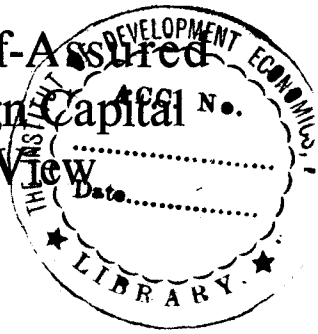


# Perspective Planning for Self-Assured Growth: An Approach to Foreign Capital from a Recipient's Point of View

by

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## INTRODUCTION

The purpose of the present paper is to discuss the problem of dependence on foreign capital for economic growth of Pakistan, a typically underdeveloped country which is relying rather heavily on foreign assistance without a sufficiently spelled-out analysis of the economic and political consequences of such a policy for the country's future.

The discussion starts with an analysis of the implications of Pakistan's current Perspective Plan (1965-85) for plan-terminal external indebtedness of the country (Section II). Need for careful rationalization of a terminal bequest of liability of this magnitude to future society is stressed. This is followed by a discussion (Section III) of the alternatives the country would have to service the external indebtedness with which it would be saddled at termination of its Perspective Plan. It is pointed out that the alternatives have political implications for the country's future, and one may question the ethics of thus restricting choice of policies for future generations.

It is suggested that a self-respecting nation may desire to ensure that it has some *staying power* without a continuous inflow of foreign capital with such implications. The corresponding objective of perspective planning is termed transition to *self-assured growth* (Section IV), a notion that is distinguished from the conventional notion of *self-sustaining growth*: the latter, being independent of the actual long-run objectives of the nation concerned, is considered irrelevant for purposes of development planning in countries currently dependent on foreign assistance for a respectable rate of economic growth.

A benchmark-interpretation of self-assured growth is then presented (Section V), meaning *ability* to sustain a prescribed minimum growth rate in

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A preliminary version of this paper "Perspective Planning for Economic Maturity", (Discussion Paper No. 28, Yale University Economic Growth Center, May 1967) was presented at seminars at Yale and Harvard. Comments received at these seminars were helpful. Special thanks are due to Professors Mark W. Leiserson (Yale University), Wahidul Haque (University of Toronto), and Marvin Rozen (Pakistan Institute of Development Economics) for reading the paper carefully and making very worthwhile suggestions towards its improvement. The author alone is responsible for any inadequacies that remain.

terms of GNP without "foreign capital"<sup>1</sup>. The working of this concept of self-assured growth as an objective in perspective planning is illustrated in the context of a conventional linear two-sector model. The analysis brings out plan-terminal consistency conditions for this objective to be achieved at the end of a postulated Perspective-Plan period (Section VI), and for staying on the *path of self-assured growth* thereafter (Section VII). The latter path is distinguished from the path of growth at the prescribed rate actually without foreign capital, a path that is called the path of *literally self-sustaining growth*: it is brought out and emphasized that the *self-assured growth* path accommodates a continuation of capital inflows if this can be obtained at terms and used in a way that would enable the country to *land* on the *literally self-sustaining growth* path if capital inflow needs to be terminated for any reason whatsoever.

Although couched in the specific context of Pakistan, the discussion and analysis in the paper should be relevant for a number of other countries which are currently heavily dependent on foreign capital for economic development, in particular those countries which are characterized by Professor Ranis as the "new, and for the most part poor, nation-states all clamouring for a measure of "economic independence" to go along with their recently acquired political independence" [15, p. vii].

## II. PAKISTAN'S PERSPECTIVE PLAN

In a note presented elsewhere [14], the author has estimated the magnitude of external indebtedness Pakistan will have incurred at the end of its proposed Perspective Plan (1965-85) if the Plan is seen through. The estimate rested on the optimistic assumption that all through the Perspective-Plan period external loans will be available at the concessional interest rate of 3 per cent per annum on the average. Under this assumption the estimate of total external indebtedness to be outstanding in 1985<sup>2</sup> stands at 1,03,900 million rupees. From an estimated outstanding indebtedness of 3,986 million rupees (unofficial IBRD estimate in [11]) in 1965, the country's external indebtedness is thus expected to grow at an average compound rate of about 18 per cent per year over the 20-year Perspective-Plan period.

During the same period "gross national product"<sup>3</sup> is expected to grow at an average compound rate of about 7.5 per cent [6, p.19]. Suppose we also

<sup>1</sup> The flow of "foreign capital", also referred to as the flow of "foreign finance", is defined for the purpose of this paper as the flow of external loans and foreign private investment in the country *including reinvestment of profits of existing foreign concerns*. This differs from the conventional notion of capital inflows which excludes the last item.

<sup>2</sup> By debt outstanding in a year we shall mean debt outstanding at the beginning of that year.

<sup>3</sup> What the Planning Commission refers to as gross *national* product actually stands for gross *domestic* product. The distinction between the two is important for any country heavily going into debt as Pakistan is. See Section V for the concept of national income used for the purpose of analysis in the present paper.

work out a heuristic estimate of the nation's capital stock for these two years. From Planning Commission estimates [6, p.19] of "gross national product" in 1965 and 1985 deduct 4 per cent as a rough estimate of depreciation as suggested by experience of other countries [20]. This yields "net national product" for 1965 and 1985 as 43,718 and 1,79,808 million rupees respectively. Multiplying by 3, the magic capital-output ratio, we obtain estimate of the nation's capital stock in 1965 as worth 1,31,154 million rupees and that in 1985 as 5,39,424 million rupees.

Accordingly, outstanding external indebtedness in 1965 stands at approximately 4 per cent of the nation's capital stock; in 1985 it is estimated to rise to about 19 per cent.

In terms of annual flows, total "foreign assistance" or gross capital inflows required to cover the country's trade deficit and debt services in 1965 stands at an estimated 4,030 million rupees [14, p.412]. The magnitude of "foreign assistance" that will be required in 1985 for the same purpose depends among other things on how fast the country will have to repay its external loans outstanding at the termination of its present Perspective Plan. Assuming that external debt outstanding in 1985 will be repayable within 20 to 30 years hence with a constant magnitude of annual debt service, the total amount of "foreign assistance" the country will need in 1985 will be in the order of 8,000 million rupees, about double that in 1965 [14, p.412]. As a proportion of GNP, the 1985 estimate will be about half that in 1965. Depending on the terms at which the required capital inflows will be available in 1985, its burden may be much higher than this indicates (in the sense that a debt of 50 rupees at, say, 10 per cent rate of interest constitutes a greater burden than a debt of 100 rupees at 3 per cent rate of interest).

In several seminars the author has given on this question it has been suggested that the future is in any case uncertain so that we may as well discount the future at a high rate and stop worrying about it. The argument should presumably apply not only to future costs but also to future gains. If so, then long-term, so-called "perspective" planning itself should be regarded as a point-less exercise. The basic justification of perspective planning rests on the presumption that planners today do have a concern about the future wellbeing of the nation even beyond the times that they can see in sharp details. This concern cannot but logically require that not only planned bequest of assets for the future but also planned bequest of *liabilities* for the future, should be rationalized. The fact that future is uncertain does not provide a rationalization for discounting future *liabilities* only; there is no reason to adduce such asymmetry to future uncertainty: unforeseen events (e.g., a war) may very well reduce, rather than increase, a nation's net assets.

### III. POST-PERSPECTIVE-PLAN ALTERNATIVES

A rationalization of planned bequest of external indebtedness of any significant magnitude to future society must rest on careful reasoning in terms of the possibilities and means for future society to service this indebtedness. One way of meeting debt-service charges is to *default*; this is a temporary measure and does not solve the problem. A drastic measure is *confiscation*, the results of which are difficult to speculate about. To borrow recklessly with confiscation in mind is to commit the recipient country's future to the possibility of equally drastic reactions by donor countries, a rather risky gamble<sup>4</sup>.

Rather than default or confiscate, the country may consider one or a combination of the following:

a) It may seek *new loans* to meet its external deficits after the Perspective Plan terminates. On such new loans also interest and amortization will have to be paid in subsequent years. Thus, debt services will grow further, and will continue growing as long as this method of financing debt services is continued. To bring this process to a check the country will have to generate a trade surplus, and this trade surplus will have to overtake the magnitude of debt services. With the latter growing until overtaken, the former will have to grow faster. Whether this will be possible and within a reasonable time margin depends, given the "initial" (Perspective-Plan-terminal) conditions, on the relative growth rates of exports, imports, and the terms at which post-Perspective-Plan external loans will be incurred. While the first two can, within limits, be controlled, a country badly in need of new external loans may have little say on the terms of such loans. In order to obtain loans at favourable terms so that the magnitude of debt services in relation to the country's trade surplus (hoping that trade-surplus will show soon after termination of the Perspective Plan) does not grow perversely, the country may have to keep donors of aid in good humour.

<sup>4</sup> It may be noted that the Government of United States, the major creditor for Pakistan as for many other less developed nations, is becoming increasingly stiff in its attitude towards both default and confiscation. The US Foreign Assistance Act of 1966 [7] provides:

"No assistance shall be furnished under this Act to any country which is in default, during a period in excess of six calendar months, in payment to the United States of principal or interest on any loan made to such country under this Act, unless such country meets its obligations under the loan or unless the President determines that assistance to such country is in the national interest and notifies the Speaker of the House of Representatives and the Committee on Foreign Relations of the Senate of such determination.

"No recipient of a loan made under the authority of this Act, any part of which is outstanding on or after the date of enactment of this sub-section, shall be relieved of liability for the repayment of any part of the principal of or interest on such loan".

Further,

"The President shall consider denying assistance under this Act to the government of any less developed country which, after December 31, 1966, has failed to enter into an agreement with the President to institute the investment guaranty program..... providing protection against the specific risks of inconvertibility and expropriation or confiscation....."

Assuming the United States will continue to be, as it is today, the major supplier of foreign assistance for a significant period after the present Perspective Plan terminates<sup>5</sup>, it is important to understand that a continuous dependence on United States foreign assistance should be expected to require from the recipient country pursuance of national and international economic and political policies that agree with the United States *official* views on *United States* social interest<sup>6</sup>. This may or may not agree with the social interests of the recipient country. For Pakistan in particular a commitment of its future indefinitely to aid from the United States or for that matter from any great power may mean the surrender of significant areas of economic and political policy in which it might want to retain its autonomy<sup>7</sup>. Even if the present society considered such price worth paying, it should be debated whether it is ethical to bind, by the bequest of a liability of the magnitude in question, future societies to the same set of values as ruling today.

b) Alternatively (or in conjunction) the country may invite *private foreign capital* at a scale high enough to offset its post-Perspective Plan external deficits. The rate of private capital inflows into the country so far has been relatively insignificant—hardly of the order of 100 million rupees or so — only (see Griffin [8, p. 614]) against estimated gross capital inflows at termination of the Perspective Plan of the order of 8,000 million rupees. In purely economic terms it is not easy to see a country offering sufficiently profitable investment opportunities in the *private* sector to *foreign* investors to the extent of 4 to 5 per cent of its GNP<sup>8</sup>. Furthermore, private capital inflows, by definition, would come

<sup>5</sup> This assumption can be invalidated by a successful policy of diversifying the source of foreign assistance.

<sup>6</sup> The "Foreign Assistance Act of 1966" [7] requires that United States foreign assistance depend on:

"the degree to which the recipient country is making progress towards respect for the rule of law, freedom of expression and of the press, and recognition of the importance of individual freedom, initiative, and private enterprise, . . . the degree to which the recipient country is taking steps to improve its climate for private investment, and . . . whether or not the activity to be financed will contribute to the achievement of self-sustaining growth".

The following clause particularly illustrates the type of political preconditions United States assistance requires;

"In view of the aggression of North Viet-Nam, no assistance shall be furnished . . . to any country which has failed to take appropriate steps. . . . ."

(A) to prevent ships or aircrafts under its registry from transporting to North Viet-Nam:—

- (i) any items of economic assistance,
- (ii) . . . arms, ammunition and implements of war. . . . , or
- (iii) any other equipment, materials or commodities; and

(B) to prevent ships or aircrafts under its registry from transporting any equipment, materials or commodities from North Viet-Nam."

<sup>7</sup> *E.g.*, such questions as nationalization, granting military base to a foreign power, the Kashmir issue.

<sup>8</sup> Pincus [12, p.131] estimates the average rate of return on private foreign investment currently in all developing countries taken together as approximately 10 per cent. It may reasonably be presumed that Pakistan will have difficulty in attracting private foreign capital at any significant scale at an average rate of return anything less than 10 per cent. A dependence on foreign private capital to the tune of 4 to 5 per cent of its GNP will then mean that the country will have to reserve investment of such magnitude with an expected rate of return not less than 10 per cent for foreign investors *in preference* to investment by its own citizens.

from capitalist countries, and the political environment in the recipient country, in addition to profit expectations, plays a major role in determining the magnitude of such inflows. Empirical evidence in support of this contention can be cited<sup>9</sup>. Thus an escalation of annual private capital inflows into the country from somewhere around 100 million rupees currently to anywhere near the magnitude of 8,000 million rupees by the 1983 would require, apart from the necessary *economic* incentives, *political* preconditions in the recipient country and also in its international relations which should be carefully considered. Even if decision-makers today regard such preconditions acceptable, the same ethical question about committing the country's future to today's values arises here also.

It may be noted here that in some recent writings in the literature one gets the impression that such commitment, indeed, is regarded as a matter of course. The objective of foreign assistance (governmental loans at concessional terms) is viewed as one of assisting less developed countries reach the stage of "self-sustaining growth". Self-sustaining growth is defined typically as growth at some institutionally given minimum rate financed "out of domestically generated funds and out of capital which flows into the country because it wants to do so (investment is irresistibly attractive)" [11, p.105]<sup>10</sup>. As we have mentioned, for private foreign investment in a country to be "irresistibly attractive", it should be necessary not only to offer enough profitability from such investment, but also to ensure that a political climate of the "right" character exists and continues in the country. One almost feels that the creation of such economic and political "infrastructure" in the less developed countries is indeed regarded as one of the aims of foreign aid that is currently being given to these countries at concessional terms. In a recent writing, Professor Hollis B. Chenery presents a more general version of the same picture when he says: "In the most general sense, the main objective of [United States] 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" [4, p.81].

<sup>9</sup> In a highly interesting econometric study of international capital movements, S. Chakravarty [1] enquires about the relative importance of a number of different factors. (e.g. political association, profitability, cultural affinity) in explaining capital movements from USA, UK, Netherlands and Switzerland to 18 recipient countries; he finds [1, pp.18-19] political association (measured ordinally) to be the most important explanatory factor, with profitability coming second in importance.

<sup>10</sup> *c.f.*, Rodan [16, p. 115], who defines self-sustaining growth to mark "a stage where aid is not required any more, while normal capital inflows—private foreign investment—may continue". Also Chenery and Strout [3, p.685], who define self-sustaining growth as "growth at a given rate with capital inflow limited to a specified ratio to GNP which can be sustained without concessional financing". The context of the Chenery-Strout definition suggests that they are talking of *net* and not gross capital inflows, and it is not clear why the recipient country should be content with limiting only *net* capital inflows to a specified ratio to GNP whereas total dependence on foreign finance obviously is a gross concept. Note also that Chenery and Strout, like the Pakistan Planning Commission, confuse GDP with GNP.

While the United States is certainly free to use its foreign assistance programme towards creating a world atmosphere congenial to, say, the growth of US capitalism, it has been in the highest traditions of the academic profession to suggest *world welfare* rather than national interests of any particular country or countries as the desirable guiding principle of international economic relations. One would like to see the same principle applied to foreign assistance as well. Any consideration of world welfare must necessarily take cognizance of specific national aspirations of the *recipients* of foreign assistance; these vary from country to country and are not necessarily the same as what the donors may think they should be. One cannot however help feeling that the literature in question on foreign assistance in the context of economic development of less developed areas reflects primarily the donors' point of view with scant appreciation of the point of view of recipients. This is not only unsatisfactory as a normative approach to the question at issue; even in the purely formal context of developing an *equilibrium theory of foreign assistance* this is rather inadequate, ignoring as it does the possibility that recipient nations may reject offers of foreign assistance if they find the terms (economic, political) opposed to *their own* social interests. A complete theory of foreign assistance must therefore look at the issues from the recipients' side as well.

#### IV. SELF-SUSTAINING OR SELF-ASSURED GROWTH?

The Perspective Plan of Pakistan has stated "elimination of dependence on foreign assistance" as one of its "explicit aims". By increasing the country's external indebtedness about twenty-six times over the period in question, the Plan will leave the country with a huge debt-service burden which will have to be financed by some form of capital inflows. If foreign *assistance*, in the sense of concessional governmental loans, is to be terminated, and if the required amount of private capital inflows does not become available at terms acceptable economically and politically, then it may become necessary to reduce imports drastically after the Perspective Plan terminates in order to live up to the Perspective-Plan objective in question. Depending on the magnitude of the shortfall in private capital inflows, this may constitute a major shock in the country's economic structure and growth momentum.

The country may believe in its ability to withstand shocks of *some* magnitude, but perhaps not of *any* magnitude. It may not be possible, for example, to push consumption-imports below a certain minimum proportion in relation to total national income without bringing about a political crisis; likewise, it may be difficult in a growth-conscious world to have the rate of growth of some socially accepted index of economic performance (*e.g.*, GNP) fall below socially acceptable minimum. What such minimum limits are is for the appropriate political body to decide from experience and relevant analyses (*e.g.*, economic, political and administrative effectiveness of various instruments of import

control). Given such limits, however, a responsible society may not wish to commit its future to any serious possibility that such limits may have to be crossed due to a failure to obtain capital inflows of the necessary magnitude either because this is not available, or available only at a price (economic, social, political) which it cannot agree to pay.

As a goal in perspective planning, the concept of *self-sustaining growth*, as it has been defined in the literature, does not adequately represent the understandable desire society may have to maintain some measure of autonomy in searching for the particular shade of social, political and economic ideology that best suits its temper and aspirations. The country may attain the stage of self-sustaining growth in the sense that it can henceforth sustain a reasonable rate of growth of the economy with domestic savings and private foreign capital *if it goes all out* to court the latter. Donors of (concessional) foreign assistance may consider this to be accomplishment enough and, regarding foreign assistance to have served its purpose, may withdraw further assistance and desire the recipient nation now to go all out for private foreign capital. A self-respecting recipient nation may not consider this to be as good an accomplishment.

Such a nation may want to assure itself that it has some measure of *staying power* without a continuous inflow of foreign capital of a magnitude and type which may not be available without an unacceptable encroachment on the nation's autonomy. A nation which feels it has such "staying power" may be said to be *self-assured*. For those nations who do not, the goal of long-term planning may be conceptualized accordingly as transition to the state of *self-assured growth* and staying on a path of self-assured growth thereafter.

For a country which is prepared to open its door fully and unreservedly to private foreign capital inflows, self-assured growth would be the same thing as the Rodan-IBRD notion of *self-sustaining growth*. The conceptual difference between the two should however be obvious. Furthermore, there is a distinct difference between the *functions* the two concepts can serve. The Rodan-IBRD notion of self-sustaining growth may serve to distinguish between countries which are historically growing at a reasonable rate with national savings and non-concessional external finance; the concept may thus be useful for *historical analysis* of some sort. However, independent as the concept is from actual long-run social objectives in the countries concerned, it is not relevant for purposes of *planning* economic development in these countries. The fact that some donor countries offering development aid to some less developed country may desire that such assistance be used for transition to "self-sustaining growth" only does not make a difference to this argument so far as the *recipient country* is concerned. For the latter, the objectives of planning must be derived from desires of its own society. It is as an aid to articulation of one of the long-run planning objectives of the less developed nations that the concept of *self-assured growth* is offered.



## V. A BENCHMARK INTERPRETATION OF SELF-ASSURED GROWTH

The notion of self-assured growth expresses the long-run objective of a self-respecting nation only in a very general sense. More specific content has to be given both to the idea of "staying power" and to the attitude of society to foreign capital for operational use of this notion. Such specifications must of course be given *politically* by the relevant power forces in the country concerned, and may be expected to differ from country to country and in the same country with changes in ideas and/or balance of political power.

A political analysis of the relevant aspects of social psychology and balance of power in Pakistan is beyond the scope of this paper. In what follows we shall merely illustrate the working of the notion of *self-assured growth* (henceforth SAG) in long-term directional planning with the following "benchmark" interpretation: a nation will be said to have reached the state of self-assured growth if it is able henceforth to sustain a prescribed minimum growth rate in terms of GNP without any form of "foreign capital".

It should be emphasized—and this indeed is claimed as the chief novelty of the concept—that a self-assured nation (economy) will not necessarily dispense with foreign capital altogether. Call growth without any form of foreign finance *literally self-sustaining growth* (henceforth LSSG). The path of SAG is conceived then as one such that from any given position on this path *the economy can land on the path of LSSG* if the flow of foreign capital is stopped for any reason whatsoever. Thus the path of SAG can be higher than the path of LSSG as long as foreign capital is available at terms that *a)* are politically acceptable to the nation, and *b)* enable the country to utilize it and yet ensure smooth landing on the latter path whenever the country desires or finds itself compelled to do so.

We shall now set forth to derive, within the framework of a conventional linear two-sector model, the terminal (consistency) conditions that must be satisfied if an economy is to reach the state of SAG at the termination of a "Perspective Plan" of duration *T* years. The two sectors will be called the "traditional" sector, whose output is partly absorbed at home and partly exported, and the "import-substitution" sector. The basic framework of the model is nothing new and has already been laid down by Professor Chenery and others [see 2; 3; 5]<sup>11</sup>. The only major refinement is the introduction of *debt services* (along with repatriation of profits of foreign concerns), the absence of which constitutes a

<sup>11</sup> The most important assumption underlying models of this type is that resources are 'fluid', at least in the relevant choice range, so that they can be allocated between consumption and investment in the way as would appear "rational" following such models. This should be distinguished from Mahalanobis-type models which assume non-shiftability of resources from consumption to investment and vice versa, and should be remembered throughout the analysis in this paper to understand how the model works. This analysis could be carried out in terms of a Mahalanobis-type model, but this would not change the basic perspective at which the analysis is aimed. It may also be noted that practical planners in many countries, to whom we presume are experienced people, are explicitly or implicitly using this approach themselves.

rather surprising omission in most conventional professional analyses of plans designed to release less developed countries from the so-called "foreign-exchange constraint".

For analytical handling of debt services it is convenient to make an assumption. We assume that the post-Perspective-Plan flow of debt services due to external debts incurred before and during the Perspective Plan would be fairly constant for a sufficiently long period, say 20 years or so from after the Perspective Plan, after which it may or may not fall but will not rise. The assumption is justified in a situation where the detailed terms of external loans to be incurred during the Perspective-Plan period are not known beforehand so that it would not be worthwhile to make a more complicated assumption about the return flow for working out general guidelines for Perspective Planning<sup>12</sup>. Under this assumption we may use, in our calculations, a constant flow of debt service from the plan-termination year T due to debts incurred until year T. The method may overestimate debt-service charges for the period after "T+20", and accordingly the resulting plan may serve to leave more disposable resources for the "generations" beyond year "T+20" than would be considered rational or necessary otherwise. This gesture to posterity may not be grudged, particularly since the margin of error in calculations for such a distant future will be too high anyway to warrant a more refined calculation as long as the conscious error is made on the safer side<sup>13</sup>.

We shall also use the term GNP in the sense of resources at the *disposal* of the nation rather than in the conventional sense of the flow of resources *earned* by the nation. GNP will thus be defined as gross domestic product minus the sum of contractually required debt services and profits of foreign concerns in the country. The reason for using this definition of GNP is that it is national *disposable* income thus defined that is available to the nation for allocation between consumption and investment *on the path of LSSG* irrespective of what national earnings are. While the earnings measure of GNP may repre-

<sup>12</sup> It is also in the tradition of "sound banking principles" to incur debts in a way that makes the flow of debt services fairly smooth over time. For those who insist on more accurate calculations for generations far out into the future (*e.g.*, those who advocate *infinite-horizon* planning) here is a citation that we all can enjoy regardless of which side we take in the issue:

"The human race, to which so many of my readers belong, has been playing at children's games from the beginning. . . . And one of the games to which it is most attached is called "Keep to-morrow dark", and which is also named (by the rustics in Shropshire, I have no doubt) "Cheat the Prophet". The players listen very carefully and respectfully to all that the clever men have to say about what is to happen in the next generation. The players then wait until all the clever men are dead, and bury them nicely. They then go and do something else. For a race of simple tastes, however, it is great fun (G. K. Chesterton, *The Napoleon of Notting Hill*; citation discovered in H. Theil, *Economic Forecasts and Policy*).

<sup>13</sup> The kink on the time-path of national disposable income that would thus occur when all debts are repaid and the constant flow of debt services ends abruptly, if the country stays on the path of literally self-sustaining growth from year T onwards, would be of relatively minor importance as the proportion of debt services to national income, with the former constant but the latter growing, would be continuously falling.

- $m_1$  : requirement of importables per unit of current output (value added) in the traditional sector.
- $m$  : minimum requirement of importables for consumption per unit of GNP, a pragmatic working rule determined by planners taking into consideration the community's propensity to consume importables and planners' own notions of what are "essential" consumer goods and what are not;
- $e$  : estimated annual rate of growth of exports, assumed exogenously given<sup>14</sup>.

We also assume that planners postulate a constant proportion,  $s$ , of GNP to be saved and invested within the country after the target plan-terminal GNP is reached. Given this savings coefficient, and given any feasible rate of growth 'g' of GNP, there is a unique proportion of GNP, lying between 0 and  $s$ , that must be allocated for investment in the import-substitution sector. Let this proportion be denoted by  $\alpha_2$  and the corresponding proportion for the traditional sector by  $\alpha_1$ , so that

$$(2) \alpha_1 + \alpha_2 = s$$

and

$$(3) \alpha_1 b_1 + \alpha_2 b_2 = g$$

and the solution of  $\alpha_1$  and  $\alpha_2$  in terms of  $g$  is

$$(4) \alpha_1 = \frac{g - sb_2}{b_1 - b_2}; \quad \alpha_2 = \frac{sb_1 - g}{b_1 - b_2}$$

3. In order for transition to SAG to be completed by the end of the Perspective-Plan period, in the terminal year T the sum of *a*) exports and *b*) the output of the import-substitution sector, must not be less than the sum of *c*) minimum real imports needed for self-sustained growth and *d*) debt services and profits of foreign concerns. Of these, *c*) has three components relevant for our enquiry: *i*) minimum consumption imports; *ii*) import of intermediate goods; and *iii*) import of capital goods.

The items *a*), *b*), *c-i*) and *c-ii*) and *d*) will be given by the Perspective Plan, the coefficients of the model and estimation of plan-terminal exports. Item *c-iii*) depends on the choice of the minimum rate of growth of GNP that the country desires to be able to sustain without foreign finance. Let this desired minimum rate of growth be called  $\bar{g}$ . Obviously,  $\bar{g}$  cannot be indefinitely high and yet be literally self-sustained. For a meaningful choice of  $\bar{g}$  it is necessary therefore to insure that  $\bar{g}$  can be literally self-sustained.

<sup>14</sup> The assumption of exogenously determined exports should not be interpreted as a passive attitude to exports; it merely implies that *as a first approximation* the problem of optimizing exports is regarded as an independent problem and the solution to this problem is given to the model under study as an exogenous decision.

Let  $B_t$  stand for the excess of the items *a*) and *b*) taken together over items *c*) and *d*) taken together, an excess that we shall call the *balance-of-payments margin*. This excess may be regarded as a measure of the availability of foreign exchange to finance "non-essential" consumption imports when the economy is growing without foreign finance. In order for the rate of growth 'g' to be sustained without foreign finance from year T onwards, we must have  $B_t \geq 0$  for all  $t \geq T$ .

Noting that  $V_2$  (a value-added measure) stands for domestic supply of importables *net* of its own import-content, we have

$$B_t = E_t + V_{2(t)} - m_1 V_{1(t)} - m Y_t - (n_1 \alpha_1 + n_2 \alpha_2) Y_t - D_t$$

Since  $V_{i(t+1)} - V_{i(t)} = \alpha_i b_i Y_t$ , we have the time path of  $B_t$  given by the following difference equation:

$$(5) B_{t+1} - B_t = e E_0 (1+e)^t + (1-m) \alpha_2 b_2 \cdot Y_t - (m_1+m) \alpha_1 b_1 \cdot Y_t - (n_1 \alpha_1 + n_2 \alpha_2) \cdot g \cdot Y_t$$

Writing  $Y_t = Y_T (1+g)^{t-T}$  and arranging terms, we have

$$(5.1) B_{t+1} - B_t = e E_0 (1+e)^t + \lambda Y_T (1+g)^{t-T}, \text{ where}$$

$$\lambda = \lambda(g) = [(1-m)b_2 - n_2 g] \cdot \alpha_2 - [(m+m_1)b_1 + n_1 g] \cdot \alpha_1$$

$$= [(1-m)b_2 - n_2 g] \cdot \frac{sb_1 - g}{b_1 - b_2} - [(m+m_1)b_1 + n_1 g] \cdot \frac{g - sb_2}{b_1 - b_2}$$

The solution of this difference equation is given by

$$(6) B_t = B_T + E_T [(1+e)^{t-T} - 1] + \frac{\lambda}{g} Y_T [(1+g)^{t-T} - 1]; t \geq T. \text{ From}$$

this, a sufficient condition for the balance-of-payments margin never to be negative is that<sup>15</sup>

$$(7a) B_T \geq 0; \text{ or } (7b) B_T \geq 0; e \geq g;$$

$$\lambda(g) \geq 0, \quad E_T \geq \frac{|\lambda(g)|}{g} \cdot Y_T$$

where  $B_T$  itself is a function of  $g$ .  $\lambda(g)$  is a quadratic function in  $g$ , and is negative for  $g = sb_1$  but positive for  $g = sb_2$  (except in the limiting and implausible case when  $n_2 = 1$  and  $m = 1 - s$  which would make  $\lambda(sb_2) = 0$ ). Hence  $\lambda(g)$  must vanish for some  $g$ , which we shall call  $g^*$ , in the interval  $(sb_2, sb_1)$ . It can be readily seen that any rate of growth  $g \leq g^*$  can be sustained without foreign finance from the plan-terminal year onwards irrespective of the rate of growth of exports if in the plan-terminal year the balance-of-payments margin corresponding to this  $g$  is non-negative.  $g^*$  may be interpreted as the "von-Neumann" growth rate for the economy in the sense that it is the highest rate at which the economy can grow, from given initial conditions, with growth of sectoral outputs fully taking care of additional requirement of sectoral outputs generated by their growth.

<sup>15</sup> Assuming, of course, that both  $E_T$  and 'e' are non-negative.

In order to literally self-sustain a growth rate higher than the "von Neumann" rate, a necessary condition is that  $e$  must exceed  $g^*$ , and one sufficient condition is given by (7b). Alternative sufficient conditions exist, but are difficult to generate analytically from the polynomial in  $t$  that  $B_t$  is. It should not be difficult however to check numerically, using equation (6), whether any given  $g$  can be self-sustained without foreign finance.

Noting that  $sb_1$  gives the technologically feasible maximum growth rate (to be obtained by allocating *all* investment in the traditional sector), a meaningful choice of the postulated minimum growth rate,  $\bar{g}$ , for defining the path of self-sustaining growth cannot in any case exceed

- (a)<sup>16</sup>  $sb_1$ , if  $e \geq sb_1$ ;
- (b)  $e$ , if  $g^* \leq e \leq sb_1$ , and
- (c)  $g^*$ , if  $e \leq g^* \leq sb_1$ .

As an illustration of the order of magnitude of  $g^*$ , let the various parameters have the following values, which may not be far from the Pakistan situation<sup>17</sup>.

$b_1$	$b_2$	$n_1$	$n_2$	$m_1$	$m$	$s$
.33	.22	.35	.50	.10	.10	.20

This gives  $g^*$  as .057 approximately, with corresponding values .118 and .082 respectively for  $\alpha_1$  and  $\alpha_2$ . Thus with these values the economy can sustain without foreign finance and without relying on growth of exports, a 5.7 per cent rate of growth of GNP (from after time  $t$  when  $B_t \geq 0$ ) and for this it has to continuously invest about 8.2 per cent of GNP (*i.e.*, approximately 2/5th of total investment) in import-substitution and 11.8 per cent (approximately 3/5th of total investment) in traditional production.

For an economy that cannot literally self-sustain a reasonable minimum growth rate — *e.g.*, if  $e \leq g^*$  with  $g^*$  too small for the aspirations of society—the choice lies between a perpetual dependence on foreign finance for a reasonable growth rate, and a "structural change" so as to alter some or other coefficient(s) of the model (*e.g.*, use of less import-intensive techniques and/or greater restriction on "non-essential" consumption imports so as to raise  $g^*$ ). The problem and possibilities of such structural change will not be explored in this paper.

<sup>16</sup>  $e$  cannot indefinitely exceed  $sb_1$  or, for that matter, whatever may be the rate at which output of the traditional sector, of which exports have been assumed to be a part, grows.

<sup>17</sup>  $b_1$  and  $b_2$  roughly correspond to the Chenery-MacEwan assumptions for Pakistan [2, p. 238];  $n_1$  and  $m_1$  to the Chenery-MacEwan estimates for the aggregate import rates on investment and output respectively;  $n_2$  has been arbitrarily fixed for illustrative purposes; so is 's', fixed at a plausible 20 per cent; imports of consumption goods in Pakistan during the Second Five-Year Plan period, including PL-480 imports, have been roughly in the order of 4 to 5 per cent of GNP (as it appears from Annexure 1, pp. 96-97 of the Third-Plan document [6]); we have raised this ratio arbitrarily to 10 per cent to reflect the possibility that with higher incomes a higher proportion of income may have to be allocated for a minimum consumption of importables.

4. Given a feasible postulated post-plan minimum rate of growth  $\bar{g}$  of GNP, the corresponding values of  $\alpha_1$  and  $\alpha_2$  (to be denoted by  $\bar{\alpha}_1$  and  $\bar{\alpha}_2$  respectively) are obtained. The condition required for transition into SAG by year T can then be expressed as

$$(8) \quad B_T = E_T + V_{2(T)} - m_1 V_{1(T)} - m Y_T - (n_1 \bar{\alpha}_1 + n_2 \bar{\alpha}_2) \cdot Y_t - D_T \geq 0$$

where  $D_T$  is the flow of the sum of debt services and profits of foreign concerns from year T onwards due to cumulative external loans and foreign private investment until year T. Noting that  $Y_T = V_{1(T)} + V_{2(T)} - D_T$ , and arranging terms, we have the following constraint:

$$(8.1) \quad E_T + \mu_2 (V_{2(T)} - D_T) - \mu_1 V_{1(T)} \geq 0$$

where

$$\mu_1 = m + m_1 + n_1 \bar{\alpha}_1 + n_2 \bar{\alpha}_2$$

$$\mu_2 = 1 - (m + n_1 \bar{\alpha}_1 + n_2 \bar{\alpha}_2).$$

The constraint 8.1 is the second terminal condition that the Perspective Plan must satisfy for SAG to be attained by year T. The constraint implies that choice of the two terminal outputs  $V_{1(T)}$  and  $V_{2(T)}$  must be on or above a straight line, relating  $V_{2(T)}$  to  $V_{1(T)}$ ; with positive slope equalling  $\frac{\mu_1}{\mu_2}$  and  $V_2$ -intercept, equalling  $\frac{1}{\mu_2} (E_T - \mu_2 D_T)$ , rising with  $D_T$ . The slope  $\frac{\mu_1}{\mu_2}$  measures the amount by which terminal output of the import-substitution sector has to be increased if terminal output of the traditional sector is increased by one unit and the resulting readjustment of the flows of national savings and foreing aid leaves  $D_T$  unchanged. With numerical values as before, this slope equals .457 approximately for  $\bar{g} = g^*$ .

The two terminal conditions (1) and (7) together give a lower bound to the choice of the terminal output-vector ( $V_{1(T)}$ ,  $V_{2(T)}$ ) as given by the line ABC in the diagram<sup>18</sup>. The position of this line depends, given the coefficients of the model, on  $D_T$ . For a country like Pakistan where the bulk of its needs for foreign finance during the Perspective Plan is expected to be met by foreign "aid",  $D_T$  depends largely on a) the cumulative total of foreign aid that would be obtained during the country's transition to SAG, and b) the terms of repayment of foreign aid. The higher is  $D_T$ , the higher will both the segments AB and BC of the line ABC be, and hence higher will have to be the minimum plan-terminal output of the import-substitution sector for any given plan-terminal output of the traditional sector.

<sup>18</sup>A third terminal condition also needs to be mentioned:  $D_T$  cannot exceed  $E_T$  for, if it does, the requirement of *liquid* resources to meet payments in foreign exchange will exceed the supply of such resources, and this alone will make the country dependent on foreign finance to meet its external payment obligations irrespective of home production of importables. The author is greatly indebted to Dr. Miss Sunanda Sen for pointing this out, and refrains from elaborating this point further in order not to anticipate a work that Dr. Sen is doing herself.

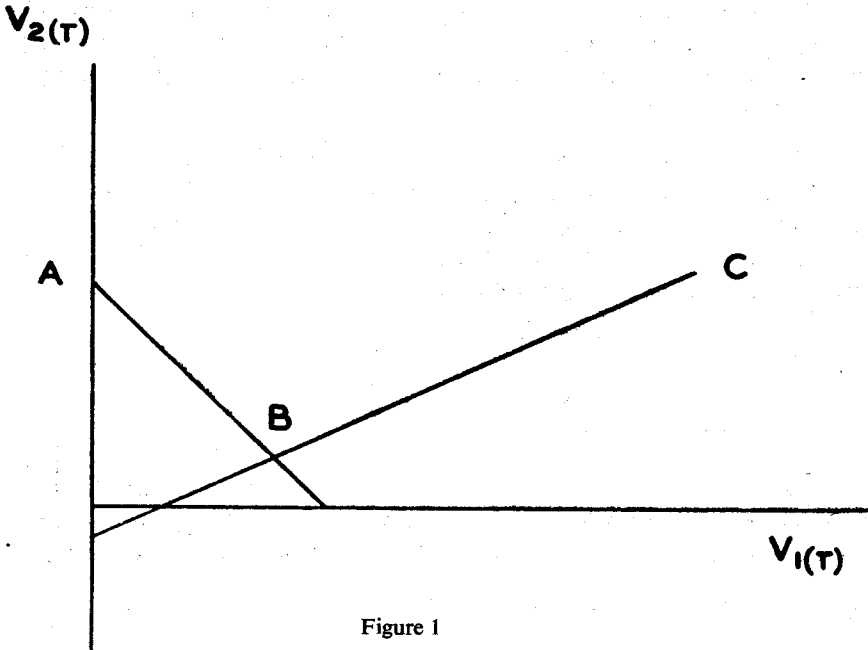


Figure 1

The point B is of special interest. It represents the situation where plan-terminal GNP is exactly equal to the target  $\bar{Y}$  and plan-terminal balance-of-payments margin is zero. Given  $D_T$ , this must represent the plan-terminal output-vector if the sum of any monotonically increasing utility function of annual consumption over the Perspective-Plan period is maximized. This is because any other feasible output vector will contain a margin in terms of plan-terminal GNP and/or balance of payments that can be reduced, thereby releasing resources for higher consumption during the plan period. In case such an optimization policy is followed, then, given  $D_T$ , optimum plan-terminal outputs of the two sectors as given by the coordinates of the point B will be:

$$(9) \quad V_1(\tau) = \frac{1}{\Delta} \left[ E_T + \bar{Y} + (1 - \mu_2) \cdot D_T \right]$$

$$V_2(\tau) = \frac{1}{\Delta} \left[ \frac{\mu_1}{\mu_2} \cdot \bar{Y} - E_T + \left( \frac{\mu_1}{\mu_2} + \mu_2 \right) \cdot D_T \right]$$

$$\text{where } \Delta = 1 + \frac{\mu_1}{\mu_2}$$

The specific (optimum) time-path of consumption during the plan period will depend on the specific time-path of *net* capital inflows that become available, and the specific utility function that is used in the programme. With our present knowledge it would be difficult to rationalize a choice from a wide range of plausible alternative specifications of the utility function. While funda-

mental principles like diminishing marginal utility from consumption can be readily rationalized, no guidance whatsoever is available as to choice of specific parameters like, say, the elasticity of marginal utility. Practical planners may, therefore, find it more convenient without being the less rational at the present state of knowledge to choose the consumption path directly from amongst a number of conveniently spaced feasible and efficient alternatives.

We do not present such exercises in this paper because it is difficult to postulate any meaningful hypothesis about the inflow of foreign aid to any underdeveloped country, and a purely conceptual exercise would not be in the spirit of this paper. The availability of foreign aid in today's world is a matter of political diplomacy, and a scientific analysis of it in terms of operational planning concepts is still awaited. All that we can suggest is that a number of alternative Perspective Plans may be worked out assuming conventional terms of foreign aid and indicating the requirement of aid—annual and cumulative—in each such plan under these terms, and these different plans may be ranked in order of preference before confronting the aid-giving "consortium" across the bargaining table. The rest is largely a matter of political manoeuvring that may be suggested for a separate and interdisciplinary study.

## VII. BEYOND THE PERSPECTIVE

As mentioned previously, the attainment of SAG is not to be identified with actual stoppage of the flow of foreign finance. While foreign "assistance" in the sense of concessional foreign finance may be discontinued, there is no reason why a continuous further flow of foreign finance at prevailing market terms should not be considered as a purely business proposition. On the other hand it will be necessary, in the spirit of the benchmark-notion of SAG under study, that the country does not once more become *dependent* on foreign finance at any stage thereafter for sustained growth at the postulated minimum rate.

To see the possibility of continuing with foreign finance in the post-Perspective-Plan era for growth at a rate higher than the postulated minimum without getting dependent on further foreign finance for subsequent growth at the postulated minimum rate itself, the terminal condition (8.1) may be extended to cover years subsequent to  $T$ . Consider a choice of using foreign finance, offered at a rate of return  $i$  in the year  $T$ . Obviously, to sustain SAG the constraint (8.1) should be satisfied for year  $T+1$ , with the return on foreign investment in year  $T$  added to  $D_T$ . Suppose we inquire under what condition the constraint will be just satisfied. We then have the equality:

$$(10) \mu_2 V_2(T+1) - \mu_1 V_1(T+1) = \mu_2 (D_T + iF_T) - E_{T+1}$$

Suppose the amount of foreign finance  $F_T$  is wholly invested, in addition to investing total national savings, and suppose a proportion ' $\mu$ ' of this additional



investment is allocated to the import-substitution sector. Assume also that constraint (8.1) is satisfied for year T by exact equality. Then the balance-of-payments margin for year T+1 is given by:

$$(11) \quad B_{T+1} = eE_T - [\mu_1 b_1 + i\mu_2 - \mu_2 b_2(1-\mu)] F_T \\ = eE_T - [\mu_1 b_1 + \mu_2 b_2 \mu - (b_2 - i)\mu_2] F_T$$

For  $B_{T+1}$  to be non-negative, we have

$$(12) \quad \mu \leq \frac{eE_T}{(\mu_1 b_1 + \mu_2 b_2) F_T} + \frac{\mu_2 (b_2 - i)}{\mu_1 b_1 + \mu_2 b_2}$$

The condition (12) is necessarily satisfied, for any  $e \geq 0$ , by some ' $\mu$ ' in the feasible range  $0 \leq \mu \leq 1$  if  $i \leq b_2$ , in which case the expression in the right hand side would be positive. Thus, it would be possible to utilize any amount of foreign finance<sup>19</sup> offered at a rate of return not exceeding  $b_2$ , the (marginal)<sup>19</sup> output-capital ratio in import-substitution, without gliding off the path of SAG by allocating an appropriate proportion of the additional investment to the import-substitution sector so as to satisfy condition (12). Depending on the rate of growth of exports,  $e$ , a rate of return higher than  $b_2$  may also be accommodated<sup>20</sup>.

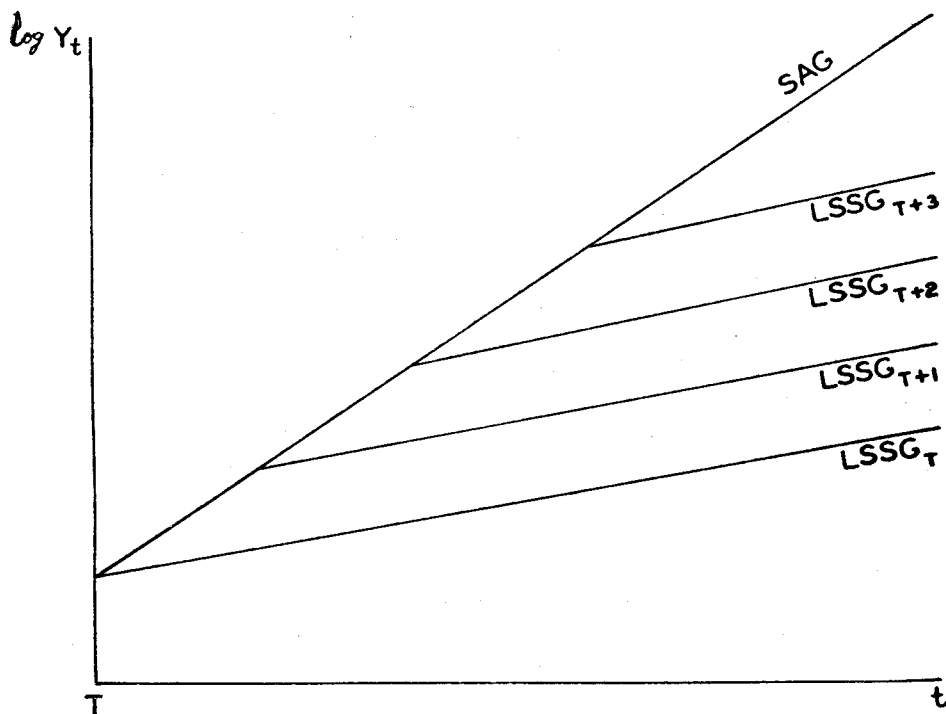
The analysis can be extended to the case where the supply schedule of foreign finance is not perfectly elastic. The basic point we want to emphasize would still remain, *i.e.*, that with foreign finance available at sufficiently favourable terms, it may be possible for the country to continue to use foreign finance thereby growing at a rate higher than the postulated minimum, and yet remain independent of foreign finance in the sense of always maintaining the operational capability of growing at some postulated minimum rate. The path of SAG can thus conceivably lie above the path of LSSG. The important point to be kept in mind is that an appropriate portion of the additional investment made possible by foreign finance would have to be allocated for further production of import-substitutes all along the former path in order to ensure smooth landing on the latter path at any time this is desired or becomes necessary.

The latter path, *i.e.*, the path of LSSG, will in this process be continuously moving upwards itself. Thus, a conscious departure from the path of LSSG at any time, as long as an appropriate increase in investment in import substitution is possible and is made, would enable a country to land on a higher path of

<sup>19</sup> Subject, of course, to "absorptive capacity" in the import-substitution sector.

<sup>20</sup> If relative values of  $e$ ,  $i$ , and the other relevant coefficients are sufficiently favourable so that investing the whole amount of foreign finance in import-substitution becomes unnecessary to ensure smooth landing on the path of literally self-sustaining growth in subsequent years, part of this foreign finance may be used directly to increase current consumption. Thus a trade-off between a higher growth rate and higher current consumption can be conceived. An exploration of such question has been made by the author in another paper [13] assuming foreign finance to be continuously available in unlimited amounts at a constant and low rate of interest.

LSSG in the future, an advantage that should be worthwhile to consider in formulating an approach to foreign capital inflows after the country has once attained SAG. We do not explore this question further as it is too early for most less developed countries to confront this situation<sup>21</sup>.



SAG: The path of self-assured growth (slope held constant only for illustration);  
 LSSG: The path of literally self-sustaining growth from time  $t$  onwards, with slope equalling the postulated minimum growth rate,  $\bar{g}$ .

Figure 2

### VIII. CONCLUDING COMMENTS

1. As already stated, the purpose of the above model and analysis thereof is to present a benchmark-interpretation of the concept of *self-assured growth*

<sup>21</sup> It may be noted, finally, that failure to allocate the required proportion of additional investment, made possible by supplementing domestic saving by foreign finance, in the import-substitution sector does not mean that growth rate will fall below the postulated minimum as soon as the flow of foreign finance ceases for some reason or other. In the situation where  $n_1 < n_2$ , the growth rate may actually be made higher than the postulated minimum rate *initially*, by investing a greater proportion than  $\alpha_1$  in the traditional sector (with its lower investment-import-intensity), so as to meet the balance-of-payments constraint. *This, however, will further aggravate the balance-of-payments problem for subsequent years, and eventually the growth rate must fall below  $\bar{g}$ .*

and to illustrate operational use of this concept as an objective in perspective planning. Refinements of the model, and in particular of the specific operational interpretation of SAG, can certainly be conceived. One could, for example, prescribe the minimum growth rate to be planned for any period as a function of the *historical growth rate* obtained in previous periods. One could also, instead of requiring ability to land "instantaneously", as it were, whenever desired from the path of SAG on the path of LSSG, postulate a maximum "period of landing" during which the growth rate might be allowed to fall below the prescribed minimum. The model may also be modified to accommodate along the path of LSSG some amount of foreign capital which the country may expect to be able to obtain, through skilful international manoeuvres, without any significant restriction on its choice of strategic national and international policies. It is hoped that the present paper will stimulate attempts to refine long-term planning exercises in such and other directions in search of an even more sensible interpretation of self-assured growth.

2. In conclusion we shall venture the suggestion that national self-respect, out of which a nation might want to plan for self-assured growth, is not merely a matter of emotions. The problem of economic development cannot be isolated from the problem of *national development* in a wider sense. Purposeful political and psychological participation by the people is a necessary input for rapid economic development in the present-day world, and for this a certain degree of national pride has to be roused and sustained. The revival of national self-respect is widely recognized as a major explanation of recent economic successes in China; nothing else than national pride can explain the sustained incredible military performance of the "primitive" people of North Viet-Nam against the world's mightiest power. The failure of conventional economic development theory to recognize the role of nationalism *as a technical force* may very well explain in a large measure its inadequacy as a guide to fruitful development policy<sup>22</sup>.

3. Finally, those desirous of seeing a continuation of the flow of capital from richer to poorer nations to help in the latter's efforts to eliminate poverty may appreciate the desirability of making it politically and psychologically easier for the poor to accept transfer from the rich. This calls for ways for a continuous transfer of capital without entrapping the recipient nations into a state of explicit or implicit political subordination. Under the existing institutions, the supply of foreign capital is associated by and large with both economic and political costs that do threaten the economic and political sovereignty of recipient nations. Unless otherwise provided, the use of foreign capital has a built-in tendency to increase the recipient countries' external payments bill in

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<sup>22</sup> See Dudley Seers and others in the *Manchester Conference Proceedings* [17] for an indictment of economic development theory for its inability to explain what causes economic development.

subsequent years and thus make it dependent on further foreign capital, a process that is liable to become cumulative. Such dependence would restrict the recipient country's choice of domestic and international policies, both economic and political. A continuous international transfer of capital to a self-respecting nation cannot be envisaged unless the latter feels insured against this danger. The insurance may mean a less "productive" use of foreign capital in a restricted and short-run sense; but it will make way for a higher long-run growth in the recipient country, and international welfare in general one should think, by making it psychologically and politically easier for the recipient country to accept a continuous inflow of foreign capital. It is in the direction of devising such insurance that the present paper offers a very modest contribution.

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