a new set of conventions for national income calculations is needed, along with much better data. Some of the omissions and errors mentioned above might be relatively simple to correct e.g., (2) and (3); others are indeed difficult, e.g., (1), (4) or (5).

A special comment should be made about expenditures for public safety and national defense which should be treated as intermediate rather than final goods and which should not be valued at input prices. Over the past few decades, expenditures by the governments of many poor countries on these activities have risen sharply and currently are well in excess of 10 per cent of their reported national incomes. In many cases, these expenditures have been made possible by donor country grants and encouraged by subsidized prices. The military establishments thus created often develop a political ability to claim a larger share of their govern- ments' non-aid budgets. These claims and the activities thereby supported often reduce consumption, non-military investment and thereby also reduce the growth rate of the non-military GNP. In donor countries, military aid grants and the subsidization of prices may reduce the apparent share of their military establishments in their GNP's.

The errors just reported infect also estimates of the distribution of income and wealth because there is a strong tendency to omit those items which are neglected in national income accounts. Nonetheless, wealth estimates are better than income estimates since past capital gains are included in wealth and those public goods and externalities which are tied to geographical location are capitalized and attached to site or structure.* This is obvious from the data which invariably show a more unequal distribution of measured wealth than of measured income although rudimentary theory tells us that knowledge of the length of life of a capital item and of the interest rate should permit one to use income or wealth interchangeably.

---

* Public goods are probably worth less to poor than to middle income people. Is a true public good worth more if more people enjoy it?

When the economy is opened, other problems arise, particularly if international comparisons are contemplated. First are the problems of making sure that, in some sense, the same sorts of goods and services are counted in each country and that a set of prices is found which can be used in every country. But neither of these problems is tractable, i.e., conventions that command widespread agreement are needed but cannot be found, and for good reasons. parallel problems arise if intertemporal comparisons are desired for a single country. Second is the question of whether foreign-owned firms should be located where the physical assets are found or where the owners of these assets reside. In the case of natural persons who work or travel in a country where they are not citizens, the national accounting convention is that residency changes if the stay is longer than a year; firms, however, are always located in the country where the physical assets are located, Sometimes large errors are thus created. A foreign-owned oil well in Indonesia, for example, is not really part of the Indonesian economy nor are the foreign nationals employed there on two or three-year contracts really part of the Indonesian labour force. More on this later.

Measurement of national income, its components and the distribution of income and wealth is required for empirical investigation of the effects of aid. So is the measurement of aid itself but whether measured in terms of the prices in donor or recipient nation or in world prices is moot. This is because an agreed-upon scheme for evaluating the benefits and costs of aid does not (and perhaps cannot) exist. There are frequent attempts to bypass problems by estimating effects on national income, augmented with (1) a contrary-to-fact assumption that both donor and recipient countries are able to make lump-sum transfers sufficient to push the benefits and costs of aid upon whichever segment of society

they might wish and (2) do select among possible patterns of (implicit) lump-sum payments that one which maximizes each country's social welfare function. These attempts to attach welfare connotations to changes in national income generated by aid are almost as fraudulent as is an empirically unsupported assumption (often made "for approximation" or "for simplicity") that aid will have only insignificant effects on the distributions of income or wealth in donor and recipient countries.

Nonetheless, even though the data are of poor quality, comparisons of national income for the same country in adjacent years may well give reasonably accurate indication of the direction and magnitude of change.

It has been argued with force that accurate data needed for solid empirical studies will never be available and should therefore be bypassed, i.e., use of grossly defective data may prevent discovery of the facts and cause bad errors in policy. What might "bypassing the data" mean? If something called a social welfare function exists and, after insertion of constraints, has a single, nondegenerative maximum and is twice differentiable, then a gradient approach will achieve this maximum, i.e. a series of seemingly local improvements, each of which requires only local marginal information to detect, would, in time, achieve the maximum. A centralized approach would probably be faster but, if based on erroneous or grossly incomplete data, could lead the economy in an incorrect direction. Even if a social welfare function does not exist, use of a Pareto (partial) ordering on the one hand and more widespread distribution of wealth, perhaps through subsidized public education and decentralized public ownership on the other hand, could provide a basis for a gradient approach that might efficiently lead an economy in a desirable direction. A centralized approach contains the possibility of another and more serious error: implicit use of

a "social" welfare function that embodies only the preferences of those who,
by historical accident, now hold power. And their preferences may be
antithetical to those of the whole population.

To keep national income accounts according to the residence of owners of
factors of production, as we have suggested, would require collection of
information not readily available. Present definitions, however, generate
misleading data. Start with labour which lives in its country of permanent
residence or not and sells its labour to firms   which are
located in the same or a different country from their owners. How would
we treat each of the categories thus created? The labourer selling services
to a firm located in and owned by residents of the country in which the
labourer resides is obviously "domestic-domestic-domestic". Goods or
services sold by (purchased by) this firm in other countries are clearly
exports (imports). When one or two of the triplet is "foreign", problems
arise. The possibilities and one possible treatment follow: (1 - residence
of labour; 2 - location of firm; 3 - residence of owners).

	Possibility			Treatment
	1	2	3	
(a)	foreign,	domestic,	domestic	a domestic firm importing labour with sales (purchases) abroad treated as exports (imports)
(b)	foreign,	foreign,	domestic	a domestic firm importing labour, with purchases (sales) of other commodities treated as exports (imports) by the country in which the firm is located
(c)	domestic,	foreign,	domestic	a domestic firm using domestic labour with sales and purchases of commodities (other than labour) treated like (b)

(d)	domestic, foreign, foreign	a foreign firm to which labour is exported; other commodities that it buys (sells) abroad are imports (exports) by the country in which the firm is located
(e)	domestic, domestic, foreign	a foreign firm to which labour is exported and which, when it sells in the country where the firm is located is exporting and, when it buys, is importing
(f)	foreign, domestic, foreign	a foreign firm using foreign labour which is otherwise treated like (e)

In brief, we are disregarding the physical location of a firm with its assets and sales (purchases) made part of the economy in which the owners reside. This is essentially what is now done with tourist or embassy/consulate expenditures and income.

As Peggy Musgrave has pointed out[*], another method would be to pay attention only to the middle column, i.e., to disregard the residence of owners and concentrate entirely on the location of firms. The present system is the sort of compromise that a committee might have found: labour (unless employed for less than one year) is never exported or imported; other goods and services sold (purchased) abroad by firms are treated as exports (imports) by the country in which the firm is located, regardless of ownership; income attributable to capital in the form of dividends, rent, interest is shifted to the country in which the owners reside but retained earnings are attributed to the country in which the firm is located along with taxes. Capital gains or losses are ignored (but should not be).

---

[*] Op. cit.

Aside from problems of gathering data, the above proposal does force decision when a firm is foreign rather than domestically owned. With detailed data on the residence of owners this could be handled by pro-rating; without such data a rule-of-thumb would be required.

We cannot estimate what changes in GNP or in saving and investment would come from the treatment just proposed but are sure that rich countries would then display higher GNP's and probably higher rates of saving and investment. Poor countries would, therefore, display lower levels of GNP and lower saving and investment rates.

TWO VIEWS OF

AID AND DEVELOPMENT

PART TWO:

THE ROLE OF AID

LOUIS LEFEBER

Introduction to Part II

The economic effects of aid on development are neither easily iden-
tified, nor readily analyzed. The problems are several and varied. First,
there is no satisfactory analytical apparatus which is sufficiently general,
rigorous and relevant to the study of such a complex phenomenon as
development. Second, there is a formidable problem of identification of
causes and effects due to the interaction of vast numbers of variables
and simultaneous relationships which cannot be readily reduced to manage-
able numbers without loss of generality. Third, objectivity in the study
of development is confined to the explicit statement of premises of the
analytical framework and to the reasoning based upon them, but does not
and cannot exist in the selection of premises and analytical approaches.

The foregoing discussion of the neoclassical framework illustrates
the point. It takes the existing institutions for granted and it assumes
that because commercial profit maximization in a purely competitive market
system - under certain very restrictive assumptions - can be shown to lead
to efficiency or even socially optimal resource use, competitive behaviour
by individuals or businesses is the norm for effective social organization.
There is no need to go over in detail the list of restrictive assumptions,
the reader is referred to such treatises as de Graaff's Theoretical Welfare
Economics.[*] For our particular purposes the aspects of neoclassical
analysis which have to be treated with special scepticism relate to the

---

[*] J. de V. Graaf, Theoretical Welfare Economics, Cambridge University Press,
London, 1967.

market's capacity to bring about full employment, the sufficiency of demand and - last but not least - the assumption that the distribution of income and social justice can be determined independently from decisions relating to resource allocation and returns to owners of productive factors.[*]

As far as full employment is concerned, it is evident that, even more than in the industrialized market economies, in the developing economies it has not been realized by market allocation. For whatever reason, unemployment and under-employment has been the rule rather than the exception in vast areas in the developing world, such as South Asia, most of Latin America and parts of Africa. There is ample evidence that the simultaneous determination of the marginal product of labour and the wage rate in full employment, as suggested by neoclassical marginal productivity theory, does not exist. In lands where unskilled labour is abundant relative to land and capital resources, wages or other forms of renumeration to unskilled labour are kept low by the abundance of labour, low average productivity in subsistence agriculture, and the presence of a reserve army of the unemployed or partially employed. Beyond that, it is not the market, but sociological and political factors which seem to determine the minimum wage rates of those who are employed. Once the going wage rates are established by whatever means, employers in the market economies will utilize only that amount of labour which is consistent with their profit

---

[*] Other aspects of neoclassical analysis will also be considered in the subsequent discussion. In particular, assumptions relating to the constancy of implicit institutions, continuity and marginality of change, absence of uncertainty, competitive market organization and independence of decisions have even less relevance to the context of development than to industrial economies.

interests. Even then, it is possible that less labour should be hired than warranted by the going wage rates: the fear of confrontation with landless labour in rural areas as well as other causes have been known to result in an excessive capitalization of farm operations.[*] The same may be the case in industrial employment where unionization may be construed by employers as a threat to their interests. And, in fact, unionization, particularly in export sectors, has been known to result in wage rates which are disproportionately higher than those obtained for identical work in other urban sectors and in agriculture.

Assumptions relating to savings and demand present another set of problems. Our theories of development have only paid lip service to the role of demand, and in development planning demand has been taken for granted. "The pernicious classical doctrine of Say's law was built into neo-classical growth analysis, whence it has been adopted for models of development planning. Similarly, the notion that the putative capacity of resource owners for buying back the output represents a genuine desire for doing so is a beguiling one which has been taken over from neo-classical general equilibrium analysis, and incorporated implicity into development theories and the planning approaches derived from them. Take off and big push theories are such examples, as are planning models which have arbitrary objective functions as their maximand.

---

[*] See L. Lefeber, "Income Distribution and Agricultural Development", in J. Bhagwati et al., Development and Planning, London; Allen and Unwin, 1973. Also, L. Lefeber and M. Datta-Chaudhuri, Regional Planning in South and Southeast Asia, The Hague, Mouton, 1971.

"In these models the question whether there is in the market economy adequate motivation for increasing the rate of savings or investment, or what is the motivation for absorbing the planned and artificially induced output, remains unaswered, because it is determined by exogenous conditions. The solution of these models may have internal consistency, and may even provide useful insights into the intersectoral structure of production. But the corresponding functional income distribution, as implicitly or explicitly determined by the model solution, is likely to be very different for the income distribution and demand structure obtained in the market. Accordingly, the investment and output targets, if implemented, would bear little relationship to what might be naturally absorbed in reality. Hence, the consistency of the plan would be spurious: if the desired investment and output levels were to be attained by means of direct or indirect market intervention, the output might not be absorbed by free market processes, and the additional capacity would turn into excess capacity."[*]

Finally, there is the problem of social justice as it relates to resource allocation. As a general proposition, Pareto optimality represents a low level value judgment in the sense that all of us can, without ideological conflict, agree that it is desirable to produce more of a good if it can be done without diminishing the production of another good, or that it is desirable to make someone better off if this can be achieved without

---

[*] L. Lefeber, "Critique of Development Planning in Private Enterprise Economies", Indian Economic Review, October 1974. Note, incidentally, that even those theories which are preoccupied with the question of the sufficiency of demand needed to absorb the output, such as Rosenstein Rodan's "Big Push" or Nurkse's shoe factory in the wilderness, are based implicitly on a Walresian full employment general equilibrium system in which factor owners with their putative factor returns are assumed to buy up the output.

making somebody else worse off. In fact, as pointed out by Sen, "in a Robinson-Crusoe economy consisting of one man, economic efficiency would be a complete criterion for policy making."[*]

Alas, the world does not consist of such economies. In Sen's words, "as soon as we shift our attention from the strange world of Robinson Crusoe, economic efficiency ceases to be a complete criterion for action. The concept of economic efficiency gears itself to individual welfare and makes pronouncements only on those choices in which no inter-personal conflicts arise. Problems of income distribution are completely left out of the discussion of economic efficiency and as a criterion of policy-making it is of very limited help. In real policy debates inter-personal and inter-class conflicts of interest have to be faced..."[**]

Yet, neoclassical economic analysis separates problems of social justice from resource allocation and fails to face up to the fact that the policy maker or policy evaluator must go much beyond the criterion of economic efficiency. But even if criteria for social justice and ef-ficiency could be treated separately, problems arise. First, the requisite nondistorting means for income redistribution, i.e., lump sum tax/subsidy schemes exist only as an abstraction. Second, the institutional means for effecting large scale tax subsidy schemes are not available in most countries, and particularly not in economically retarded countries. Third,

---

[*] A.K. Sen, Employment, Technology and Development, Oxford: Clarendon Press, 1975, p. 15.

[**] Ibid., pp. 15-16.

the redistributable margins are necessarily small in low income countries and - apart from socialist economies - the disincentive effect on private investment of implementing large scale tax/subsidy schemes for redistribution in favour of the lower income groups may have paralyzing effects. "But even if the redistribution can be effected, ... the direct income transfers, while boosting demand, are bound to diminish the rate of capacity creation, because they can be taken only from what otherwise would be at least partly investible surpluses... Given the circumstances, redistribution on an adequate scale can be effected only by increasing the demand for labour through the provision of new and improved work opportunities and by improving the conditions of self-employment. If employment can be raised above the free market rate (and, incidentally, the size of the labour force is not independent of economic opportunities) or if labour productivity is favourably affected by higher wage rates and better consumption, the additional output will at least partly offset the economic cost of redistribution. But the additional employment must not be of the 'make-work' type, as it could be in the case of Keynesian under consumption; it must be income-producing activity."[*]

Models where the rate of employment is limited by the supply of wage goods.

If the rate of employment creation is central to the problem of income distribution, models are needed which focus on the relationship between

---

[*] Louis Lefeber, "On the Paradigm for Economic Development," World Development, January 1974, pp. 5-6.

growth, production techniques, employment and wage consumption demand.

Such models take, in general, the wage rate as given, or institutionally

determined, and focus on the trade-off between current and future redis-

tributed consumption. Furthermore, and in contrast to the neoclassical

models, policies relating to social justice, efficiency, employment and

savings are inseparably linked by means of institutional constraints

which, in the words of Marglin, "are as formidable as the technological

constraints imposed by nature."[*]

The assumptions of such models also represent an oversimplification.

To the extent that the wage rate is assumed to be institutionally determined,

it is treated as it would be exogenous to the problem at hand which - of

course - it is not. Furthermore, the analysis can be viewed as a variety

of the short run, because even institutionally rigid wages change with time

and changing conditions. (See e.g., Sen, op.cit.) Finally, the analysis

is most relevant to a state where surplus labour prevails, i.e., where

labour is not a binding constraint. It goes without saying that the analysis

can be extended to include other important features of the development

process, such as technological change, but for further discussion and

further references the reader is referred to the cited works of Sen and

Marglin.

The more complex and elaborate models are concerned with welfare

maximization over an infinite time horizon subject to institutional and

technological constraints. But some of the basic principles can be il-

---

[*] S.A. Marglin, Value and Price in the Labour-Surplus Economy, Oxford:
Clarendon Press, 1976. See also A.K. Sen, Employment, Technology and
Development, Oxford: Clarendon Press, 1975, and Choice of Techniques,
Oxford: Blackwell, 1968 (3rd. ed.); Louis Lefeber, "Planning in a
Surplus Labour Economy", American Economic Review, June 1968.

lustrated by a Marx-Lewis type system in which output is produced by labour and capital, the wage rate is given, profits are saved and wages consumed. Accordingly,

$$Q = F(K,E),$$
$$C = wE,$$
$$K = K(t),$$
$$L = L(0)e^{nt} > E(t).$$

Q, K, E, L, n, w and C stand for output, capital stock, employed labour, potential or employable labour force, growth rate of the labour force, institutionally given wage rate and consumption out of wages, respectively. t represents time designation. The institutional constraint is given by the fixed relationship between employment and consumption. Given the usual assumptions about convexity, it is evident that the rate of employment will be limited to the range whose lower boundary is given by the profit maximizing rate of employment (i.e., where the marginal product of labour equals the given wage rate), and the upper boundary by the equality of total output and wage consumption. Thus, the wage rate determines the rate of employment which, in turn, defines output and consumption and hence, savings. Accordingly,

$$S = F(K,E) - wE.$$

This can be illustrated by the well-known Sen diagramme.[*] For any given moment of time output can be shown as function of employment (K being given)

---

[*] See Sen, _Choice of Techniques_, _op. cit_.

and consumption as linear function of employment with slope w. Then, the profit maximizing rate of employment is obtained at the point where the slope of the production relationship, i.e., the marginal product of labour, equals the wage rate. At this point the surplus and savings are at maximum. The upper limit of employment is obtained where the wage consumption line crosses the production function: here the surplus and savings are zero. Potential employment is confined to the range E^* to E^{**}. The surplus is shown by the vertical distance between the output function and the wage-consumption line.

If investment equals profits (or a fixed proportion of output, or is proportionate to the amount of capital stock), the maximal rate of growth is obtained at the solution corresponding to the profit maximizing rate of employment, E^*.
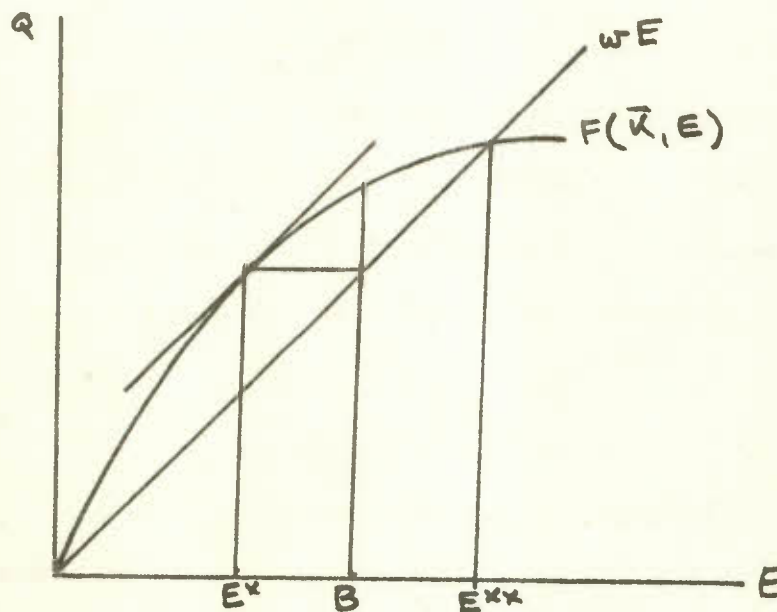
Assuming that all profits are invested, we have

$$S = I = F(K,E) - wE.$$

If employment corresponds to the free market profit maximizing solution and if the customary assumptions about constant returns to scale are given, etc., we obtain that the maximal growth rate is

$$I/K = F(1, E/K) - w(E/K)$$

which is evidently identical to the marginal product of capital.[*]

This model is a schematic representation of only the organized sector where the government pursues its economic policies with respect to employment, production and investment. The source of labour is the subsistence sector which is outside the model and where labour's income is less than that in the organized sector. It can be reasonably assumed that when workers move from the subsistence to the organized sector, they cannot keep their previous share of the subsistence consumption. The latter is retained by those who remain in the subsistence sector. Hence, the entire wage consumption demand by those who are newly employed in the organized sector must be met from its resources.

Even though the above model of the organized sector is so over-simplified that it does not provide an entire set of intertemporal conditions for optimal resource use, it does yield a number of important insights. First, it is evident that the higher the wage rate, the greater must be the capital intensity, the lower the rate of employment and the lower the rate of growth. If the latter is below the rate of growth of the labour force, the wage rate must be lowered, otherwise full employment

---

[*] For the structure of such models and their solutions see Louis Lefeber and Sukhamoy Chakravarty, "Wages, Employment and Growth", Kyklos, October 1966, and Louis Lefeber, "Planning in a Surplus Labour Economy", op. cit.

cannot be attained ever. Second, if employment is raised above the free
market profit maximizing rate, it cannot be done without fiat or a suitable
payroll subsidy scheme, because the wage rate exceeds the marginal pro-
duct of labour. Third, if income redistribution is obtained by increasing
the rate of employment over and above the free market rate, it can be done
only at the cost of diminishing the rate of growth of the economy and
with it, the rate of growth of employment and future consumption. Hence,
an intertemporal trade-off is implied. Fourth, the cost of income redis-
tribution in terms of sacrificed savings and growth is lower if it is
accomplished by raising the rate of employment than if it is done by direct
income transfers. This is evident if in the above diagramme one compares
the consequences of taxing away the surplus at E^* with the output and
surplus corresponding to employment at B.

The relationship linking consumption to employment is the institutional
constraint which indicates that the cost of employing an additional unit of
labour in the organized sector can never be zero to the economy. This is
the case even if unemployment prevails and if the marginal product of
labour outside the organized sector, i.e., the workers who subsist on
marginal farms or on occasional labour, have a zero marginal product. It
is, however, immaterial whether or not such workers have a zero or positive
marginal product. Employment is defined in income terms: workers who
earn the institutionally determined minimum wage or an equivalent income

from self-employment (and, hence, have a correspondingly high marginal product) count as employed, and those who earn less than the given wage rate (and have a correspondingly lower marginal product) are unemployed or underemployed. In other words, what counts is that in the subsistence sector workers have a lower marginal product, income and consumption than in the organized sector.[*]

When it comes to the institutional constraint, the government can, within political limits, attempt to use fiscal and monetary policies to hold down the adverse effects of added employment and wage consumption on investment and growth. But "when governmental power has been exercised to the limits of political strength and courage, there will very likely remain employment possibilities that would increase output, but increase it less than the 'effective' consumption demand that would be generated by the expansion of income. It follows that expansion of employment into the range where the marginal productivity of labour is less than consumption per worker can be accomplished only by a concomitant shift in the composition of national product from investment to consumption. The shift must be equal to the amount by which the employment-induced expansion of consumption exceeds the expansion of output. And this poses a very real problem to policy makers. To the extent present investment decreases, future consumption and employment must fall; it is by today's addition to the capital stock that tomorrow's employment opportunities and consumption are enhanced".[**]

---

[*] Marglin, op.cit., pp. 19-20.

[**] See Marglin, op.cit, ch. 2.

The separation of employment and savings policies is, therefore, just as unfeasible as the separation of resource allocation and income distribution. Increasing the demand for labour at minimum wages is the only feasible mechanism for income redistribution on an adequate scale; however, increasing the current rate of employment diminishes the rate of growth of the economy and its capacity to absorb unemployment over time. It may, of course, be feasible to ignore redistribution and current welfare by maintaining employment at the free market rate where the marginal product of labour just equals the given wage. Assuming that surpluses are saved and invested, this results in the fastest rate of growth; but it is attained with the relatively most capital intensive methods of production,[*] and the lowest rate of redistributed consumption. Accordingly, this approach calls for the highest sacrifice from the current generation of workers.

The question remains: how does the inflow of foreign resources affect the rate of growth and employment generation? In diagrammatic terms it can be readily shown that a) the function denoting the total product of labour shifts upward, because the amount of capital available for production is augmented by the amount of aid; b) the rates of profit maximizing employment and output increase, because in a system of constant returns to scale an increase in the supply of the scarce input automatically implies an increased demand for, and use of, the other input. This is shown in the following diagramme where E_o and E_1, and Q_o and Q_1 represent the employment and output before and after the injection of aid.

---

[*] Relative to the given wage rate.
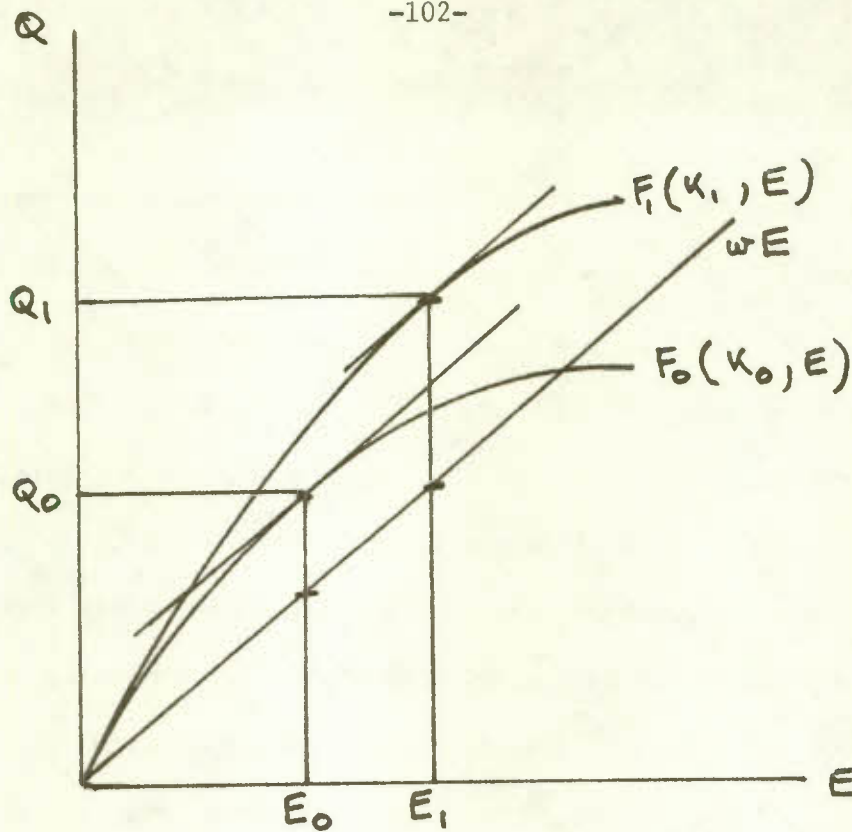
It is to be noted that, because of constant returns to scale, aid increases employment, output and consumption in the same proportion as the ratio of aid inflow to existing capital stock. It follows that the investible surplus must also increase proportionately and not by the absolute amount of aid. If aid is not forthcoming in subsequent periods, the trend growth rate of output and employment remains unaffected; the only change is that trend line shifts up to a higher level than before. As long as constant returns to scale prevail, aid can affect the long run growth rate only if received in every time period. For an aid supported exponential growth path aid is required in constant proportion to output or capital stock in each time period. These are important considerations, because - as will be discussed in connection with the analysis of the relationship between aid and savings - the effect of aid on savings and consumption is of some interest to aid givers and receivers alike.

It must be remembered that the above model assumes factor substitution, i.e., the possibility of increasing the labour intensity of production as a means - and possibly the only significant means - for attaining growth with a measure of social justice. Much of the development literature, with the exception of the contributions of Sen, Marglin and a few others, implicitly or explicitly assumes nonsubstitutability of inputs in the form of fixed factor proportions. It is, of course, undeniable that once projects are carried out, or investments are completed, according to some rigidly specified technology, the scope for factor substitution diminishes. But it is an error to assume "that there is no variability in factor proportions, i.e., that the capital-labour ratios are fixed and that b) the most desirable technology is the one which from the engineering point of view is most advanced...

"It is true that in certain industries - particularly in hydro-electric power and certain petro-chemical processes - the adjustment of factor proportions is quite difficult and after the installation of the chosen type of investment it may even be impossible. But in most industries - even in heavy industrial manufacturing units such as steel plants - there is scope for variation. If nothing else, yard operations can always be designed to conform to a wide range of capital-labor ratios. In any case, some of the rigidity in capital-labor ratios is clearly due to institutional rather than technical conditions. For instance, even though a given piece of equipment at a given moment of time can only be used in combination with a single operator, if the rate of output is measured over a time

interval, it becomes evident that the same equipment may be profitably
exploited with two operators in attendance. The speed of machine work
which requires physical exertion or particular care must correspond to the
capacity of a single operator who, if in continuous attendance over an
eight or ten hour workday has to proceed at a sustainable rate. On the
other hand, if two operators are present, one can be permitted to rest
while the other is at work so that the rate of output of the active
operator can be increased. Except in the case of full automation, any
tool or machine from pick and shovel to semi-automatic equipment can be
treated in this manner. Whether it is profitable to do so depends on
the relative cost of labor and equipment; it is only an institutional bias
(or puritanical belief) that a worker should not be permitted, let alone
encouraged, to take frequent rest periods during paid working hours.

"As to the natural propensity of designers to choose that technology
which from the engineering point of view is the most advanced, it is likely
to lead to higher capital-labor ratios than warranted by actual factor
endowments. This is so because new techniques developed in already indus-
trialized countries do not relate to ...economic conditions (prevailing
in less developed countries) and may even have been developed for labor
saving purposes". *

As will be discussed below - particularly in connection with employment
and technology in the rural sector - the choice of factor proportions is

---

* Louis Lefeber, "Notes on Integration, Welfare and Project Valuation",
Cuadernos (Papers) of the Latin American Institute for Economic and
Social Planning, Series II, No. 11, 1970. Santiago, Chile, pp. 19-20.

importantly affected by government policy and not necessarily predetermined by an imaginary state of nature.

One final point. This analysis is applicable to that phase of development which is characterized by the presence of surplus labour. From the point of view of aid giving or receiving, it is, of course, the most significant phase. If and when the bulk of the economically less developed countries will reach the state where their respective labour forces are also actively employed at minimum acceptable wage rates, or have equivalent self-employment, the development problem and its urgency will be substantively different from what they are now. For now they represent a basic humanitarian problem as well as a matter of national and inter-national politics.

Reasons for Accepting or Wanting to Receive Aid

There may be both political and economic reasons for LDC's
to request or to accept aid. As far as the political reasons are
concerned, they may relate either to the international political re-
lationships of a particular nation, or to the social and political
conditions prevailing within its boundaries. The two may be, of
course, interconnected. Furthermore, there is, undoubtedly, a close
relationship between aid obtained or requested for economic reasons
and the domestic and international political position or behaviour of
the recipient country. Given that economic development is not
neutral with respect to values and ideologies, it is to be expected
that countries desiring to obtain aid will approach donors whose
ideologies or political interests most closely coincide or approximate
those of the ruling classes in the country applying for aid. Stra-
tegic considerations may provide exceptions, as in the case of U.S.
aid to Communist nations such as Poland or Yugoslavia. But even the
exceptions confirm the absence of altruism in aid giving and the
presence of a quid pro quo between donor and recipient which naturally
influence the purposes for which aid can be obtained and the mode
of its utilization. The reality of the relationship between donor
and recipient is best described by a quote from Hollis Chenery:
"In the most general sense, the main objective of foreign assistance,
as of many other tools of foreign policy, is to produce the kind of
political and economic environment in the world in which the United

States can best pursue its own social goals."[*] Other aid giving
nations, or leaders of aid giving blocks, undoubtedly have
similar views.

Be that as it may, the total supply of aid available for all
LDC's at any given moment of time is inelastic and those aid seekers
who want to increase their share of the total must, to a greater
or lesser degree accept the conditions imposed by the prospective
donors. The donor's commercial interests may be an important deter-
mining factor, as was clearly demonstrated by the role USAID attempted
to play in forcing the Indian Government to accept the conditions of
the Bechtel-Petroleum syndicate for investment in fertilizer plants
in India. But in the political sphere, the examples of India and
Pakistan are most instructive. The former has insisted on its
neutrality, while the latter joined a Western alliance. As a con-
sequence, the flow of aid to Pakistan relative to size of population
has been significantly above the flow of aid to India. Furthermore,
as pointed out by Anisur Rahman, Pakistan was favoured by Western aid
givers in spite of the fact that in terms of development effort - e.g.,
savings rate - it has been a significantly weaker performer than India.[**]
And in the case of Allende's Chile, World Bank financing was withheld,
ostensibly because of concern with the economic stability of the

---

[*]
  H.B. Chenery, "Objective and Criteria of Foreign Assistance", in
       G. Ranis (Ed.), United States and the Developing Economies,
       New York, Norton and Co., 1964.

[**]
  M.A. Rahman, "Welfare Economics of Foreign Aid", The Pakistan
       Development Review, Summer, 1967.

country, but in reality because of political reasons. The very act of

withholding credit was among the primary causes of economic instability,

a tactical goal pursued by the U.S. government to debilitate the

Allende government which the Bank, being ideologically attuned to U.S.

interests and quite dependent on the U.S. in its functions and fund

raising efforts, naturally supported with its own policies.

In more general terms, countries interested in increasing their

share of aid can attempt to do so through political accomodation or

political appeal to the donor, even to the point where political in-

dependence or a measure of sovereignty may be sacrificed, at least

in the short run, to obtain whatever economic benefit would accrue

to the nation or its ruling élite from increased capital inflows at

preferential or concessional rates. And here it is important to draw

attention to the difference between national and ruling class interests:

the conditions of receiving aid may very well benefit certain limited

groups, or increase the rate of growth of income to certain classes

without, at the same time, increasing the general level of welfare

across all income groups, or improving the lot of the most under-

priviledged classes.

This is a point which is unrecognized by neoclassical economic

theory. There the diversity of conflicting class interests and the

potential presence of a dominant, particular interest/is replaced by
group

the fiction of an all pervasive purely competitive market which also

provides the mechanism for conflict resolution. Even if the theory
is used only as model to predict the direction of change expected in
response to alternative forms of policy intervention, for the purpose
of analyzing the reasons for accepting or desiring aid, this represents
a misleading substitution. In fact, the analysis of the contribution
of aid to development has been reduced to the much simpler question
of how economic growth is affected by aid. This, in turn, has taken
place in simplistic frameworks which take the assumptions of either
the neoclassical or the Harrod-Domar type growth theories for granted.
The neoclassical assumption of full employment is clearly irrelevant
to the LDC's, as there are also some legitimate doubts about its
relevance to the industrialized capitalist economies. And the built-
in rigidity of the Harrod-Domar model - though clearly applicable
to   unemployment situations - reduces social and political variables
to technocratic parameters.

What are then the economic reasons for accepting or desiring aid?
In most general terms, it is believed that the resource constraints
inhibiting or holding down the rate of economic growth can be lifted
or shifted through adding foreign resources to those which are domes-
tically generated. To the extent that increasing the rate of investment
is considered to be the key element in attaining a politically
satisfactory or desired rate of growth and that aid can be converted
into investible resources, aid is desired for accelerating the rate

of growth of the economy.

Short Term Effects of Aid on Domestic Savings

Simplistic theories of the contribution of aid to growth
have assumed that aid can be directly and totally added to the domes-
tically raised savings and investible foreign resources.[*] According
to these theories the amount of foreign resources needed to attain
any desired rate of economic growth can be computed on the basis of
this additivity. The argument can be made more precise in terms of
Chenery's well-known "two gap analysis" according to which the in-
sufficiency of the domestic savings and domestically generated foreign
exchange supplies needed to attain a given desired rate of growth can
be supplemented by foreign aid. The amount of aid is determined by
the larger of the two gaps which assures that the necessary domestic
and foreign resources are available for the attainment of the desired
rate of growth. Additivity implies that the aid, the level of which is
determined by the size of the measured gap, can be directly employed
to the supplemental coverage of the resource requirements of the target
growth rate and that none of it will be channelled away to meet ad-
ditional private or government consumption needs.

---

[*] See, e.g., Paul Rosenstein Rodan, "International Aid for Underdeveloped
Countries", Review of Economics and Statistics, May 1961.
See also Hollis Chenery with Strout, American Economic Journal,
September 1966, Bruno, Economic Journal, March 1962, Adelman,
Review of Economics and Statistics, February 1966.

As recognized more recently by several economists, including Chenery
himself, the idea of additivity is not defensible on several grounds.[*]
Apart from institutional and political qualifications to the simple-minded
application of the two-gap analysis, the theory flies in the face of
observation and a priori expectations with respect to consumption behaviour.[**]

It is, of course, true that in a simple Harrod-Domar growth model
the addition of foreign resources to domestic savings will augment
investment by the full amount of the aid and will correspondingly increase
the output. The proposition holds as long as unemployment prevails; in
such situations the time needed to attain full employment can be shortened
with the help of aid. Similarly, in Marx-Lewis type growth models, where
labour is in excess supply and the utilization of labour is determined by
competitive market responses to an institutionally given wage rate, aid
can increase the rate of investment by its full amount, at least in the
purely competitive market solution which also cor-

---

[*]
See, e.g., Kaj Aresboug, External Borrowing, (Praeger, 1969), Griffin
and Enos, Economic Development and Cultural Change, April 1970.
Nurul Islam, Pakistan Development Review, 1970, Anisur Rahman,
op. cit., Thomas Weisskopf, Journal of International Economics,
February 1972, Papanek, Economic Journal, September 1972, Dacey,
Economic Journal, September 1975, Chenery and Eckstein, Journal
of Political Economy, July/August 1970.

[**]
As noted by Chenery in his "Trade, Aid and Economic Development"
(in International Development 1965, ed. S.H. Robock and L.M. Solomon,
Oceana Publications, New York, 1966), in Latin America "aid has been
a substitute for savings, not an addition to investment. The savings
rate decreased and there has been no increase in the over all rate of
growth of the gross national product".

responds to growth maximization.[*] If full employment were to be attained,

however, the limitations imposed by a binding labour constraint would make

the translation of the totality of aid into investment impossible. If

fixed technical coefficients describe the economy, that part of aid which

is not needed to maintain full employment could only be used for consumption;

otherwise capital would become redundant. And in the case of variable

coefficients, minimum full employment consumption levels would be deter-

mined by the institutional wage rate, while diminishing returns to the

use of additional capital would prevent that aid should augment

capital formation by its entire amount. In any case, the preoccupation

with using the totality of aid for augmenting investment on a dollar for

dollar basis would make sense only if the purpose of development planning

was growth maximization; more humanitarian development strategies would

have to consider the need to increase current consumption as well as

investment.

The models of Chenery et al., while taking into account the necessity

---

[*] Though competition is neutral with respect to growth rate, the con-
ditions in which competition allocates resources are not. As discussed
in the Introduction to Part II, if the wage rate is given and labour
is employed so as to equate the marginal product to the given wage
rate, the competitive market conditions of resource use are obtained. Then,
given constant returns to scale, and the assumption that profits
are saved and wages are consumed, the result is that investment is
maximized so that the rate of growth is at its maximum and the temporal
rate of investment is augmented by the full amount of aid or transfer.
See, A.K. Sen, Choice of Techniques, Oxford University Press, 1958,
Louis Lefeber, "Planning in a Surplus Labour Economy", American Economic
Review, June, 1968 and S.A. Marglin, Value and Price in the Surplus
Labor Economy, Clarendon Press 1977.

to supplement not only domestic but also foreign resources, assume that
aid is for the purpose of increasing the rate of investment and not for
consumption, except in the limiting case when the labour constraint be-
comes binding. Furthermore, since the use of aid is associated with the
growth maximizing path of development, the domestic development effort
in terms of domestic savings would also have to be at a maximum if the
rate of flow of aid to sustain the maximal growth paths were to be held at
a minimum. A growth path with such characteristics was designated to be
optimal from the recipient country's point of view by Chenery and MacEwan.[*]
As pointed out by Anisur Rahman, such a "maximum austerity theory" can only
be "the result of implicitly associating a 'psychic' disutility with the
flow of foreign aid."[**] Furthermore, since in these models the amount
of aid is assumed to correspond to the foreign exchange gap, and since
service charges are not taken into account, the cost of aid to recipient is
effectively nil and its social valuation is determined by its relative
weight in the utility function. This relative weight then is the measure
of the psychic disutility of receiving aid arising from political or
nationalistic considerations which would prevent a country from requesting
or making use of more aid than needed to sustain the maximum austerity path.

---

[*] H. Chenery and A. MacEwan, "Optimal Patterns of Growth and Aid: The
Case of Pakistan", Pak. Dev. Rev., Summer 1966.

[**] Anisur Rahman, op.cit.

But why should any recipient nation want to minimize the amount of aid received, given at concessional or preferential rates? As long as the marginal rate of return over cost from receiving aid is higher than the prevailing discount rate, in terms of purely economic considerations, it is always worthwhile to have more aid which then can be utilized for additional investment and/or consumption activities.* In fact, Anisur Rahman concludes that the "demand for foreign aid at the prevailing easy terms should far exceed any reasonable measure of minimum requirement of aid for a respectable rate of economic growth, and that foreign aid would be used not only for accelerating the growth rate but also as a substitute for domestic savings. Domestic savings, in other words, would not be pushed to its 'maximum'".

This is not to say that there is not disutility to receiving aid which imposes limitations on its acceptance. Aid giving nations have been known to use the political or economic power over the recipient nations acquired through aid giving; hence, there is potential or actual disutility to receiving aid. But more realistic assumptions than built into the "maximum austerity" models would also have to take into account the dependence of domestic savings on the total amount of resources made up of the sum total of domestic GNP and the foreign capital inflow including aid. Such an assumption would then a priori point to the conclusion that an increase in the aid flow is likely to

---

* Analogous arguments can be made also about the donor country which would balance political and commercial interest against the cost of aid giving.

increase the level of total consumption; hence, it diminishes the

domestic savings rate as proportion of GNP. This must be the case,

unless the government in the recipient nation offsets the effect of

the foreign inflow by corresponding taxation, a policy measure which

is unlikely in low income countries partly because of the paucity of

the required institutional or political means, and partly because of

simple welfare considerations.[*] And, in fact, it is because of the

dependence of consumption and savings on total resource availability,

instead of domestic GNP, that donor nations or institutions in

negotiations concerning the supply of aid frequently insist on tax

reform and other relevant institutional change. As the example of

the 'Alliance for Progress' or advice regularly given by the IBRD

indicates, such insistence is not necessarily successful.

The empirical evidence seems to support the proposition that aid

and domestic savings may be inversely related.[**] But such a proposition

must be viewed or evaluated with caution. The rate of investment is

limited by the sum of domestic savings and foreign capital inflows;

if the drop in domestic savings is more than offset by the inflow of

---

[*] The issue is intertemporal equity, i.e., the reluctance of trans-
ferring resources from a poor current generation to better off
future generations.

[**] There is a possibility for semantic confusion. Consumption and
savings out of total resources (GNP plus aid) are expected to be
greater than out of GNP in the absence of aid. Then, if the
augmented consumption is subtracted from that part of total
resources which correspond to GNP, the savings rate as proportion
of GNP would be lower than what it would be in the absence of aid.

foreign resources, the rate of investment and the short run rate of
growth can show an increase. But even the apparent inverse relation-
ship between savings and aid may be reversed in situations where
the inflow of foreign resources opens up new and hitherto unattainable
economic opportunities which the government, or particular classes,
or individuals in the recipient country wish to exploit. Furthermore,
the empirical evidence is not independent of the specification of
the model used for testing, or of the nature of the test. Much
depends on the assumptions about the savings function and whether the
test is based on time series or cross country analysis. If there
is a positive relationship between the flow of aid to particular
countries on the one hand, and their relative poverty and incapacity to
raise domestic resources on the other hand, results obtained from cross
country analysis may exaggerate the negative correlation between aid
and domestic savings and even growth.

Some of the empirical evidence is presented by Papanek.[*] His
summary table on the effect of resource inflows on savings and/or
investment[**] shows the findings (regression coefficients) of several
studies concerning the relationship between foreign capital inflows
and savings or investment. These consist of the results reported by
Griffin and Enos, Rahman, Areskoug and Weisskopf (see above references)

---

[*] Op. cit.

[**] Ibid., Table 1, p. 937. Note, however, that the statistical
    reliability of the data presented is very difficult to assess.
    The difficulty is augmented by the complex issues relating to
    the accounting of income and savings from foreign investment.

and, additionally, those of three separate studies by Chenery et al.[*]

The information from the table is reproduced below.

	No. of Observations	Time Series or Cross Country	Savings or Investment	Effect of Foreign Inflows on S or I
Griffin and Enos	32	C	S	-0.73
Rahman	31	C	S	-0.25
Areskoug	22	T	I	+0.40
Weisskopf	38	T	S	-0.23
Chenery (JPE)	16	T	S	+0.64 to -1.15
Chenery (EDR No. 148)	90	C	S	-0.49
Chenery (EDR No. 148)	90	C	I	+0.11

It is to be noted that Chenery's own results, as shown above, contradict the assumptions of his earlier cited models in which aid can be translated dollar for dollar into savings and investment. In the case of the coefficients ranging from plus .64 to minus 1.15, 12 out of the 16 countries of the sample show a negative relationship.

Of the above tests, Weisskopf's is the only one which is based on an explicitly defined savings function. Hence, his observation of domestic savings reflects an ex ante behavioural function instead of an ex post accounting relationship. Given that the foreign capital inflow contributes to both the supply of savings and foreign exchange, the identifiability of his ex ante savings

---

[*] Chenery and Eckstein, Journal of Political Economy, July/August, 1970; Chenery with Elkington and Sims, Economic Development Reports, No. 148, C.I.A., Harvard.

function requires that domestic savings   provide the binding

constraint. Identification was possible in 17 of 38 countries in his

usable sample (i.e., countries with positive capital inflows)

resulting in the ex ante savings function

$$S = a+0.183Y- 0.227F+0.176E$$

where the value of the intercept varies with each country, and Y, F

and E represent gross domestic product, net foreign capital inflow

(imports less exports) and exports, respectively. Weisskopf assumes

that the export sector has a significant independent impact on the

domestic saving capacity, hence its propensity to contribute to

savings is explicitly specified.

Weisskopf concludes that the "impact of foreign capital inflow

on ex ante domestic savings in underdeveloped countries is significantly

negative. ...The negative impact...applies to ex ante savings but

not necessarily to ex post savings. Only in situations characterized

by a binding savings constraint and a slack trade constraint is the

relationship between foreign capital and ex post savings described

by the ex ante savings function." If foreign exchange provides the

binding constraint, the effect of aid (foreign inflow) on ex post

savings may turn out to be positive because of its contribution to

the rate of investment held down by limited import capacity. But

in Weisskopf's study the savings constraint turns out to be more often

binding than the trade constraint. This would imply that the paucity

of domestic savings, and not the lack of foreign exchange, represent
the primary limitation to the attainment of a satisfactory rate of
economic growth.

Critique of Aid's Contribution to Growth and Development

Actually there is no need to doubt that domestic savings are,
in general, negatively correlated with aid and that the correlation
with investment is positive. The fact that there is no one to one
correspondence between aid and increase in investment, as in the naive
Rosenstein-Rodan and early Chenery models, by itself is no argument
against aid. But the critics of aid also have other preoccupations.

Specifically, Griffin and Enos argue that "aid may have retarded
development by leading to lower domestic savings, by distorting the
composition of investment and thereby raising the capital output
ratio, by frustrating the emergence of an indigeneous entrepreneurial
class, and by inhibiting institutional reforms".[*] Furthermore, there
is the problem of the growing debt burden which is aggravated by the
distorted composition of investment and is generally ignored by the
studies relating to the connection between aid and domestic savings.
Nonetheless, it imposes increasing balance of payments problems
leading to increasing dependence on aid in the form of refinancing or

---

[*] Griffin and Enos, op.cit.

"rolling over" the accumulated debt.

There also are, however, issues which go beyond the narrowly defined growth or development problems of the LDC's themselves. Griffin and Enos are only one of the several authors who cite Chenery's candid statement (see earlier quote) about the U.S. interest in providing international aid.[*] According to them aid is primarily an instrument of power politics. "To the capitalist countries – from whence most aid comes – it is a way of safeguarding relationships with their client states, of maintaining the status quo". Furthermore, along with the distribution or allocation of aid, the termination or cessation of aid is also determined by power politics. Much evidence has accumulated since the publication of their paper that this is indeed the case. India was denied credit and food aid in the aftermath of the Bangladesh war of independence with Pakistan. The story of the denial of credit and refinancing to Chile is well-known. And most revealing has been the open and repeated references by Mr. Kissinger to the control of food supplies as the food weapon.

Be that as it may, reliance on bilateral aid does put the recipient country in a politically disadvantaged position, because it increases its economic vulnerability. But Griffin and Enos also make the point that because aid is an instrument of power politics, its supply or

---

[*] Griffin and Enos, op. cit.

flow may be a function of the prevailing level of hostility among
the major powers. As it diminishes, foreign assistance can also
be expected to decline. We may, in fact, be experiencing such a
decline in aid now. As stated in the 1976 Review of Development
Co-operation of the OECD, "The aid performance of the United States
and Japan and, to a lesser extent, Germany - relative to the strong
position of their economies - have been disappointing....economic
assistance from the United States and Japan is below the proportionate
share of their GNP, and - for all three countries - below the volume
compatible with the goals they seek in a better functioning and more
just world economy". [*]

We shall not discuss further the question of the international
politics of aid. Even without it, the Griffin-Enos indictment presents
a broad range of issues which require discussion.
It should be pointed out, incidentally, that the critical analysis
of aid and the objections to aid as summarized in the Griffin-Enos quote
on page 119 have been presented, in one form or another, by different
students of international aid. Furthermore, many of the objections
have "objective" bases in the sense that students from different
ideological camps subscribe to them. One also has to keep in mind that
much of the discussion of the effects of aid and its critique have

---

[*] Op. cit. p. 16.

little or no empirical foundation, partly because of the paucity of
data, and partly because the development process is too complex to
reduce it to readily testable propositions.

Long Term Effects of Aid on Savings and Growth

The negative correlation between aid and domestic savings is not,
by itself, an argument against giving or accepting aid. As pointed
out above, the rate of growth of income will depend on the sum of the at-
tained or ex post domestic savings and aid. This sum is likely to be as great
or greater than the domestic savings attained in the pre-aid period.
The positive correlation between foreign inflows and investment, as
shown in the above reproduced Papanek table, substantiates the point.
However, a negative effect on the long term growth rate may come about
if the temporal reduction in the domestic savings effort is irreversible,
so that even after the cessation of aid the rate of savings does not
return to its pre-aid level. For example, if the recipient government
relaxes its austerity for reasons of welfare and increases its expen-
ditures on social services not directly related to short run increases
in the rate of productivity, or investment or exports, such social
services may not be terminated upon cessation of aid. But this is no
indictment of aid. It can be forcefully argued that social services,
once instituted, should be maintained with or without the benefit of
aid, because they represent an essential increase in the total con-

sumption of society, particularly of the lowest income groups, with-
out which a humanitarian concept of development cannot be realized.

But social services apart, there are other ways, some of them
less constructive or welfare motivated, in which government consumption
can be permanently or irreversibly increased. The propensity to in-
crease military expenditures is a case in point. Since a significant
part of aid is given in the form of military aid, the potential to
irreversibly raise government expenditures on account of the armed
forces is very high. If military aid ceases to be availalbe, to
maintain the same level of preparedness, the maintenance of the army
with its potentially costly import requirements would have to be
financed from domestically generated resources. The military can,
of course, have its own ways to ensure that the burden of financing
is shifted from foreign to domestic sources. These have to be chan-
nelled away from their civilian uses for consumption and investment
with adverse consequences on growth and welfare. Whatever the case,
the shifting of the burden to domestic sources is an important drain
on government savings, unless the expenditure can be offset by cor-
responding taxation (presumably larger than the expenditure itself).
This in an LDC without adequate institutional and political structure
may be unlikely, at least without the imposition of totalitarian
control.

In general terms, and taken in a dynamic context, aid can promote or retard the growth rate depending on the combination of the marginal propensity to save and the fraction of additional aid diverted to government consumption. Given the latter, "the potentially favourable growth effect of aid varies directly with the term of aid. Aid always tends to raise the growth rate during the period of aid; but there must be enough time for income to grow sufficiently to generate the additional private savings and government savings (through increased revenue) necessary to offset the reduction in total savings due to the discontinuance of aid."[*] This is a conclusion based on a dynamic model with certain limiting assumptions of which the absence of a foreign exchange constraint is the most crucial. But this only serves to call attention to the importance of expanding the export sector or lowering the need to input during the period of aid.[**] If such an effort is not undertaken or successful, the results would have to depend on the government's capacity to restrict imports and government consumption in the post aid period.

Finally, much depends on the question of who does the saving. It it depends on the rate of growth of income of particular social classes, i.e., owners, entrepreneurs or capitalists, and if the additional command over domestic and foreign resources is employed

---

[*] See D.C. Dacey, _Economic Journal_, September 1975.

[**] In many instances the development of the domestic agricultural capacity to satisfy domestic consumption demand would result in significantly lowering the demand for imports. See below section on "Sectoral Distortions: Rural-Urban Imbalance and Aid to Agriculture".

primarily to support their activities, the result may be a long term
increase in savings in excess of the aid funds.[*]   But this leads
to a larger and more difficult problem relating to the connection be-
tween income distribution and economic development, i.e., the con-
tention that in the initial phases of development income distribution
needs to change in favour of the higher income groups so as to in-
crease the savings capacity of those classes who are most capable of
generating and employing savings and investible resources.   I con-
sider this contention to be of dubious validity.

Digression on Technical Change, Demand, Savings and Growth

If neo-classical growth theory (as opposed to Harrod-Domar)
has anything to say to the development planner, it is that the effect
of the savings rate on growth may be more important in the short
than in the long run.   The neo-classical theory refers, of course,
to an economy where labour as well as capital represent binding
constraints; hence, in the absence of technological change it is the
rate of growth of the labour force which determines the/growth rate.
long run
In contrast to a Harrod-Domar approach, the rate of savings determines
the choice of technique, i.e., the relevant capital-labour ratio.   If
there is technological change, it will contribute to the rate of growth

---

[*] See e.g., Houthakker, "On some determinants of savings in developed
     and underdeveloped countries", in E.A.G. Robinson (ed.)
     Problems in Economic Development, London, 1965.

of the economy in whatever form it enters, over and above, or in
addition to the rate of growth of the labour force. As is well-
known, studies of technological change in industrial countries in-
dicate that it may be a more important determinant of the attained
growth rates than the growth of the capital stock, except of course, when
technical change is embodied in new capital so that it can enter
only through the process of new investment. The alternative concept
of technical change is disembodied and it is controversially measured
by the residual. Be that as it may, technical examples of disem-
bodied change are few and insignificant (e.g., time and motion studies)
and the literature ignores that form of disembodied change which may
have the greatest relevance to development, i.e., institutional change
with consequences for productivity growth.   In this connection one
should also point out the shortcoming of national income accounting: the value of
institutional change with positive productivity effects should be
shown as a form of investment on the right hand side of the accounts
by the amount of the discounted value of the stream of additional income gen-
erated by the institutional change. Similarly, there should be a corres-
ponding entry on the factor income side which can be interpreted as
the capital gain corresponding to the discounted productivity growth
due to institutional change. As things are, institutional change
effects on productivity are not registered and are kept outside the accounting
of income flows together with inflationary, tax induced and other productivity
and

non-productivity related changes in the valuation of the capital stock.
This in spite of the fact that the contribution of institutional change
to growth and productivity may very well be greater than that of increasing
the rate of savings and investment in the context of a given institutional
framework not conducive to growth. As was pointed out by Paul Baran:
"economic development has historically always meant a far reaching trans-
formation of society's economic, social and political structure".[*]

The other issue which needs mentioning is the relationship between
savings, investment and demand. It is evident that unless there is
export demand for the services or goods to be produced by means of the
facilities created through new investment, demand has to come from
domestic sources. If there is no expectation of demand, investment is
not warranted. Furthermore, the strength of the demand must be such as
to make it possible to sell the output at prices which are high enough
to cover costs and minimum acceptable profits. But there is something
of a problem here.[**] In the absence of adequate export markets an increase
in domestic savings may lower the rate of demand needed for a profitable
investment programme. This is a problem which development theorists and
planners have not always recognized; because Say's law is an integral
part of both the Harrod-Domar and the neo-classical growth analysis.

---

[*] P. Baran, The Political Economy of Growth, Monthly Review Press,
1957, p. 3.

[**] See Lefeber, World Development, January 1974; and Indian Economic
Review, October 1974.

Yet the question whether in a planned market economy there is
adequate motivation to absorb the output when, in fact, it may be pro-
duced not in response to pre-existing demand but planned intervention,
must be considered. The fact is that in many of the LDC's much invest-
ment has been induced by planning, and at least partly supported by
aid, under conditions which have led to the creation of excess capacity
or the need for subsidies, or both. In many instances this has been
the case, because the attainable market prices have not been high enough
to cover the capacity costs of production. And this has happened not
only in the manufacturing sectors, but also in the production of agri-
cultural staples, inspite of the fact that there has been a demonstrated
need for increased food supplies in most of the low income countries.
The problem is that the market distribution of income generated in a
planned and artificially motivated investment and production process may
not be the one which can also generate the demand for the absorption of
the output. If, for example, there is a planned increase in the pro-
duction of grains for domestic consumption, there also has to be a cor-
responding increase in the incomes of the lowest income groups who want
to increase their grain consumption. But the functional distribution of
income may favour those who have no desire to demand more grain, all the
more so since the techniques chosen for production may not contribute much
to the demand for and employment of unskilled labour and hence, to pur-
chasing power in the lowest income groups.

Aid and the Composition of Investment

It has been argued that aid is often provided for projects which
may not be directly productive or have long gestation periods. To the
extent, however, that there is a felt or demonstrated need for projects
which happen to have such characteristics in the aid receiving country,
this critique may be meaningless. First, there is substitutability (or
in the case of repayable aid loans, fungibility) of funds: aid
financing of a project makes it possible to finance some other additional
or otherwise alternative project from domestic resources. This is evident,
because aid does increase the total amount of resources available for the
economy as a whole. It is true that some of the aid financed projects,
such as social services (health, education and other welfare) may be as
much consumption as investment; but, as discussed above, a strong case
can be made that if resources increase, not only savings and investment,
but also consumption should increase.

Second, some welfare related government investment has or can have
important long-run implications for productivity. Improved workers'
education or health are cases in point, even though it is exceedingly
difficult to quantify the relationship between this type of consumption
and productivity growth. The difficulty of measurement is compounded by the
fact that the productivity effects may, indeed, have a long gestation period.
Nor is the effect necessarily confined to increasing economic productivity
in the narrowest sense of the term. Institutional change is a fundamental

requirement of the development process and government expenditure on
education, health and welfare is basic for motivating the requisite
institutional change.

The question is not whether these expenditures should be undertaken,
the relevant question is what are the appropriate ways to provide the
services so as to fulfill their multipurpose functions. Should education
be based on criteria laid down by, say, British colonial civil service
tradition as in India? Or should it serve the purpose of raising worker's
consciousness as to their rights and obligations, as in China or in the
Latin American church directed effort to educate "lideres de campesinos"
(peasant leaders)? Given that most social services are not financed out
of progressive taxation, but by inflation with uncertain distributional
consequences, and that they do not necessarily serve the needs of the
lower income groups, it is possible and even probable that aid initiated
social services cannot have sufficient progressiveness built into them
to serve the needs of institutional change. But that is a different
problem from the question whether, given a good social service programme,
aid funds should or should not be used for its financing.

A good example of a potentially profitable use of aid funds is the
finance of population programmes for research and control. It is generally
recognized that the rate of population growth will have to decline in the
LDC's in order to accelerate the rate of development. Yet, it is also
true that knowledge of what determines change in attitudes is very

limited and the institutional, technical and organizational capacity to mount

large scale programmes is practically non-existent. The payoff from

whatever programmes exist will come only very slowly. At this time it is

doubtful that any of the programmes can be justified in terms of

straightforward cost-benefit criteria, even if the rate of discount is

assumed to be zero. This is all the more the case, since ultimately

the population control problem is first socio-economic and only secondarily

technical. The argument for investing in the technology of population

control is that it should be available when the socio-economic conditions

warrant its large scale adoption.

Whatever the case, the poorer nations would find it difficult to

undertake the expenditures which are very high in terms of technical and

organizational costs. Aid, particularly grants, are natural means to

support such efforts, particularly since the cumulative international

experience brings an element of externalities to the management of the

individual, national programmes. A similar argument can be made for the

development and dissemination of information on new agricultural and

other technologies relevant to conditions prevailaing in the LDC's.

The recognition that aid funds can be profitably used for financing

programmes which can generate benefits that transcend national boundaries

has been recognized. Aid funds for population programmes have increased

from about 3 million dollars in 1960 to more than 300 million dollars in

1975 (See 1976 Review of Development Cooperation). But agricultural

research, frequently not counted under aid, provides other examples
(see below).

As to the use of aid funds for investments in reproducible physical
capital with long gestation periods, such as large scale dam and hydro-
electric facilities (Aswan, Volta, etc.), it is not possible to make a
categorical case against it either. Given the fungibility of funds, aid
used for alternative projects can liberate domestic resources for
investment with long gestation periods, i.e., if the determination to
undertake the project is there. Dam construction and river control
frequently require, however, imported technology and organizational
capacity. To the extent that it helps to obtain needed technical assis-
tance, it is logical to use foreign funds for such investments. Ultimately
the question is whether or not the social profitability of the investment
is high enough to warrant realization at the time, or later or never.
The answer could be determined only by appropriate social profitability
computations. And this represents a problem, because they are not without
some very difficult ambiguities.

Criteria for Project Selection

The neoclassical social welfare maximizing project selection requires the
ordering of all alternative investment possibilities according to their present
discounted values and implementing them according to descending order. Then
the marginal project, i.e., the last project to be undertaken, is the one
with a zero present value when discounted with the appropriate rate of dis-
count. But a host of technical and conceptual problems arise.[*]

---

[*] See Dasgupta, Marglin and Sen, Guidelines for Project Valuation, UNIDO,
1973, Vienna and Little and Mirrlees, Manual for Industrial Project Analysis
in Developing Countries Volume II, OECD, Paris 1968.

First, is the fact that there is no viable set of projects to order
according to profitability. LDC's are characterized by lack of recog-
nized project opportunities, because the needed economic structures,
the international economic linkages, the organizational and technical
capacities and the public or private entrepreneurship for generating
and recognizing the opportunities do not exist. That is why they are
and have remained LDC's. Frequently, such as with water control projects,
the purpose of the investment is to broaden the scope of future oppor-
tunities for investment and production which, being removed in time,
are even more tentative than projects proposed for current implementation.
Second, the information needed for the PDV computation is based on demand,
price and cost projections which in the case of LDC's may naturally be
less reliable than that obtained in developed market economies and with
investments in well tested and perhaps monopoly controlled markets. Third,
what is profitability? Social returns are not the same as private ones,
and some or many of the social returns are not quantifiable. How do we
account for them? Fourth, what is the relevant rate of discount? In
the text book representation of the purely competitive economy, it is the
market rate of interest. But there is no such thing even in the industrial
countries, let alone in the LDC's where the effective rates may simul-
taneously range from very low official ones to rates significantly over
one hundred per cent. The IBRD has at times suggested 10 per cent as a
reasonable rate to reflect the scarcity of capital in the LDC's. But it
is an arbitrary number and the Bank would be hard put to justify it on

grounds other than that to them it does not seem unreasonable. Fifth, who does the exercise of project valuation? It is a complex and highly technical task which requires economic, statistical and engineering inputs. The requisite skills are scarce even in developed, let alone in underdeveloped countries. But if the skills are there, the exercise can be exploited for justifying specific project proposals, instead of computing the true social profitability, whatever that may be.

Should one dismiss social profitability computations, because of the above-mentioned difficulties? Certainly not. They serve the purpose of bringing into focus the technical, financial, economic and social implications of particular government projects in a systematic way which can provide the background for decisions by political economic decision-makers. But ultimately they are the ones who must exercise their judgment with respect to plan formulation and budgeting.

The role of judgment, assisted but not replaced by technocratic approaches to planning, must not be underestimated. Particularly in the case of large projects, such as water control and dam building frequently assisted by aid financing, the investment itself may be of such size and systemic influence that it will significantly affect the structure of economic activities in one or more sectors. Multi-purpose water projects and dams can alter the transport system, power capacity, supply of cultivable land, the productivity of agriculture and so forth. Under such conditions, the completion of the project leaves the economy in an

altered shape because the constraints on growth and development are
shifted discontinuously. As a consequence, the marginalist principles
of present discounted value maximization in a continuous system, i.e.,
where constraints change only infinitesimally, lose their relevance.
The price structure of a competitive economy corresponds to a system
described by a particular set of constraints; hence, it cannot be used
for the valuation of projects which relate to an altered economy char-
acterized by a different set of constraints. Put in these terms, when
large projects or important changes are involved, the problem of planning
is not the same as the neo-classical economic problem of how to find the
welfare maximizing solution on a feasibility surface determined by a given
set of convex constraints; instead it is the determination of the socially
most beneficial or desirable discontinuous change in the structure of the
constraints or the feasibility itself. The strategy development is the
issue; the tactics of adhering to a given framework is secondary.

The danger is not that large scale projects which have long gestation
periods may be financed out of aid funds. The real danger is that because
of misguided application of principles only semi-relevant or irrelevant
to the purpose at hand, aid givers or financing authorities may force a
project design which is less advantageous in the long run than the stra-
tegically preferable design, or that a project may be caused to be aban-
doned when, in fact, it should not be. Example is provided by the history
of the Aswan complex in Egypt. In spite of its many problems, some of
which are as yet unresolved, the work has been a catalytic and major step
in Egypt's development. Yet it was international power politics and not

economics which induced Western aid givers to support the construction. Another and particularly interesting example is the establishment of Brasilia which could not be and was not supported by any applicable techno-economic criteria. Yet, more than anything else, and apart from politics and ideology, it represents an important step in re-orienting Brasil's development toward the interior of the nation. Whether or not it is worth the undoubtedly high material sacrifice can be answered only in terms of a socio-political image of what Brasil's development should consist of which is totally outside the realm of models for project valuation.

Sectoral Distortions: Rural-urban Imbalance and Aid to Agriculture

The primary development effort in the LDC's has been concentrated in the urban industrial sectors. The form of industrial development obtained in the Western industrial economies and in the Soviet Union has been accepted as the model or paradigm to be followed by the currently underdeveloped countries.[*] The fact that the proportion of labour in non-agricultural occupations is a text book measure of the attained level of development is an indication of this mode of thinking. With few exceptions (i.e., China, Cuba and, perhaps, Tanzania) the governments of LDC's have revealed a strong preference for the support of manufacturing at the expense of agriculture. This has taken place in spite of the fact that the conditions which made the Western and Soviet development pattern possible are patently absent in today's economically or industrially retarded countries. In the Western case, as urban industrialization

---

[*] See Lefeber, op.cit., World Development, January 1974, and op.cit., Indian Economic Review, October 1974, and "Spatial Population Distribution: Urban and Rural Development", CELADE, United Nations, Santiago, August 1978; 1975 Review of Development Cooperation, Section IV. See also M. Lipton, Why People Stay Poor, Harvard University Press, Cambridge, Mass., 1977.

accelerated, the relative share of agriculture in the labour force and in the national product decreased. Migration from rural to urban areas and from agricultural to industrial occupations was motivated by higher urban wages. This migration, combined with the gradual capitalization of the agricultural sector, led to the increase of the productivity of labour in agriculture. Thus, agricultural development and urban industrial growth went pari passu. In the Soviet Union the development of the urban industrial sector and the rapid growth of the urban economy was made initially possible by an already existing agricultural (grain) export capacity. The grain surplus, which after WWI could not be disposed of in the traditional export markets, could be diverted to supply the needs of the rapidly growing urban populations. In either case, in the West and in the Soviet Union, urban industrial development was sustained by an agricultural capacity capable of supporting the rate of urban growth.

Such is not, however, the case in today's developing economies. Apart from efforts to develop the export capacity of the agricultural sectors, the production of those staples which typically form the bulk of urban and rural low income consumption has not been encouraged and, in fact, has been permitted to stagnate. The domestic terms of trade between manufacturing and agricultural staples has been distorted by the provision of protection and of direct and indirect subsidies to the manufacturing sectors. And by assisting primarily urban industrial undertakings, international aid has directly and indirectly contributed to the support of discriminatory policies against agriculture in the LDC's.

It is only recently that the importance of the development of the rural sectors has been recognized and, to a limited degree, acted on by aid givers, and the governments of the LDC's. This has been due partly to the visible evidence of the increasingly unfavourable income distributional consequences of neglecting the rural sectors, and partly to the realization that there may be a growing and perhaps irreversible imbalance between population growth on the one hand, and food production and distribution on the other hand.

In over all terms, the rural population of the relatively more developed regions of the world make up no more than about 35 per cent of the total. In contrast, in the less developed regions approximately 75 per cent live in rural areas. At the same time, important as it is, agriculture makes up less than 30 per cent of the GDP of the LDC's.[*] Given this disproportion in the sectoral distribution of income and, in most LDC's, the existing income inequality due to the relative abundance of labour and other causes, the implication for rural labour productivity and income earning capacity in the lowest income groups is nothing short of disastrous.

The extent of the neglect of the agricultural, and particularly of the food producing sectors is indicated by the table showing the trend of global per capita food production between 1961-65 and 1974. The per capita production in the low income countries (defined as having per capita incomes less than $200) fell during this period, and in all developing economies taken together it barely increased. The important improvements in productivity have taken place in middle income developing countries as well as in the developed countries.

---

[*] See 1975 Review, Development Co-operation, Part IV.

Global foodgrain production *

Countries	1961–65 [1]	1974
	(Amounts in kg. per capita, per annum)	
1. Low-income (per capita income less than $200) [2]	145	136
2. Middle-income (per capita income more than $200)	134	163
3. All developing countries	143	147
4. Developed countries (per capita income above $2,000)	510	590
Ratio of disparity		
Developed/developing countries (4÷3)	3.5	4.0
Developed/low-income countries (4÷1)	3.5	4.3
Middle-income/low-income developing countries (2÷1)	0.9	1.2

Source: U.S. Department of Agriculture.

[1] Annual average. Years are crop years (September 1961–August 1966).
[2] *Low-income countries:* Afghanistan, Bangladesh, Benin, Bhutan, Burma, Burundi, Central African Empire, Chad, Comoro Islands, Ethiopia, Gambia, Guinea, Haiti, India, Indonesia, Kenya, Khmer Republic, Laos, Lesotho, Madagascar, Malawi, Maldives, Mali, Mauritania, Nepal, Niger, Pakistan, Rwanda, Sierra Leone, Sikkim, Somalia, Sri Lanka, Sudan, Tanzania, Togo, Uganda, Upper Volta, Socialist Republic of Viet Nam, Yemen Arab Republic, People's Dem. Rep. of Yemen, and Zaire.

* Table adopted from S.J. Burki and T.J. Goering, Food Problems of the Low Income Countries, <u>Finance and Development</u>, June 1977, Vol. 14, No. 2.

Since most of the middle income countries are located in Latin America, a good part of the productivity growth has taken place there. Yet this growth has not been adequate to recapture Latin America's earlier status as an important net grain exporter. As the following table indicates, the 1976 estimate for grain trade places Latin America squarely in the group of importers which comprise all major regions of the world with the exception of North America, Australia and New Zealand.

World grain trade, 1934–76, selected periods ✳					
(In millions of tons; + export, − Import)					
Region	1934–38	1948–52	1960	1970	1976 (Estimate)
North America	+ 5	+23	+39	+56	+94
Latin America	+ 9	+ 1	—	+ 4	− 3
Western Europe	− 24	−22	−25	−30	−17
Eastern Europe and USSR	+ 5	—	—	—	−27
Africa	+ 1	—	− 2	− 5	−10
Asia	+ 2	− 6	−17	−37	−47
Australia, New Zealand	− 3	+ 3	+ 6	+12	+ 8

Source: World Watch Institute (Washington, D.C.).

* Adapted from Burki and Goering, op.cit.

The low rate of growth in agricultural productivity combined with high population growth rates has caused a state of constant food insecurity in the developing economies. The trend over the last two decades has been the growth of food deficits and, correspondingly, increasing grain imports. By 1974 the world stocks had been depleted as a matter of deliberate policy choice primarily by the U.S. government, and grain prices rose to unprecedented levels. Given the sharply increased prices for oil and oil based fertilizers, the domestic incapacity of the LDC's to supply their own populations with basic staples has resulted in an exceedingly difficult trade and balance of payments position.[*] And even though the world supply position has eased somewhat over the last two years because of the bumper wheat crops in North America and the absence of major crop failures in the major consuming areas, neither the short run, nor the long run problems have a definitive

---

* See 1975, Development Cooperation, op.cit. and C.H. Farnsworth, "Trying to Set Up a World Food Reserve" The New York Times, May 22, 1977.

solution in sight. The long range forecasts of the FAO, US Dept. of
Agriculture and other agencies indicate that the developing cereal
deficit in the LDC's would have unmanageable consequences for costs
and balance of payments if they were to be covered from imports. As
most pessimistic, the FAO forecasted a deficit of 85 million metric
tons for 1985 which, if covered from imports, would require an
impossible expenditure of about $17 billions in terms of 1973-74
cereal prices.[*] Burki and Goering of the World Bank forecast a deficit
in the range of 45 to 70 million tons which is somewhat more modest
but still has sizable balance of payments consequences.[**]

What then is the problem? As pointed out earlier, the misunder-
standing of the historical experience of the industrial countries has
biased the development effort in the direction of urban industrial-
ization. The effort has been given added impetus by the Prebisch
"doctrine" which states that producers of primary products must, in
the long run, lose out to exporters of manufacturing goods. Because
the demand for raw materials and agricultural staples is income in-
elastic, the international terms of trade between industrial and
primary products would have to change in favour of the former.
Whether or not the contention has a valid empirical basis, the Prebisch
argument has been interpreted by economic planners in most Latin

---

[*] 1975 Development Cooperation, op.cit.

[**] See Burki and Goering, op.cit.

American and some Asian countries as a call for import substituting
industrialization.[*]

In the process, the development of agriculture has been given a
secondary role. Worse yet, the burden of subsidizing urban industrialization
has been shifted primarily to the rural sectors. Urban population
growth - about twice to three times higher than the rural rate - has
been maintained at its high levels by the flow of cheap labour from
impoverished rural sectors as well as differential mortality rates due
to better social services in the urban areas. Furthermore, the prices
of wage goods, mostly agricultural products, have been kept low, so as
to maintain wages at correspondingly low levels. To this end, the domestic
terms of trade between agriculture and manufacturing have been distorted
by protecting the industrial but not the agricultural sectors, and by
importing food grains purchased in the international markets or obtained
as food aid from the United States and, to a lesser degree, from other
grain exporting nations. The profitability and investment in staple
production has been diminished.

The impact of these policies on profitability has not, however,
been uniform.[**] Larger farmers both in Asia, Africa and in Latin America
have been able to take advantge of modern methods of cultivation and

---

[*] See e.g., June Flanders, "Prebisch on Protectionism", Economic Journal,
June 1964.

[**] See e.g., R.A. Berry, "Special Problems of Policy Making in a Tech-
nologically Heterogeneous Agriculture: Columbia", in L.G. Reynolds (ed.),
Agriculture in Development Theory, New Haven, Yale University Press, 1975.

mechanization at the expense of labour intensive methods and employment.
Implicit and explicit subsidies to capital in the form of preferential
loan rates, foreign exchange rates favouring the import of capital and
manufactured inputs have favoured the larger operators. In other words,
it is not some intrinsic technological or financial scale economy, but
often the structure of subsidies which make large farmers prosperous
while small farmers are not. As things are, small farmers are easily
pushed out from cultivation and self-employment into underemployed wage
labour. Only if the price structure would not be distorted, i.e., the
domestic terms of trade would not favour manufacturing relative to
agriculture, and the import and credit privileges did not accrue selec-
tively to larger property owners, could the smaller farmers benefit.

Large farm operators and land owners are, of course, aware of their
advantage. This explains, at least partially, why they lend support to
governments which pursue discriminatory policies working against the
agricultural sectors. And this also underlines the fact that the politics
of rationalizing the farm sector are very difficult. Urban employers
and urban labour both have an interest in maintaining the distortion of
the domestic terms of trade between the rural and urban sectors so as to
favour the latter. At the same time, large farmers understand that their
dominant position in agriculture depends on the maintainence of capital
and import subsidies. For large farming interests the distortion of the
terms of trade may be a relatively small price to pay for the enjoyment

of the subsidies. Thus, large farm interests de facto coincide with the interests of the urban propertied and working classes.

Unfortunately, there is no way to rationalize the agricultural sector without, at the same time, inflicting some of the costs on urban and landed interests. On the one hand, the subsidies extracted from the rural sectors to maintain the urban industrial establishment would have to be terminated. This would cause some bankruptcies and additional urban unemployment. On the other hand, the revitalization of the rural sectors in itself might require some subsidies the source of which necessarily would have to be the urban economy.

The congruence of urban capitalist and working class interests re-inforced by landed interests makes the rural problem a difficult nut to crack. Western aid donors, who are quite aware of the need to encourage agricultural growth, may also find themselves facing a dilemma. Even though they may have an interest in assisting the rationalization of agri-culture in the LDC's, there is the possibility that a reorientation of the effort and an upset in the urban economies might weaken the capacity to repay the large outstanding debt of the LDC's. Furthermore, the interests which would have to be at least partially sacrificed are those of urban capitalists and middle classes, i.e., ideological allies.

But are the donors really interested in a genuine rural transormation? It is a difficult question to answer. The multi-national corporations - e.g., suppliers of petrochemicals and machinery, - do have a stake in maintaining capital intensive farming in the LDC's. Furthermore, the grain

exporting countries have an interest in maintaining at least a relative
tightness in the international grain markets. Both commercial - and as
we know it from Mr. Kissinger's concept of the food weapon - strategic
interests are involved. Dependence on food from the Western industrial
nations provides at least partial guarantee that strategic raw materials
will not be again withheld or sold at prices which are unacceptable to
them.

But there are also other reasons. Donors, in general, have a pref-
erence for bankable projects. While some agricultural investments or por-
jects are of that type, some others which are important may not be. The
financing of infrastructure, social services, land reform projects, etc.,
may have calculable social benefits or profits, but these are not commercial
profits and hence, not bankable by definition. Yet, because there is a)
growing awareness of the dimensions of the agriculture related problems,
and b) recognition that neither a proper rural-urban balance nor a socially
acceptable income distribution can be obtained without a rural trans-
formation, the donor countries are gradually increasing aid for agricultural
development. As indicated by the following table, there has been a
noticeable growth in assistance to agriculture related activities between
1973 and 1975. Even though the definition includes agro-industries and
other related manufacturing, the growth of total sectoral assistance from a
commitment of about 2.4 billions in 1973 to about 5.4 billions in 1975
(in current dollars) is indicative of a growing recognition of the importance

of raising agricultural productivity.

	1973		1974		1975	
Assistance to agricultural sector, 1973–75 [1]						
	Official commitments					
	Millions of dollars	Per cent	Millions of dollars	Per cent	Millions of dollars	Per cent
DAC bilateral	881	37.1	1,767	43.2	1,224	22.7
Of which: official develop-						
ment assistance	809	34.1	1,648	40.3	1,124	20.9
: other official						
flows	72	3.0	119	2.9	(100)[2]	1.9
Multilateral agencies	1,243	52.4	1,917	46.8	3,025	56.1
Of which: concessional	826	34.8	956	23.4	n.a.	n.a.
: nonconcessional	417	17.6	961	23.4	n.a.	n.a.
OPEC bilateral [3]	44	1.9	225[4]	5.5	911[4]	16.9
Centrally planned	185	7.8	159	3.9	200	3.7
Others [5]	20	0.8	25	0.6	30	0.5
Total	2,373	100.0	4,093	100.0	5,390	100.0

Source: DAC 1976 Review, pp. 134–39.

DAC "Aid Activities of Non-DAC Countries," (DD–519), Oct. 1976, pp 5 and 11.
FAO "State of Food and Agriculture," Document for the Seventieth Session of the FAO Council, November 29-December 10, 1976, p. 29.

[1] This assistance is broadly defined. In addition to agricultural assistance, narrowly defined, the broad definition includes agro-industries, manufacturing of modern means of production, rural infrastructure, and composite rural development projects.
[2] Provisional estimate.
[3] Concessional and nonconcessional.
[4] Estimated from DAC sources.
[5] Technical cooperation among LDCs not elsewhere included, based on very rough estimates.
n.a. denotes not applicable.

*   Adopted from Burki and Goering, op.cit.

Bilateral commitments by DAC countries significantly increased between 1973 and 1974, and declined in 1975 to a level which, in real terms, does not represent a dramatic change over 1973. In contrast, the bilateral commitments of the OPEC countries grew explosively over the period. The largest change is due to growth of committed assistance by multilateral agencies of which the IBRD provided the dominant share.

The overwhelming part of the bilateral commitments have been for financing machinery, equipment and fertilizer supplies. Technical cooperation made up 31% and 21% of the total DAC commitments in 1973 and 1974 respectively.[*]

---

*   See DAC 1976 Review, p. 138.

At this time, the IBRD is the only multilateral agency which provides support on any significant scale for integrated agricultural development programmes. As far as bilateral aid is concerned, a part of technical assistance undoubtedly serves such purposes, even though it would be difficult to ascertain the relevant proportion. The breakdown of total committed assistance by main subsectors (excluding fertilizer supplies) for 1973 and 1974 is given below.

BREAKDOWN OF BILATERAL AND MULTILATERAL CAPITAL
ASSISTANCE BY MAIN SUBSECTORS, 1973, 1974 (COMMITMENTS) ✸
EXCLUDING FERTILIZER SUPPLY

	1973		1974	
	$ million	%	$ million	%
Land and water development	297	19	914	34
Construction of fertilizer plants	71	5	352	13
Agro-industries	137	9	304	11
Integrated rural development	99	6	178	7
Crops; animal husbandry; fisheries	268	17	314	12
Agricultural services; development banks; storage	313	20	215	8
Other	363	23	420	16
Total	1,548	100	2,697	100

* From DAC 1976 Review, p. 142.

Problems of Aid to Agriculture

A good part of the aid effort - particularly technical assistance, fertilizer supplies and construction of plants and facilities for water control - is oriented toward the introduction and promotion of new methods of cultivation. The technical capacity, or potential of the new technology to raise output both per unit of land and per unit of labour has been demonstrably large. But these techniques have been developed in capital

---

* See DAC 1976 Review, p. 138.

abundant countries (mostly in North America or by American experts) and their economic adaptability to the needs of capital and land scarce economies has met with only variable success. The systemic, or socio-economic contribution of the new technology to agricultural development – which includes motivation for investment, capacity for new employment generation, growth of domestic markets as well as potential for pro-ductivity growth – is still in question.

As is well known, the new technology has been developed and succes-sfully employed primarily in grain and cotton production; hence, its potential is particularly important for agricultural development in the LDC's. Yet, in spite of some very important results in wheat and rice production, the hopes that the new technology can provide the solution of the food problem have been dampened for several reasons. First, in its current state, the new technology heavily relies on manufactured inputs, in particular petrochemical fertilizers and pesticides which in non-petroleum producing countries place a burden on the balance of payments. Second, because of its reliance on chemical fertilizers, it requires better water control and greater irrigation capacity than other, traditional or upgraded traditional techniques. Hence, because of fixed and circul-ating capital requirements, the new technology is intrisically more capital intensive relative to land, and perhaps to labour, than traditional agriculture. Third, in actual experience, its capacity to generate additional employment has not always been encouraging, even when there has been a spectacular increase in productivity per unit of land. Fourth,

where the employment effects in agriculture have been low and industry's

or the urban sector's capacity to absorb migrant surplus labour has been

limited, the income growth of the lower income groups (i.e., in the income

classes most likely to increase the demand for food in response to
always
regular employment and income earning opportunities) has not/been suffic-

ient to generate the demand for buying up the output at prices which are

high enough to motivate grain production without subsidies.

This last point has been particularly important. There have been

instances where huge marketable surpluses were produced with the help of

subsidies which could not be distributed through market channels, not

because there has been no need for better nutrition or desire to consume

more food, but because of inadequate market demand. Such was the case in

India in 1970-71 and it is also the case now. Nor could the surpluses

be disposed of in the international markets. The type of wheat produced

in India by the new technology - Mexican dwarf red - has limited domestic

and international markets. Furthermore, the means for export, quality

control, standardization and transport are not readily available. It is

only recently that the Indian Government persuaded the Soviet Union to

accept the return of a 2.5 million ton wheat loan - a small part of the

surplus - in kind. The bulk of the surplus is being stored under primitive

conditions - storage is highly capital intensive - and in the process much

of the grain is being lost due to moisture and rodents. A similar problem

arose in Indonesia where there was a surplus of rice in 1974-75 which the

government decided to withhold from the international market because of the fear that by marketing the surplus they would cause a precipitous price drop in the markets open to them. One must remember that the grain markets in the industrial countries are, in general, protected and that the import capacity of the food deficit areas - the LDC's - is limited. The stable markets are the domestic ones, but in order to develop them, the domestic purchasing power of interested consumers - the lowest income groups - must be expanded as the domestic food production expands. This, in turn, requires an economic organization or mode of production which increases the demand for and earning capacity of labour in wage or self-employment which is the only effective means for income redistribution in favour of the rural and urban marginal worker.[*]

For purposes of planning and aid, an important difference between agriculture and industry is that the former is spatially dispersed while the latter is more concentrated in urban areas. As a consequence, the organization of the agricultural sector must necessarily be decentralized, and the control of planning and implementation, the machinery of providing technical and other services to agriculture must also be geared to areal dispersion. This presents a difficult problem, particularly when trans-portation and communication are underdeveloped and - as sometimes happens to be the case - monopolized.

It is partly because of this difference between the two sectors, industry and agriculture, that aid for the development of the latter presents such a difficult problem. The effective use of aid to agriculture cannot

---

[*] See Lefeber "On the Paradigm for Economic Development" and "Critique of Planning in Private Enterprise Economies", op.cit.

be separated from a wide range of planned developmental activities invol-
ving a host of other sectors, such as transportation, communication,
ancillary technical and financial services, etc.   Decentralization of
planning, control and resource use is unavoidable. In contrast, technical
assistance to and supervision of activities performed in urban areas can
be supplied simultaneously to a large number of different enterprises,
i.e., there are scale economies to centralized control and associated
resource use.

   This may bias aid givers in favour of assisting industry. It also
raises some difficult questions about aid to agriculture which aid givers
by themselves cannot resolve. Given that the material and organizational
resources of the LDC's are by definition in short supply, should the effort
to build up agriculture be concentrated in specific areas or regionally
dispersed as widely as possible? There cannot be a unique answer, since
the problem is social, political as well as economic, and its solution
depends on the nature of the social and political control the government
of the developing nation is willing and able to exercise. For example,
both India and Pakistan opted after independence for a widely dispersed
approach to bring about rural or village prosperity by means of a Community
Development Programme. This required the diffusion and thinning out of
resources over all districts and communities. The Programmes failed in
both countries, not only because of lack of adequate resources, but also
because of the effective lack of political and administrative control.
By the end of the fifties it was finally recognized that food production

was inadequate to keep up with population growth, and both countries
changed their respective strategies in the direction of resource concen-
tration in particular designated areas.[*]   In so doing they have been en-
couraged and supported by private foundations (Ford in particular played
an instrumental role) and USAID.

The Indian strategy consisted of the introduction of the Intensive
Agricultural District Programme (IADP) with the purpose of concentrating
the resources available for agricultural development in particularly
promising districts (originally one in each State of the Indian Union).
The expectation was   that if in the Programme Districts productivity
could be increased by means of a new technology, it would be readily
transplanted - or spread, as it were, by osmosis - to neighbouring districts
and the the entire Indian subcontinent. Apart from the spectacular
growth in wheat production in the Ludhiana District of the Indian Punjab,
and in rice production in the West-Godavari District of Andhra and Tanjore
District in Tamilnadu, the programme has been a failure. Though locally
good results have also been obtained in certain other, limited areas,
the growth of output in neighbouring districts frequently outstripped
the indifferent growth in most of the Programme Districts. Furthermore,
of the above-mentioned three star performers of the Programme, only the
success in Andhra can be unambiguously credited to the Programme itself.
In the Punjab the destruction of the old, traditional tenurial system and

---

[*] See L. Lefeber and M. Datta Chadhuri, Regional Planning in South and
     Southeast Asia, The Hague, Mouton, 1976.

social structure - a precondition of rural development - was accomplished
by the population exchange in the wake of Partition, while the new Sikh
settlers brought with them not only a will to succeed, but also advanced
agricultural and craft skills. (Incidentally, even the West Godavari,
having been at least partly settled by new migrants, could start its
development without the drag of traditional tenurial controls.) The success
in Tanjore district, as will be discussed in connection with food aid and
the importance of incentives to farmers, was due to the motivation provided
by the very high rice prices attained during the failures of the monsoon
in the second half of the sixties: Tanjore had water when most of the
subcontinent did not. The initial phenomenal increases in output
were achieved primarily by traditional methods of farming and intensive
use of labour instead of "green revolution" technology .

Whatever the technical successes and failures of the IADP, productivity
improvements in the Programme districts - except initially in Tanjore -
have not been matched by a corresponding growth in the incomes of lower
income groups, tenants, share croppers and landless labour. The absolute
income position of small holders was adversely affected even in the
Punjab. But the experience in the other more successful programme areas
has not been different either.[*] Farmers of holdings below a certain size
have had difficulty obtaining capital and technical services. And whereas
the currently prevailing land reform laws have enough loopholes to permit

---

[*] See Francine Frankel, "Agriculture, Modernization and Social Change",
    Mainstream, New Delhi, November 1969, and L. Lefeber and M. Datta
    Chadhuri, Regional Planning in South and Southeast Asia, The Hague,
    Mouton, 1971.

land consolidation, the threat of tightening of the loopholes has motivated

the legal and illegal termination of tenancy and sharecropping agreements.

The displaced tenants and share croppers have then joined the ranks of

landless labour which have been in growing excess supply. According to census

information the median income has fallen during the decade 1961-1971.[*]

              The new technology introduced with the

help of foreign aid has been more accessible to larger than to smaller

farmers. This is partly due to the philosophy of the IADP approach which

is not unlike the economist's marginalist principle of optimization. The

basic approach is to select districts and areas which are most likely to

show results for Programme implementation. It naturally follows that those

farmers are favoured with technical and credit assistance who are most

likely to succeed. In general these turn out to be farmers with larger

holdings. They have political influence which they can make use of for

the purpose of securing privileged status in the distribution of programme

services. Their capacity to bear risk is greater and they are considered

better credit risks by institutional lenders. Furthermore, civil service

administrators inherently prefer to deal with a fewer number of larger

farmers than with many small holders. Partly the administrative effort and

costs are smaller. But administrators too are risk conscious and risk

averters. They are concerned with showing results or - at least - with

avoiding failures. Incidentally, it is reasonable to suppose that planners

---

[*] See Dandekar and Rath, "Poverty in India", Parts I and II, _Economic and
   Political Weekly_, Nos. 2 and 9, January 1971.

and administrators of aid programmes in or from donor countries have similar
propensities with consequent implications for project selection. Certainly
in the case of the IADP, the advisors supplied by the Ford Foundation
and USAID contributed to the development of, and subscribed to, the phil-
osophy of the approach.

An alternative approach with more favourable income distributional
implications was adopted in what used to be East Pakistan before Bangladesh
gained its independence. In Comilla, East Pakistan, an Academy for Rural
Development was established for research and for training farmers and rural
administrators. The problem in East Pakistan had been the fragmentation
of land holdings settled in a disorganized, helter-skelter manner after
partition and population exchange. The Academy was instrumental in making
the small farmers aware of the possibility of improving their productivity
through cooperation and increasingly conscious of their rights and privil-
eges with respect to what they should obtain from government and admin-
istration.[*] From its inception the Comilla Academy focussed on teaching
government officials to become sensitive to the particular needs of rural
populations. In contrast to the IADP, there was a concentrated effort to
bring up the productivity of entire communities through community action
and through the involvement of the average instead of the most capable
farmer. Hence the difference in income distributional implications. The
effort initiated by the Comilla Academy had as its purpose the social and
economic transformation of the entire village, thana (police riding) and

---

[*] See Lefeber and Datta Chadhuri, op. cit.

district economy. What the ultimate outcome would have been cannot be
known, because the effort was disrupted by the Bangladesh war of indepen-
dence. But the Comilla experience pointed in the right direction:
rural transformation requires an overall effort which a) encompasses the
entire community and changes the attitudes of all classes of villagers,
teachers (including priests and preachers) and government administrators,
and b) mobilizes the community's total resources for the benefit of
the entire community.

In contrast to the IADP approach, Comilla had been attempting a
social transformation in which not only cooperative, but communal action
was encouraged. Though not socialist in its rhetoric, it was that in
its implications. Yet it was undertaken under a military government not
sympathetic to social reform in a country which in its Western Province
adhered to feudal land tenure, and which has belonged to a Western
military defense alliance. It was, perhaps, for this reason that the
effort to restructure attitudes across broad social classes - a fundamental
requirement for development - remained unquestioned and, in fact, supported
by Western aid givers.

As far as technology is concerned, the development of new seed var-
ieties which are adapted to local climatic and soil conditions, and are
resistant to local diseases, can contribute to the lowering of the capital
and manufactured input requirements of modernized agriculture. Here aid
in the form of research can be very useful. But the research must be
undertaken in cooperation with, or in the countries to be aided, because

the specific conditions to which improved plan varieties are to be adapted cannot be readily reproduced elsewhere. Incidentally, in addition to technological research, economic and social research must also be undertaken. New grain varieties must not only be more productive, but must also meet the specific needs of farmers and consumers which vary from area to area.

But none of this can resolve the problem of the lack of purchasing power for the domestic absorption of an augmented grain output in countries where significant rural unemployment and underemployment prevails. While increased agricultural productivity naturally contributes to the demand for labour, and hence to wage incomes, there are powerful factors at work which weaken or even cancel the potential growth in rural employment. There is even in surplus labour economies an observed tendency to increase the use of capital beyond what would be required by the capital requirements of the new agricultural technology. Government policies and certain social-economic conditions are responsible for more capital intensive techniques of production than warranted by basic factor endowments. As discussed earlier, the structure of subsidies is generally such that it favours the use of capital relative to labour. To correct this problem the structure of prices and subsidies would have to be readjusted to eliminate the distortions which favour the use of capital relative to labour. But for reasons already discussed, this would imply a veritable social revolution by going against the interests of urban labour and capital.

Incidentally, the structure of subsidies is only one of the causes of increased capital intensities. Inadequate opportunities by farmers to increase their purchases of basic consumer goods - such as bicycles or

sewing machines - or inflation proof opportunities for saving, may also
contribute to the increased capitalization of profitable farm operations.
So can the fear of confrontation with landless labour by land owners who
may hope to defend their legal right to their holdings by minimizing the
employment of potential claimants to land, while at the same time con-
tribute to unemployment and to the very conditions which lead to social
unrest and class conflict.

Whatever the case, inadequate growth of labour demand and the evident
incapacity to absorb rural labour into economically profitable wage or
self-employment is one of the primary causes of the failure to improve
the income distribution in the LDC's. Because of growing rural unemployment,
in some countries, notably in India, the income distribution has deter-
iorated not only in relative but even in absolute terms.[*] This, in turn,
implies   an inadequate growth of income in the lowest and most needy
income groups and in a corresponding incapacity to generate that domestic
market demand for staples which would be needed to motivate and to absorb
rapid food output increases without subsidies. Nonetheless, given the
population trends and the projections concerning the developing food
deficit in the LDC's, the long term solution to ensure an adequate food
supply must consist of the building up of the domestic food production
capacities in the LDC's themselves. This conclusion is reinforced by the
fact that in the industrialized countries - including the Soviet Union -

---

[*] See Dandekar and Rath, op.cit.

the rate of growth of demand for food grains is determined not only by
population growth, but by the increasing substitution of grains consumed in
the form of meat instead of processed cereal products. Hence, the over-
all food deficit is expected to increase also on this account.

It must also be remembered that in most LDC's it is the state of the
advancement of the agricultural sector and not the growth of the urban
industrial sector which determines the rate of growth of employment and
the state of income distribution and poverty. Even though the growth of
manufacturing has recently tended to accelerate in the LDC's, "most of
the growth of this sector has been achieved through higher labour produc-
tivity rather than through increased employment".[*] Hence, the burden of
absorbing the growing potential labour force has remained first and fore-
most the problem of the rural sector.

Evidently, constructive approaches to aiding the development of the
agricultural sectors - and rural development in general - provides, perhaps,
the best opportunity to aid givers. More attention will have to be given
to aiding the traditional farmers and to the improvement of labour inten-
sive methods of production. The evidence indicates that the primary
technical requirement for agricultural development is adequate water control.
Fertilizers and improved seeds are important; but much can be attained with
traditional methods of farming when adequate irrigation is available. The
implication is that regional and local irrigation and drainage works -

---

[*] The Second United Nation Development Decade, United Nations TD/B/429/Rev.1/Add.1
      New York, 1974, p. 83.

which can also be executed with highly labour intensive techniques - must
have priority in project selection. Even if in the long run the tra-
ditional methods are to be replaced by techniques which rely heavily on
manufactured inputs, the role of water control remains central. Further-
more, improved water control lowers the uncertainty facing the farmer which,
in turn, provides him with rational inducement to increase investment in
fixed and circulating farm capital. This can be quite high for modern
farm technology developed in industrialized nations - particularly in the
United States - where capital is relatively abundant and where the
capacity to bear risk is geared to higher income levels than prevails
among small farmers in the LDC's.

Incentives and the Uneasy Case for Food Aid

It is to be reiterated that the policies of the industrialized countries
with respect to aid cannot be held responsible for the retardation of
the rural sectors in the LDC's. Even though advice and aid have contri-
buted to tilting in favour of urban industrial growth, ultimately it is
the political power of the urban interest groups supported by land owners
which prevents a reorientation of the domestic effort toward rural trans-
formation. But the question remains whether the provision of food aid has
contributed to the retardation of agriculture in the LDC's, and if so,
whether these adverse effects have been offset or counterbalanced by
possible beneficial effects elsewhere in the recipient economies.

Food aid was an important part of the total aid package during the

sixties and it may again become an important part of the aid effort as

grain stocks once again may accumulate and surplus stocks   build up
                                                        plans for a
in response to the Carter Administration's/grain reserve programme.

Along with its beneficial effects, food aid can make the neglect of

agricultural or rural development so much easier, because it helps to

relieve shortages and lowers the urgency of domestic agricultural develop-

ment, whether or not the shortages are caused by inadequate domestic farm

policies or by the vagaries of nature.

The primary argument against food aid is that -other things being

equal - it depresses the market price of staples in the recipient

economies; hence, it serves as a disincentive to farmers   to

increase the domestic production of food. Since the demand for staples

tends to be price and income inelastic, the disincentive effect may

be disproportionate to the amount of food aid received. The argument

rests on the premise that the income distribution determining the

demand for food is unchanging and that the government in the recipient

country disposes of the food given in aid in the open market, i.e.,

as if it consisted of an ordinary expansion of the supply without change

in the conditions determining the levels of demand. Under such cir-

cumstances there can be no doubt that the incentive effects will be

negative.

But how important is the disincentive effect? It clearly depends

on the supply elasticity of staple production. This, in turn, varies

with the factor endowment, technology and social-structural organ-

ization of the rural sector. It is generally held, however, that farmers'
price responsiveness is high and that the long run supply elasticity is
correspondingly high. It is to be assumed that the shorter the time
horizon, the lower the supply elasticity both for technical and institut-
ional reasons.

Whatever the case, there is evidence that, given favourable circum-
stances, even traditional farmers can and will rapidly increase output.
An excellent example is the above referred to case of rice production in
Tanjore District (Tamilnadu, India) where traditional farmers with tra-
ditional methods managed a ten-fold increase in production during the
sub-continental failure of the monsoon in the second half of the sixties,
because prices reached an unprecedented level and they were lucky enough
to have water when others did not. The case is notable, because it in-
dicates that motivation and adequate water supply may be the two most
important inputs into raising agricultural productivity.[*]

But things need not be as dramatic as in the case of Tanjore. Floor
prices set at incentive levels, particularly when combined with technical
aid and favourable credit conditions, may be sufficient. This had been
demonstrated first by the case of the United States, where parity pricing,
special credit conditions and provision of technological information gen-
erated outside the farm sector, but made available to farmers free of charge,
brought on an almost explosive increase in farm productivity.

---

[*] See L. Lefeber and M. Datta Chaudhuri, Regional Planning in South and
Southeast Asia, The Hague, Mouton, 1971, Chapter 5.

There have been good responses to incentive prices by wheat producers in the Indian Punjab, Haryana and Western Uttar Pradesh, in Greece and other countries as well. Furthermore, the more retarded the state of agriculture, the more important it is to guarantee a minimum incentive price. This is so, because the introduction of multiple cropping and more efficient land use - a must when cultivable land represents a binding constraint - requires more capital investment and more manufactured inputs (fertilizers, pesticides and machinery) as well as improved seed varieties, than even the most advanced forms of traditional farming. Even though the technology is or can be made available, staple producers cannot be expected to make use of it unless there is reasonable certainty that enough can be produced and sold at adequate prices to justify the commitment of fixed and circulating capital. Furthermore, the elimination of price fluctuations through incentive pricing has the same effect on risk bearing as the elimination of the vagaries of nature.

There is, of course, no reason to suppose that the provision or acceptance of food aid is inconsistent with the maintenance of guaranteed incentive prices. All that is required is that food in aid should not be disposed of in the open markets when the market price is at or below the incentive price. Under such conditions it would have to be stored as reserve against crop failure, or disposed of through extra market channels, i.e., given to those in the lowest income groups who would not be buyers because of lack of income or purchasing power. Given such policies for the use of food aid, there is no reason to worry about adverse price

effects and disincentives to farmers. The result would be price stabil-
ization around some suitable price level which would make it easier for
farmers to plan their investment and effort. Furthermore, under such cir-
cumstances food aid would fulfill a most beneficial dual role. First, it
would complement any projected or planned growth in agriculture and industry
for which a steady trend growth in the supply of food is required. Second,
it would contribute to the highly desirable welfare goal of increasing
the food intake of those underpriviledged social classes whose incomes
are insufficient to maintain an adequate diet.

The problem is, however, that storing is costly and the extra-market
distribution of food is difficult. As far as storage is concerned, it is
highly capital intensive and its financial requirements at a scale adequate
to hedge against significant crop failures may be prohibitive. Storage
without adequate facilities is equally costly, since a significant part of
the grain reserves can get spoiled or lost to vermin. The recent Indian
experience with their home grown surpluses is that 30 to 50 per cent of
the publicly stored grain has been destroyed by mold and rodent infes-
tations of the storage areas.[*] Under such circumstances, LDC's wishing to
make use of food in aid as hedge against crop failures would do better if
they could also obtain storage in the food aid giving countries.

The objection against storage abroad is that nations who control the
food supplies can use their power to withhold them according to their
political interests. Recent history, as illustrated by Mr. Kissinger's

---

[*] According to recent reports the Indian government is negotiating with
the World Bank   a loan for the purpose of establishing adequate
storage facilities.

concept of food as weapon, gives substance to such fears. The objection
could be diminished, and the fears mitigated if food aid combined with
storage could be brought under international control, so that it could not
serve the political purposes of any one aid giving nation. If the Carter
Administration will be agreeable to a somewhat more controlled inter-
national grain market organization than the Nixon or Ford Administrations,
the prospects for the internalization of food aid could also improve.
However, in addition to the United States, other members of the International
Wheat Agreement (which also includes the Soviet Union) would also have to
be willing to share the burden of an international grain reserve. If they
will not subscribe to the cost of maintaining such reserves, the control of
food aid cannot be internationalized.

If food aid is given or accepted for the purpose of increasing the
basic nutritional level of the undernourished and underpriviledged segment
of the population, the problem of distribution outside market channels
must be solved. Non-market distribution is a difficult institutional
and technical problem the complexity of which increases with the
regional dispersion of the population to be reached. It is not only
an administrative or bureaucratic problem; food aid is delivered to
sea ports whence inland transportation and distribution to reach the
needy is frequently difficult to obtain. Furthermore, the opportunities

and temptation for graft are increased by the generally low esteem in
which the poorest population groups are held by the middle classes to
which administrators also belong. If then, instead of non-market dis-
tribution, the food aid is disposed of through the market to regular
buyers, it neither fulfills its welfare oriented function, nor is it
kept separate from the supply which - along with market demand -
determines the market price.

Much of the opposition to food aid centres around the problem of
the potential disincentive effects. But the supporters of food aid
argue that its significance may be overestimated, and point to the
potentially beneficial effects.[*] Apart from its uses for price stabil-
ization, famine relief and the nutrition of the lowest income groups, its
potential for the expansion of employment is being emphasized. Specifically,
it is argued that food aid can make "food-for-work" programmes feasible
(as in East Pakistan, before independence), and more generally, that it can
contribute to the expansion of output in all sectors when employment is
constrained by the supply of the wage good.

Taken by themselves, these are valid points. But one must consider
their relevance in the context of the total development experience. Food-
for-work programmes executed with the help of food aid can be justified
if they form an integral part of a general over all effort to build up the
agricultural sector, so that - in due time - the food equivalent can be

---

[*] For a summary of the arguments see P.J. Isenman and H.W. Singer, "Food Aid:
Disincentive Effects and their Policy Implications", Economic Development
and Cultural Change, July, 1976.

provided from domestic, instead of from foreign sources. Accordingly food in aid can be best used for supporting labour employed in water control and other rural infrastructure work until such time as domestic production can replace food imports. Otherwise such programmes qualify for little more than handouts with an added puritanical element. Make-work projects may be effective in reestablishing prosperity under conditions of Keynesian unemployment, but not if the unemployment is of a structural or technological type.

As to the more general argument, i.e., that food aid can make the expansion of output feasible in all sectors when the effective rate of employment is constrained by the supply of certain wage goods, it is trivially true. If output can be increased by increasing the rate of employment, and if the growth of employment is held back by the lack of domestic staple supplies, it is possible to increase the rate of production by the importation of the requisite amount of staples. Then food aid, over and above what is already being imported and paid for with earned and borrowed foreign exchange resources, can further add to the expansion of output. But this argument raises some fundamental problems. Is economic development or, to be exact, the rate of growth of output and employment limited by the supply of staples or by other factors? The same troublesome problems arise to which reference was made above: the question of social and institutional change and donors' attitudes toward such changes. Furthermore, if it were really true that in labour abundant economies the rate of growth of output is limited only by the rate of growth of employment,

the implication would be that there are no institutional rigidities
interfering or preventing labour intensive methods of production, and
that there is no general shortage of other factors, such as capital, or
entrepreneurship or technological know-how. In other words, implicit in
the argument is a denial of the basic conditions characterizing under-
development. The argument is not only naive, but can lead to the jus-
tification of the most detrimental use of food imports, i.e., the pro-
vision of cheap supplies of wage goods to subsidize urban industrial
development at the expense of the rural sector.

Food Aid, Employment and Redistributed Consumption

A more sophisticated argument would focus on the need to generate more
employment opportunities as an important means for improving the distri-
bution of income. As before, an increase in the rate of employment re-
quires a matching increase in the supply of wage goods which can be ob-
tained, if not from domestic production, from foreign sources. But now
the issue is to make use of the unemployed labour resources, given minimum
wages which are acceptable in terms of the prevailing local social and
political conditions, and given technology which permits factor sub-
stitution. Evidently, in a low income economy where labour saves little
or nothing, an increase in employment above the market rate will diminish
the rate of investment, and hence growth, because without transfers from
abroad, otherwise investible resources will have to be diverted to meet
the real resource equivalent of the increased wage bill. On the other hand,

given imported staples or food aid and other wage goods for which no
current resources need to be sacrificed makes it possible to increase both
the rate of investment and employment with its corresponding wage con-
sumption.

But now difficult questions arise. What are the means for increasing
employment over and above the level attainable in the labour market?
Employers have to be motivated to hire more labour than previously and to
chose more labour intensive methods of production than what they would
find optimal with the going wage rate. Particularly if a minimum wage
or "living wage" (sueldo vital) legislation is enforced, an increase in
the rate of employment cannot be obtained without payroll subsidies
which make the use of labour profitable even if the wage rate exceeds the
benefit obtained from additional hiring. But payroll subsidies are totally
alien to the capitalist system which, to motivate investment, traditionally
relies on capital subsidies. The consequence is that in countries where
labour represents the abundant input, there is an anomalous use of highly
capital intensive techniques and excessive investment in capital intensive
sectors or activities. An extreme example is provided by the case of the
Commonwealth of Puerto Rico where capital subsidy unrelated to labour
intensity has been provided by way of U.S. profit tax exemptions while,
at the same time, a minimum wage comparable to those prevailing in the con-
tinental U.S. have also been enforced. It is, therefore, no wonder that
a highly capital intensive industrial park has been created which has not
been able to absorb the growing excess supply of labour. In general, the

tradition of subsidizing the use of capital, instead of labour, has been widespread in the LDC's; hence, the institutional means for bringing about an increased rate of employment, or using food aid to attain such a target, is not readily available.

In any decentralized system, the government must make it worthwhile to individual decision makers to comply with the purposes of the policy pursued by the government. Sticks and carrots in the form of taxes and subsidies are required. Without suitable inducements to obtain and sustain a higher rate of employment, the outcome cannot be expected to harmonize with social purposes, as was the case with the now defunct Tripartite Agreement between government, labour and business in Kenya. By persuasion or political pressure, a temporary increase in the rate of hiring was obtained for the duration of the Agreement; but there was no lasting economic inducement, so that after the expiration of the Agreement the non-profitable excess employment was discharged and no lasting increase in the total rate of employment had been obtained.

An increase in the rate of employment relative to capital and land naturally contributes to the level of consumption. In fact, if employment is being increased also for income redistributional reasons, it is to be expected and welcomed that low income or redistributed consumption will also increase. Yet, some critics of food aid are concerned about its con- sumption effect on grounds that it contributes to the latter without neces- sarily contributing to investment and growth. This concern is, of course, unjustified. First, as already discussed, if the total amount of spendable

resources increase in an economy, both investment and consumption can be expected to increase. Second, if there is a food-for-work programme which relieves unemployment and uses labour for water works (irrigation and drainage) in agriculture and infrastructure for increasing productivity, food aid is the real resource equivalent of the cost of investment, i.e., an investible resource.

In conclusion, no objection can be raised against food aid if it is used to contribute to the growth of redistributed consumption, employment and production. However, there can also be disincentive effects which can only be avoided with deliberate planning and policy implementation. The few empirical studies which seem to conclude that in terms of actual decline in grain production the disincentive effects in India had been minimal, ignore the point that a rise in the trend of food production may very well have been discouraged by food aid.[*] In any case, if large scale food aid is used to mitigate the effects of grain output fluctuations, it can have no adverse incentive effects. In that case its function is to support a trend in domestic food production, and not to substitute for a trend which is either not planned for or not realized because of inefficient implementation.

Aid to Agriculture and Aid Giver's Interest

Evidently, the cost of food aid is less than its nominal value if grain surpluses exist, as had been the case until the end of the sixties. Under such conditions it may be in the grain exporting countries' interest to dispose of the surpluses if it can be done in a way which does not

---

[*] For references see Isenman and Singer, op.cit.

contribute to the lowering of international grain prices. Hence, non-market distribution which does not lower prices and has no disincentive effects in the receiving country, coincides with the interest of the aid giver. If the surpluses do not exist, then the issue is more complex. Food aid under those circumstances contributes to the demand for a commodity in scarce supply. If, as a consequence, grain prices increase, grain producers benefit and grain consumers suffer a loss in the aid giving country. The price effects, however, depend on the elasticities of demand and supply as affected by the month of the commitment relative to harvest, the size of the existing stocks and rate of disappearance. But whatever the price effects, the resolution of the conflicting producers' and consumers' interests is a political problem in the aid giving nation which cannot be discussed in the abstract. It seems to be the case, however, that in those industrialized countries in which agriculture is an important activity or an export sector, agricultural interests are disproportionately represented in politics relative to the size of the agricultural populations or sectoral contributions to national income. To that extent producers interests can be expected to dominante, particularly since the cost of staples (grain) does not enter significantly into the consumer price indexes of the industrialized countries. This is in marked contrast to even those underdeveloped countries where the major part of the populations remain rural and where the dominant political interest groups are urban.

As to aid to agricultural development in the LDC's, it may not be in the narrowly conceived interests of the grain producers of the aid giving countries. The growth of food production capacity adds to international

supplies, and even if this growth were to be accompanied by a corresponding growth in demand, it would represent a potential brake in the rise in prices. At the same time, development strategies which result in income redistribution in favour, or increase the purchasing power, of the lower income groups are in the grain producers' interest in the grain exporting countries. On the other hand, consumer interests lie with the development of food growing capacity in the LDC's, so that the price effects of the projected short fall in world grain production or an increase in the international grain demand would be moderated.

Given the above referred to projections for an alarming increase in food deficit by 1985, grain exporting countries need to consider now the problems of aid policy. Specifically, policy decisions which will affect accumulation and storage of grain surpluses will have to take into account the issues relating to rural development in the LDC's, including food aid and aid to agriculture.

Aid and Balance of Payments

The failure of agricultural development and the growing need for
food imports is not the only reason for dependence on the industrially
advanced nations. The LDC's have accumulated a substantial foreign
indebtedness over the past two decades, the service of which is an in-
creasing burden to their balance of payments. The problem is augmented
by the substantial profit transfers of foreign owned enterprises where,
incidentally, the capital on which the profits are earned is only from
partially foreign sources.[*] Whatever the case, the dependence on the
balance of payments and, hence, on the exterior, is a function of
a) the capacity to earn foreign exchange, and b) the economic vulner-
ability of the LDC's to the combined effects of recession and inflation
in the industrialized countries. Specifically the depressed economic
conditions which have until recently prevailed in the industrialized world
resulted in the decline of the prices of raw materials exported by the
LDC's, while the prices of manufactured goods and other commodities imported
by them have continued to increase. This perverse combination of events
came on top of the already difficult problems caused by the increase of
petroleum product prices, and by the shortages which have developed in
the grain markets after the depletion of the international reserves. But
the dependence on the advanced nations has been further aggravated by the
fact that (a) there has been significant capital flight from several LDC's

---

[*] See F. Bergsten, "An Analysis of U.S. Foreign Direct Investment Policy
and Economic Development", Aid Discussion Paper, No. 36, November 1976.

the size of which cannot be statistically estimated, but which has
generally increased with the deterioration of the balance of payments,
(b) there has been a tendency to maintain rigid foreign exchange rates
relative to the dollar or relative to the currencies of European indus-
trialized countries; and (c) the bulk of foreign borrowing has been either
undertaken directly or guaranteed by the governments of the LDC's.

Because of these conditions, debt service in the LDC's has in-
creasingly become a national instead of private borrowers obligation,
in spite of the fact that a significant part of the indebtedness has
been assumed for the direct or indirect promotion of private sector
development. This is in marked contrast to the bond financed develop-
ment of the 19th century when the gold standard dominated the adjustment
of the balance of payments.

Direct and guaranteed loan financing has been resorted to by the
governments of the LDC's because of their desire to increase the rate
capital formation through the maintenance of a negative trade balance.
This was, in fact, the case in the 19th century when private bond finan-
cing was the order of the day. But in the experience of the development
of the now industrialized nations, that part of the capital inflows
which was not permanent or single directional was repaid over a long
time horizon and were finally liquidated when the balance of trade of
the then developing countries turned positive. The process was facil-
itated by the permanent migration of some of the capital, i.e., capital flows
which for one reason or another did not turn into repayable obligations. But
the 19th century experience is patently not that of the LDC's today.

The days of the gold standard have gone and efforts to replace it
by variations of paper standards have in general failed, because of the
incapacity of the non-petroleum exporting countries to generate or to
maintain adequate foreign exchange reserves. Instead, there has been a
reliance on direct controls and periodic official rate adjustments. But
because of the dependence of the consumer price index and wage rates
on prices of imported consumer goods (including grain), and of industrial
production on imported inputs, devaluation - the latter day would be
equivalent of the gold standard medicine - has been resorted to reluc-
tantly, and generally in response to pressure from lending agencies, i.e.,
the World Bank and, for stabilization loans, the IMF. When undertaken,
it was often at great human cost. Effective devaluation requires the
control of domestic demand and price level which, if implemented can result
in increased unemployment and poverty and a potential for political
instability.

Whatever the case, the deficit on trade account needed for real
capital imports could be maintained only by external sources of finance.
Since until recently private lending to the LDC's has been small, the
gap has been partially filled by grants and repayable concessional lending
by aid giving governments and international or multilateral agencies.
The capacity to repay, however, has not grown at the same rate as the
accumulation of the debt.

The rate of economic development does not in reality depend uniquely
or perhaps, even primarily on the rate of capital formation, as it does
in the naive models of growth and development. Yet, the general practice
has been to ignore the technical, entrepreneurial and institutional require-
ments, the role of domestic technical change, the adequacy of domestic or
foreign demand. Taking these factors for granted, the policy makers of
the LDC's have frequently relied on repayable capital imports for ill
considered projects and programmes which often do not have the income gen-
erating capacity to justify the outlay. In fact, the international in-
debtedness of the LDC's has in large measure been accumulated in connection
with import substituting urban industrialization. Even when the direct
and indirect foreign exchange requirements of such investments have been
potentially lower[*] than the cost of imports for which they have sub-
stituted - which has not always been the case - the problem of markets
has remained. Capacity utilization has not been easily attained, because
the export markets for manufactured goods have been protected both by
the industrialized countries and LDC's alike (consider the reluctance for
common market formation) and the domestic markets have been limited because
of existing or imposed limitations on demand and purchasing capacity.

Since industrial investments have frequently resulted in the creation
of production capacities in excess of the rate of output which could be
sold at prices that warrant production, industrial excess capacity has

---

[*] i.e., at capacity utilization of minimum efficient scale plants.

VOLUME AND COST OF EXTERNAL RESOURCES *

$ million.

Country or territory	Cumu-lative grants 1960-1974	Private Overseas Direct Invest-ment (PODI) stock end 1974	Reported debt (disbursed) end 1974		Debt Service in 1974		Debt Service as % of merchan-dise exports 1974
			Total	of which: DAC/ODA	Total	of which: DAC/ODA	
	1	2	3	4	5	6	7
TOTAL	65,358	65,200	118,321	32,142	15,623	1,550	6
Afghanistan	470	20	772	142	39	11	17
Algeria	2,605	370	4,044	236	693	18	18
Angola	3	(300)	149	—	13	—	1
Antilles (Netherlands)	138	1,400	137	98	17	4	1
Argentina	151	2,700	3,345	115	783	8	20
Bahamas	4	900	233	—	47	—	3
Bahrain	20	(250)	131	—	9	—	1
Bangladesh	788	70	754	223	25	2	7
Barbados	10	200	28	12	4	1	4
Belize	59	60	6	5	1	—	3
Benin (Dahomey)	264	35	82	19	9	1	(19)
Bermuda	×	2,000	243	—	34	—	..
Bhutan	2	—	—	—	—	—	—
Bolivia	290	100	708	199	68	7	13
Botswana	162	45	263	69	20	1	(25)
Brazil	1,033	9,500	9,303	1,381	1,287	58	16
Brunei	2	(250)	25	—	2	—	׳
Burma	361	10	292	126	31	5	17
Burundi	213	20	8	2	1	—	3
Cambodia (Kampuchea)	503	—	204	195	3	1	17
Cameroon	537	260	300	99	26	10	6
Cape Verde Islands	34	—	׳	—	—	—	—
Central African Republic	273	60	58	13	7	1	..
Chad	386	25	46	12	3	1	(8)
Chile	395	(700)	3,729	800	311	25	13
Colombia	443	1,100	2,104	824	310	23	22
Comoro Islands	76	—	4	4	׳	׳	—
Congo	274	150	305	48	29	3	(14)
Costa Rica	119	270	303	56	52	4	12
Cuba	34	—	498	37	99	—	12
Cyprus	133	85	97	12	18	1	12
Dominican Republic	267	450	359	199	39	17	6
Ecuador	189	800	414	96	91	8	9
Egypt	1,741	95	1,976	360	345	38	(23)
El Salvador	110	120	181	49	25	3	5
Ethiopia	422	80	285	121	33	6	12
Falkland Islands	9	—	×	⟩	—	—	—
Fiji Islands	95	—	45	7	5	—	3
Gabon.....................	232	350	427	50	61	10	6
Gambia	43	10	13	8	·	׳	—
Ghana	233	440	606	290	29	7	4
Gibraltar	28	25	5	5	—	—	—
Gilbert & Ellice Islands	28	—	—	—	—	—	—
Greece.....................	212	850	2,052	283	330	24	16
Guadeloupe	520	25	97	97	9	9	15
Guatemala	171	(230)	123	44	28	4	5
Guinea	117	190	215	103	15	3	22
Guinea (Equatorial)	3	—	5	1	2	—	6
Guinea (Bissau)	7	—	—	—	—	—	—
Guiana (French)..............	194	20	24	24	2	2	(34)

VOLUME AND COST OF EXTERNAL RESOURCES [*] cont'd

$ million.

Country or territory	Cumu-lative grants 1960-1974	Private Overseas Direct Invest-ment (PODI) stock end 1974	Reported debt (disbursed) end 1974		Debt Service in 1974		Debt Service as % of merchan-dise exports 1974
			Total	of which: DAC/ ODA	Total	of which: DAC/ ODA	
	1	2	3	4	5	6	7
Guyana	78	170	203	95	15	6	5
Haiti	100	70	45	.	7	1	9
Honduras	104	250	154	38	12	1	5
Hong Kong	39	1,100	902	6	180	1	3
India	5,732	2,000	11,242	6,988	732	255	19
Indonesia	1,403	2,100	5,897	2,837	336	84	5
Iran	303	(200)	5,282	295	1,340	30	6
Iraq	92	200	407	—	115	1	1
Israel	815	600	5,562	1,748	601	30	33
Ivory Coast	593	400	737	127	115	19	10
Jamaica	94	1,320	474	67	65	7	10
Jordan	1,135	30	286	137	25	7	16
Kenya	565	320	575	267	46	20	8
Korea (Republic of)	2,326	850	4,029	1,619	556	40	13
Kuwait	5	(620)	159	--	56	—	1
Laos	862	—	20	13	4	1	..
Lebanon	267	(150)	117	14	42	1	8
Lesotho	154	3	8	1	≥	≥.	..
Liberia	153	480	169	96	21	13	5
Libya	239	(750)	409	- -	201	--	2
Macao	1	—	.	.	---	—	..
Madagascar	669	160	146	66	17	9	8
Malawi	242	85	224	116	14	5	12
Malaysia	308	1,350	874	169	102	9	2
Maldive Islands	6	--	.	-	---		—
Mali	419	7	264	24	27	2	(51)
Malta	206	80	27	14	3	2	2
Martinique	600	25	89	89	8	8	12
Mauritania	223	190	164	28	17	7	10
Mauritius	79	—	47	20	4	2	1
Mexico	179	3,770	8,014	126	1,118	14	(32)
Morocco	901	340	1,124	545	144	37	8
Mozambique	6	(100)	73	—	14	—	6
Nepal	246	10	14	12	2	<	5
New Caledonia	219	120	133	129	12	11	5
New Hebrides	47	—	4	4	≥	×	2
Nicaragua	107	110	446	93	47	3	12
Niger	481	20	96	55	8	3	(15)
Nigeria	613	2,685	1,022	330	140	25	2
Oman	9	150	173	—	38	—	3
Pacific Islands (Tr. Ter.)	475	—	≥	—	×	—	—
Pakistan	2,446	550	5,014	3,115	243	80	22
Panama	138	2,000	472	86	122	6	..
Papua-New Guinea	1,402	640	239	34	17	2	3
Paraguay	112	70	152	47	16	3	10
Peru	370	1,300	2,051	247	472	7	31
Philippines	900	1,100	1,585	335	197	14	7
Polynesia (French)	146	30	38	38	5	5	15
Portugal	—	..	598	..	84	..	2
Qatar	2	130	95.	—	18	—	1
Réunion	835	—	110	110	10	10	14
Rhodesia	26	(350)	(15)	15	..	—	..

VOLUME AND COST OF EXTERNAL RESOURCES[*] cont'd

$ million.

Country or territory	Cumu-lative grants 1960-1974	Private Overseas Direct Invest-ment (PODI) stock end 1974	Reported debt (disbursed) end 1974		Debt Service in 1974		Debt Service as % of merchan-dise exports 1974
			Total	of which DAC/ODA	Total	of which DAC/ODA	
	1	2	3	4	5	6	7
Rwanda	257	25	15	1	1	.	2
Sao Tome and Principe	1	- -	—	—	—	—	—
Saudi Arabia	27	(400)	475	——	134	—	×
Senegal	773	250	239	61	33	12	9
Seychelles Islands	48	-	3	2	.		—
Sierra Leone	96	90	117	43	15	3	10
Singapore	81	750	477	90	104	3	2
Solomon Islands	89	——	2	2	.		—
Somalia	361	20	199	38	11	2	(24)
Spain	151	3,300	2,733	168	387	27	6
Sri Lanka	238	150	545	294	64	15	12
St. Helena & dependencies	18	. .	.	.	. .	- -	--
St. Pierre-et-Miquelon	32	--	6	6	1	1	12
Sudan	254	40	357	93	53	7	15
Surinam	183	150	161	158	5	4	3
Swaziland	85	45	39	31	4	2	7
Syria	394	50	291	1	52	.	7
Taiwan	535	600	2,013	335	246	30	4
Tanzania	498	90	621	219	32	8	8
Territory Afars & Issas (Fr.)	92	10	17	13	3	1	14
Thailand	633	550	898	119	156	10	6
Timor			.		. .		--
Togo	218	100	127	45	10	3	5
Tonga	12	- -	1	1	.	.	—
Trinidad and Tobago	55	1,300	171	17	46	1	2
Tunisia	898	315	956	541	90	26	10
Turkey	936	600	3,416	1,850	231	80	15
Uganda	218	(5)	204	86	17	5	6
United Arab Emirates	12	(200)	418	——	53		1
Upper Volta	399	20	46	21	4	2	10
Uruguay	82	100	514	51	103	3	27
Venezuela	177	(3,030)	1,468	43	496	4	5
Vietnam (Republic of)	5,335	(50)	147	127	13	6	23
Wallis and Futuna	6	—	.	.	.	.	—
West Indies	297	500	271	40	24	2	. .
Western Samoa	16		13	.	1		9
Yemen (Arab Republic of)	169	—	230	45	5	1	. .
Yemen (People's Dem. Rep. of)	177	——	115	9	3	. .	1
Yugoslavia	457	90	3,193	516	525	34	14
Zaire	1,521	720	1,309	137	174	8	13
Zambia	283	(100)	680	75	77	7	6
Unallocated and unspecified	7,378	—	956	215	138	118	

Source. IBRD and OECD/IBRD reporting systems.

[*] From 1976 <u>Review Development Cooperation</u>, page 253.

accumulated in the LDC's. At the same time, the external indebtedness directly or indirectly incurred in the process of industrialization - and the creation of excess capacity - has to be serviced from general export earnings or additional borrowing, or both. As shown in the table of volume and cost of external resources, the cost of debt service in terms of merchandise exports in 1974 has been very large for several countries; more than 50% for Mali, more than 30% for Guyana, Israel, Mexico and Peru, between 20 and 30% for Argentina, Botswana, Colombia, El Salvador, Guinea, Pakistan, Somalia, Uruguay, and the Republic of Vietnam, 19% for India. These are very high percentages, particularly since profit transfers from foreign investments are not included.

It is interesting to note that the structure of indebtedness and related debt service show some preferential conditions of borrowing accorded to the lower income countries. As shown by the table of total reported disbursed debt and debt service in 1974 of developing countries by income groups, the countries of the two lowest income groups received 24% of the total debt outstanding and paid 12% of the total debt service

TOTAL REPORTED DEBT (DISBURSED) AT END 1974 AND DEBT SERVICE
IN 1974 OF DEVELOPING COUNTRIES, BY INCOME GROUP *

Income group	Debt outstanding		Debt service		Population 1973		GNP 1973	
	$ million	%	$ million	%	million	%	$ billion	%
	1	2	3	4	5	6	7	8
Least-developed countries	4,967	4	339	2	270	13	26	3
Under $200 per capita[a]	23,653	20	1,604	10	1,030	52	133	16
$200-$374 per capita[b]	8,114	7	1,012	7	170	8	52	6
$375-$699 per capita..............	17,333	15	2,049	13	206	10	110	13
$700-$999 per capita	17,611	15	2,379	16	149	7	126	15
$1,000 per capita and more	30,137	26	4,709	30	182	9	274	32
Total non-oil developing countries..	96,848	82	11,752	76	1,737	86	695	82
Oil producers	20,517	18	3,733	24	279	14	151	18
Total developing countries (excluding unallocated)[c]........	117,365	100	15,485	100	2,016	100	846	100

a. Excluding Indonesia (oil producer).
b. Excluding Nigeria (oil producer).
c. Excluding unallocated amounts $956 million.
Source: IBRD and OECD/IBRD reporting systems.

* From 1976 Review Development Co-operation, page 255.

for the year. Considered from another point of view, however, the international income distributional aspect is less favourable. In 1974 the lowest two income groups, i.e., countries below an annual $200 per capita income, had 65% of the total population and 19% of the income of the developing countries. Yet they received only 24% of total loanable funds.

As mentioned above, the recession which has prevailed in the industrialized countries, and consequently in the international commodity markets, has adversely affected the export earning potential of the LDC's. Furthermore, because of the continuation of the inflationary pressures in the markets for manufactured goods, the prices and commodities imported by the LDC's have continued to increase; hence their import potential diminished. Under such circumstances most non-oil producing LDC's found it difficult to maintain an adequate level of imports to sustain their desired rate of economic growth and, at the same time, to meet scheduled debt service obligations. Recession and unemployment in the industrialized countrires had been transmitted to the LDC's through the balance of payments. Furthermore, because of the double squeeze, countries which had accumulated resources had drawn them down by 1974 and 1975, and those countries which had the capacity to borrow, had to resort to increased foreign borrowing. As reported by the IBRD, new loan commitments received by the public sectors of the LDC's increased from 27 billion dollars in 1973 to more than 36 billion dollars in 1974, representing an increase by more than one-third.[*]

---

[*] See T.M. Klein, "The External Debt Situation of Developing Countries", Finance and Development, IMF and IBRD, December 1976.

Most of the increase in public indebtedness was accounted for by a
small number of countries. The lion's share in Latin America went to
Argentina and Brazil (1.1 billion dollars each). East Asian countries
borrowed in 1974 almost 4 billion dollars more than in 1973. Pakistan's
borrowing increased by about a billion and India's about a half billion.
The less developed countries of the Mediterranean region have also in-
creased their borrowing by almost a billion dollars each; only some of
the oil exporting countries (Algeria and Iran) have reduced their debt
commitments.[*]

It is important to note that most of the increased borrowing, par-
ticularly by relatively more advanced LDC's, was from private sources.
As reported by the IBRD, 38% of the commitments received in 1974 re-
presented borrowing from financial institutions, i.e., almost twice the
proportionate share obtained in 1970. The change in the size and
structure of foreign borrowing and external public debt of 86 developing
countries is shown for the years 1972-74 in the enclosed table.[*]

Most of the increase in public sector borrowing from private finan-
cial institutions was undertaken by less than 40% of the LDC's, i.e.,
primarily by the middle and higher income non-oil producing countries.
Accordingly, the time profiles of future debt service is also importantly
affected for these countries, because borrowing from private sources
entails higher interest rates and shorter grace periods. The borrowing
from financial institutions by the public sector of 86 developing countries,
1972-74, is shown by the corresponding table.[*]

---

[*] See Klein, op.cit.

Foreign borrowing and external public debt of 86 developing countries, 1972–74 *
(In billions of U.S. dollars)

	Commitments received			Debt outstanding disbursed only (Year-end)			Debt outstanding incl. undisbursed (Year-end)
	1972	1973	1974	1972	1973	1974	1974
By geographical region [1]							
Africa, south of Sahara	1.75	3.52	3.60	6.22	7.66	9.31	15.96
East Asia and Pacific	3.21	3.53	7.37	8.80	11.66	14.15	23.76
Latin America and the Caribbean	7.40	9.07	11.53	21.86	26.93	34.57	45.38
North Africa and the Middle East	3.31	5.65	4.72	9.61	12.47	14.18	22.79
South Asia	1.68	2.56	4.23	14.22	15.73	17.47	23.38
More advanced Mediterranean	2.81	2.69	4.88	10.88	13.03	15.85	20.12
Total	20.16	27.01	36.33	72.59	87.49	105.53	151.40
By income group [2]							
Oil exporters	4.00	6.76	4.17	12.02	15.64	17.71	25.92
Higher-income countries	10.68	12.48	18.78	33.37	40.92	52.18	70.76
Middle-income countries	2.97	3.37	6.25	9.95	11.47	13.49	22.08
Lower-income countries	2.51	4.40	7.14	17.24	19.47	22.15	32.64
Total	20.16	27.01	36.33	72.59	87.49	105.53	151.40
By type of credit							
Official sources							
Loans from governments							
Concessional	3.99	3.81	5.99	23.31	26.59	29.79	40.83
Other	3.93	5.00	5.26	13.55	16.24	18.72	25.94
Subtotal	7.92	8.81	11.25	38.86	42.83	48.51	66.77
International organizations	3.77	4.92	6.59	10.88	13.02	15.83	30.24
Total, official sources	11.69	13.73	17.84	47.74	55.85	64.35	97.01
Private sources							
Financial Institutions	6.43	11.19	13.90	14.79	20.88	28.65	36.86
Suppliers' credits	2.04	2.08	4.59	8.94	9.91	11.22	16.22
Other [3]	0.00	0.00	0.00	1.12	0.84	1.31	1.31
Total, private sources	8.47	13.27	18.49	24.85	31.63	41.17	54.39
Total, all sources	20.16	27.01	36.33	72.59	87.49	105.53	151.40
Total, adjusted for exchange rate changes since the Smithsonian Agreement (December 1971)							
Amounts				72.74	85.67	102.18	146.76
Increase from previous year (%)				15.8	17.8	19.3	22.6

Source: Data reported to the World Bank on external public and publicly guaranteed debt with an original maturity of more than one year, as published in World Debt Tables EC-167/76.
[1] These regions are as follows:
   Africa, south of the Sahara—Benin; Botswana; Burundi; Cameroon; Central African Republic; Chad; Congo, People's Republic of the; East African Community; Ethiopia; Gabon; The Gambia; Ghana; Ivory Coast; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Niger; Nigeria; Rwanda; Senegal; Sierra Leone; Somalia; Sudan; Swaziland; Tanzania; Togo; Uganda; Upper Volta; Zaire; Zambia.
   East Asia and Pacific—China, Republic of; Fiji; Indonesia; Korea; Malaysia; Philippines; Singapore; Viet Nam; Thailand.
   Latin America and the Caribbean—Argentina; Bolivia; Brazil; Chile; Colombia; Costa Rica; Dominican Republic; Ecuador; El Salvador; Guatemala; Guyana; Honduras; Jamaica; Mexico; Nicaragua; Panama; Paraguay; Peru; Trinidad and Tobago; Uruguay; Venezuela.
   North Africa and Middle East—Afghanistan; Algeria; Cyprus; Egypt; Iran; Iraq; Jordan; Morocco; Syrian Arab Republic; Tunisia.
   South Asia—Bangladesh; Burma; India; Pakistan; Sri Lanka.
   More advanced Mediterranean countries—Greece; Israel; Malta; Portugal; Spain; Turkey; Yugoslavia.
[2] The income groups are divided according to annual per capita gross national product as given in the World Bank Atlas, 1975 edition: lower income, below $200; middle income, $200-$499; higher income $500-1,999.
[3] Commitment figures shown here exclude the increase in public debt resulting from the nationalization of foreign properties.

* T.M. Klein, "The External Debt Situation of Developing Countries", Finance and Development, IMF and IBRD, December, 1976, p. 22.

Borrowing from financial institutions by the public sector
of 86 developing countries, 1972–74[*]
(In billions of U.S. dollars)

| | Commitments | | | Debt outstanding Dec. 31, 1974 | |
	1972	1973	1974	Undisbursed only	Including undisbursed
Latin America and Caribbean	**3.48**	**5.50**	**6.78**	**15.85**	**18.01**
Of which:					
Major Latin American countries					
Argentina	0.51	0.29	0.77	1.28	1.79
Brazil	0.98	1.35	2.22	4.65	5.08
Chile	0.07	0.14	0.01	0.77	0.86
Colombia	0.09	0.24	0.05	0.32	0.35
Mexico	0.79	2.19	2.33	5.68	6.22
Peru	0.21	0.58	0.52	0.99	1.22
Venezuela	0.30	0.07	0.07	0.54	0.55
Subtotal	2.95	4.85	5.97	14.24	16.06
CACM countries [1]	0.11	0.17	0.28	0.42	0.50
Jamaica	0.07	0.12	0.14	0.31	0.35
Panama	0.08	0.19	0.10	0.31	0.36
More advanced Mediterranean					
Of which:	**1.05**	**1.35**	**2.65**	**6.11**	**7.38**
Greece	0.42	0.47	0.47	1.42	1.87
Israel	0.38	0.72	0.69	2.86	2.97
Portugal	. . .[2]	0.01	0.16	0.12	0.26
Spain	0.11	0.11	0.92	1.21	1.48
Yugoslavia	0.14	0.02	0.37	0.41	0.68
East Asia and Pacific	**0.70**	**0.88**	**2.46**	**2.12**	**4.47**
Of which:					
China (Rep. of)	0.05	0.13	0.56	0.17	0.80
Indonesia	0.31	0.42	0.07	0.45	0.65
Korea	0.08	0.25	0.76	0.67	1.32
Malaysia	0.11	0.03	0.75	0.37	1.05
Philippines	0.06	0.02	0.27	0.31	0.44
North Africa and Middle East					
Of which:	**0.85**	**2.23**	**0.87**	**2.60**	**3.84**
Algeria	0.33	1.61	0.46	1.32	2.22
Egypt	0.10	0.03	0.21	0.27	0.35
Morocco	. . .[2]	0.01	0.11	0.11	0.20
Iran	0.39	0.54	0.05	0.77	0.88
Tunisia	0.03	0.02	0.01	0.12	0.15
Africa, south of Sahara	**0.35**	**1.19**	**1.06**	**1.81**	**2.97**
Of which:					
Ivory Coast	0.06	0.13	0.13	0.21	0.37
Sudan	0.02	0.05	0.26	0.08	0.34
Zaire	0.12	0.57	0.52	0.67	1.29
Zambia	0.05	0.15	. . .[2]	0.24	0.24
South Asia	. . .[2]	**0.03**	**0.08**	**0.15**	**0.18**
Totals:					
33 selected countries	5.97	10.61	13.26	27.06	34.83
86 developing countries	6.43	11.19	13.90	28.65	36.86

Source: World Bank, *World Debt Tables.*
[1] Central American Common Market countries: Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua
[2] . . . indicates negligible values.

[*] T.M. Klein, "The External Debt Situation of Developing Countries", Finance and Development, IMF and IBRD, December, 1976, p. 23.

The private institutions willingness to increase their loans to a significant number of LDC's signifies confidence in the capacity to grow and to generate foreign exchange resources. But this may be premature. The sharp increase in indebtedness from whatever source, and the correspondingly higher debt service requirements will require the generation of increasing surpluses on current account so as to meet payment obligations. As a direct consequence, the resources available for domestic capital formation will have to be diminished. Given the trend, the LDC's may have to turn into net capital exporters instead of net capital importers, before the attainment of that level of development which could assure a minimum acceptable living standard for their lower income groups. The spectre of such perverse reverses in capital flows, and corresponding international income redistribution against the LDC's, motivate arguments for a moratorium in debt service and repayment.

In spite of the confidence - or whistling in the dark - of the international financial community[*], continued inflation in the markets for manufactured goods, and hesitation by industrial nations to reflate to cure their own unemployment problems, will make it increasingly difficult for the LDC's to generate foreign exchange resources for meeting their import needs and debt service obligations. If the required resources will not be obtained from trade, the LDC's will have to rely either on

---

[*] See e.g., Edwin Dale Fr., "No One Admits Worry Over LDC Debt", The New York Times, Sunday, January 30, 1977.

capital inflows from private foreign investment and/or additional borrow-

ing. To attempt to increase foreign investment - even in countries whose

governments are not opposed to it - for the purpose of increasing the

foreign exchange inflows would be bad policy, if for no other reason,

because of the future balance of payments effects may not be necessarily

favourable. As far as additional borrowing is concerned, the greater the

need for refinancing, the less likely it is that private sources will

make loanable funds available for such purposes. Hence, in spite of the

current increase in the proportion of private loan commitments in the

total debt structure of the LDC's, or because of it, the need for, and

the importance of, bilateral governmental and multilateral institutional

assistance is likely to increase in the future.

Considering the above problems, a Canadian policy of providing grants

in aid, instead of repayable loans, would represent a constructive attitude

toward aid. Grants in aid ease the current balance of payments problem

without, at the same time, adding to future obligations. Such a policy,

coupled with aid programmes for rural development and food production

(which would have favourable balance of payments effects) would represent

an excellent example to the rest of the aid giving world. Currently only

the Peoples' Republic of China follows such an aid policy.

A final point. It is not too difficult to conceive of the possibility

of a balance of payments crunch hitting the LDC's in the forseeable

future. If this comes about, it is important that the response of the

international financial community should not be the clamping down on

additional credits needed to roll over the debt. Nor should international
institutions and aid giving governments impose the latter day form of
the gold standard medicine as precondition for refinancing or providing
stabilization loans.

The gold standard medicine consists of the artificial creation of
depressed conditions: it results in unemployment and the lowering of the
living standards of populations whose standard of living is already
at barely tolerable levels. Such policies have been routinely recommended
or prescribed by the IMF and IBRD as conditions of assistance. They are
unacceptable policies, because they place the burden of the balance of
payments adjustment almost totally on the lowest income groups. Further-
more, as the example of the last twenty years' dismal development record
clearly indicates, the house cannot be put in order - to quote the phrase
frequently used to justify the gold standard medicine - by imposing even
more depressed conditions in the already poor countries. If anything,
the arbitrary imposition of austerity measures, the induced unemployment
and lack of economic motivation, make the design and implementation of
improved development policies even more difficult. The development of the
LDC's requires changes in the existing international economic order and
in the LDC's domestic social and economic structures. It is not the
function of aid to bring about the needed changes, but the conditions
for aid should not be an obstacle.