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FOREIGN TRADE AND ECONOMIC DEVELOPMENT

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CHAPTER X

FOREIGN TRADE AND ECONOMIC DEVELOPMENT*

'Open models are just as useful in broadening the analysis as 'closed' models are essential in deepening it. In the present chapter we shall build open models of economic development to clarify the technical relation between foreign trade and domestic growth. Specially this chapter will discuss (a) the relation between foreign trade and demand growth, (b) the relation between foreign trade and capacity growth, and (c) parametric operations for equilibrium growth—in the particular context of an open economy whose demand tends to grow faster than its capacity and so to make for persistent inflation and imbalance.¹

This specific treatment of the problem has been chosen so as to relate the present discussion to the post-Keynesian controversy over the relation of domestic growth and the balance of payments.² Two distinct approaches to that relation are discernible. One approach stresses domestic progress regardless of its repercussions on the balance of payments, while the other approach emphasizes the need for balance of payments equilibrium whether that external balance is or is not conducive to internal

* This is a somewhat modified version of my 'Economic Development and the Balance of Payments', *Metroeconomica*, Vol. X, April, 1958.

¹ Most economies outside of the dollar area are confronted with the post-ward problem of promoting secular growth in the midst of domestic inflation and foreign balance of payments difficulties. See, e.g. U.N. Economic Commission for Latin America, *Economic Survey of Latin America 1954*, Columbia Univ. Press, 1955; also my 'Japan's Trade Position in a Changing World Market', *Rev. Econ. Stat.*, November 1955.

² Cf. 'Growth and the Balance of Payments: A Symposium', *Bull. Oxford Inst. Stat.*, February 1955; R. Nurkse, 'The Relation between Home Investment and External Balance in the Light of British Experience, 1945-55', *Rev. Econ. Stat.*, May 1956; F. Machlup, 'The Finance of Development in Poor Countries: Foreign Capital and Domestic Inflation', *Econ. Studies Quarterly (Japan)*, April 1956.

growth. This difference of professional opinion seems to arise from one-sided preoccupation with the income-generating aspect of foreign trade (demand aspect) or with the capacity-creating aspect of it (supply aspect).

An attempt will be made here to combine these two aspects of foreign trade with a view to clarifying the conditions necessary for balanced or equilibrium growth without internal inflation and external imbalance. Such an attempt may also shed additional light on the national and international measures for freer trade and higher living standards all around.

FOREIGN TRADE AND DEMAND GROWTH

Let us begin with the analysis of the technical relation between foreign trade and demand growth, taking the conditions of supply as given. To show the effect of foreign trade activities on the growth of effective demand, it is necessary to dynamize and secularize Keynesian multiplier theory as follows:

$$\Delta Y^d = \frac{I}{s' + m' - b'} (\Delta I + \Delta G + \Delta E), \quad (1)$$

where Y^d is real net national income determined by effective demand or simply effective demand, I autonomous private net investment, G government expenditure, E autonomous exports (including invisible credit items), s' the marginal propensity to save, m' the marginal propensity to import, and b' the marginal propensity to invest. Here the multiplicands ΔI , ΔG and ΔE are exogenous parameters, while the marginal propensities to save, to import, and to invest s' , m' , b' are endogenous parameters. The relative significance of ΔI , ΔG , and ΔE depends on the type of economy envisaged. Observation indicates that the export multiplicand ΔE is quantitatively more significant in underdeveloped economies than in ad-

vanced ones.¹ Needless to say, the relative importance of ΔI and ΔG rests largely on the extent of departure from the laissez-faire tradition. The marginal propensities to save, to import, and to invest are not necessarily the same as their average counterparts; nor do they hold constant relations to national income. The values of s' , m' , and b' are observedly quite different as between advanced and underdeveloped economies, however. Inclusion of b' here signifies the possible presence of induced investment, in addition to autonomous investment.

Dividing both sides of equation (1) by Y^d and rearranging, we get the rate of growth of effective demand (G^d):

$$G^d = \frac{\Delta Y^d}{Y^d} \cdot \frac{a + \beta + y}{s' + m' - b'} \quad (2)$$

where $a \equiv \Delta I/Y^d$, $\beta \equiv \Delta G/Y^d$, and $y \equiv \Delta E/Y^d$. Equation (2) shows that the rate of growth of effective demand is capable of varying directly with changes in autonomous investment, government expenditure, and export income all relative to national income, and inversely with the marginal propensities to save, to import, and to invest. It represents the demand side of a growing open economy. It also shows that an increase in exports relative to national income (y) or a decrease in the marginal propensity to import (m') would, cet. par., increase the rate of growth of effective demand. However, whether a higher or lower rate of growth of effective demand is to be achieved and maintained cannot be decided except with reference to the rate of growth of productive capacity which we are presently taking as given. We shall return to this matter later. Meanwhile it is interesting to see what implications equation (2) has for an open

¹ See H.C. Wallich, 'Underdeveloped Countries and the International Monetary Mechanism', in Money, Trade and Economic Growth, Macmillan, N.Y., 1951.

economy's balance of payments position.

Putting $\Delta I = 0$, $\Delta G = 0$, and $\Delta E = 1$, we may concentrate on the multiplier effect of a change in exports in order to compare this export change with induced imports. For we know that additional imports are induced by an export-generated increment of domestic income, according to

$$\Delta M = m' \Delta Y^d = m' \frac{I}{s' + m' - b'} \Delta E = \frac{m'}{s' + m' - b'} \Delta E. \quad (3)$$

Starting from the initial position of balance of payments equilibrium, $E - M = \Delta R = 0$ (where M is real imports including invisible debit items and ΔR an increment or a decrement of foreign exchange reserves), the emergence of a favourable or adverse balance of payments can be seen in the following illustrations of equation (3):

If $0 < s' > b' = 0$, then $\Delta M < \Delta E$ (case of undercompensation).

If $0 < s' < b' > 0$, then $\Delta M > \Delta E$ (case of overcompensation).

If $0 < s' = b' > 0$, then $\Delta M = \Delta E$ (case of equal compensation).

The first of these cases is a Keynesian one based on the assumption of excess capacity having a nullifying or decreasing effect on induced investment, so that induced imports always fall short of any original increment of exports and foreign exchange reserves accumulate by an amount equal to

$$\Delta R_n = (\Delta E_{n-1} + E_0) - (\Delta M_{n-1} + M_0).$$

The second case exemplifies an unstable system with the marginal propensity to invest tending to exceed the marginal propensity to save, as in war-devastated or underdeveloped economies with a general shortage of

capital or during the upswing phase of a trade cycle with its exhaustion of idle plant and equipment. In this second case of overcompensation foreign reserves decumulate according to

$$-\Delta R_n = (\Delta M_{n-1} + M_0) - (\Delta E_{n-1} + E_0).$$

The last case of equal compensation arises from the marginal propensity to save being equal to the marginal propensity to invest, so that there is neither accumulation nor decumulation of exchange reserves, $\Delta R = 0$. This last case may not be considered desirable from a purely domestic point of view, for it means not only that any increment of autonomous exports will sooner or later be dissipated in an equal increment of imports but also that foreign exchange reserves as a possible source of developmental capital are not at all increasing over time. It would be considered none the less desirable if a single economy started from the initial position of balance of payments disequilibrium.

Such is the interaction and interdependence of foreign trade and demand growth. Concern with the expansion of exports as a source of demand is justified to the extent that the actual rate of growth of national income is determined by demand alone, as when the conditions of supply are given. Such concern is entirely in keeping with the Keynesian tradition which rejects the classical notion that supply creates its own demand. Nevertheless it is one-sided concern all the same, for foreign trade relations are capable of influencing the supply side of a growing economy as well. This is where we must depart from Keynesian preoccupation with effective demand and turn to classical emphasis on supply and productivity once more, albeit without Say's Law.

FOREIGN TRADE AND CAPACITY GROWTH

Taking the conditions of demand as given this time, we may proceed to analyse the other relation between foreign trade and capacity growth. Given the size of natural resources and of the labour population, an economy aggregate supply or productive capacity depends mainly on the quantity and quality of real capital. We may express an increase in productive capacity due to full utilization of available capital in the form

$$\Delta Y^S = \sigma \Delta K - \sigma I, \quad (4)$$

where Y^S is net national output determined by productive capacity or simply productive capacity, K the quantity of capital when fully utilized, I net investment ($I_t = K_t - K_{t-1}$), and σ the marginal (= average) productivity of capital technologically given.

But an open economy's net investment is, in equilibrium, equal to savings in an unusual sense, that is,

$$I = S + M - E; \quad I + E = S + M, \quad (5)$$

where S is domestic savings, other variables being the same as before.

Substituting (5) in (4), we have increment of productive capacity involving exports and imports:

$$\Delta Y^S = \sigma(S + M - E). \quad (6)$$

Next we define S , M , and E in $S = sY^S$, $M = mY^S$, and $E = eY^S$, where s is the saving ratio, m the import ratio, and e the export ratio (i.e. the average propensities to save and to import and the ratio of autonomous exports to given domestic production). Taking these definitions

into account and rearranging, we have the rate of growth of productive capacity (G^s):

$$G^s = \frac{\Delta Y^s}{Y^s} = \sigma(s+m-e), \quad (7)$$

which represents the supply side of a growing open economy. Equation (7) indicates that the rate of growth of productive capacity obtainable by fully utilizing available capital is capable of varying in direct proportion as the productivity of capital (σ) changes and as the domestic saving ratio plus the trade balance ratio ($s+m-e$) changes. The operational significance of equation (7) may be seen in the following plausible numerical examples:¹

If $\sigma = .5$, $s = .10$, $m = .05$, $e = .07$, then $G^s = .04$
(advanced economy).

If $\sigma = .2$, $s = .05$, $m = .015$, $e = .10$, then $G^s = .02$
(underdeveloped economy).

These examples indicate that an advanced economy with a high capital

¹ The values of σ are inferred from the average capital-output ratios attributed to advanced and underdeveloped economies. See, e.g. W. Fellner, 'The Capital-Output Ratio in Dynamic Economics,' op. cit.; I. Yamada, 'The Five-Year Economic Plan in Japan and the Analysis of Postwar Japanese Economy', Economic Review, July 1956; Y. Okazaki, 'On the Capital-Coefficient in Underdeveloped Countries', Economic Studies Quarterly, March 1957. Advanced economies usually have smaller capital-output ratios, thus implying larger productivity of capital coefficients based on superior technology. For comparative saving ratios see S. Kuznets, 'Economic Growth and Income Inequality', op. cit. As for the export and import ratios, the low productive and exporting capacity of underdeveloped economies is a presumption against their export ratios being constantly above their import ratios. For comparative export-import figures in absolute terms, see H. Wallich, op. cit.

productivity coefficient as well as with a high saving ratio can achieve a high rate of growth of productive capacity through a positive foreign balance ratio ($e - m > 0$), while an underdeveloped economy with low productivity and low saving can achieve only a low rate of growth of productive capacity through a negative foreign balance ratio ($e - m < 0$). They also imply that if an advanced economy's capacity tends to grow faster than its demand, it must increase its positive foreign balance ratio and that if an underdeveloped economy's capacity tends to grow more slowly than its demand, it must increase its negative foreign balance ratio.

Thus the presumption is that an advanced economy usually experiences a favourable balance of payments represented by $eY^S - mY^S = \Delta R > 0$, while an underdeveloped economy customarily experiences an adverse balance of payments characterized by $eY^S - mY^S = \Delta R < 0$. This, however, is not to say that an underdeveloped economy must not try to develop its productive capacity without regard to balance of payments equilibrium, as the subsequent analysis will show to the contrary. Let us turn to the consideration of parametric operations for equilibrium growth without inflation and imbalance.

PARAMETRIC OPERATIONS FOR EQUILIBRIUM GROWTH

Balanced or equilibrium growth is the ideal line of advance which, if realized, would guarantee rising real income without being dissipated in rising prices and without being disrupted by chronic balance of payments difficulties. It is clear from the foregoing analysis that the basic condition to be satisfied for the realization and maintenance of equilibrium growth is

$$\frac{\alpha + \beta + y}{s' + m' - b'} = \sigma(s + m - e) \text{ or } G^d = G^s. \quad (8)$$

Equation (8) implies that if $G^d = G^s$, money national income (Y_m^d) will rise according to the exponential form

$$Y^d = Y_m^d = P(t)Y^s = Y_{m0}^d (1+g_m)^t,$$

where P is the price index at time t , Y_{m0}^d the initial value of money income, and g_m the rate of increase of money income ($\Delta Y_m^d / Y_m^d$). If the economy started from the initial position of equilibrium $G^d = G^s$, a sudden shock of the form $G^d > G^s$ at time $t > 0$ would give rise to an inflationary divergence from the steady path of full-capacity growth. The initiating shock of the form $G^d > G^s$ may be due to a more or less permanent rise in α , β , y or B' or, alternatively to a similar fall in s' and m' , as equation (2) indicates. A situation characterized by $G^d > G^s$ is indicative not only of a persistent tendency toward inflation but also of chronic balance of payments difficulties. For a high G^d implies the possibility of large induced imports, while a low G^s suggest the likelihood of small exports supplied.

This leads us to the question: how can an open economy characterized by the inequality of the form $G^d > G^s$ wipe out internal inflation and external imbalance that are implicit in that inequality? The general answer is that G^d must be reduced without at the same time reducing G^s , while trying to increase G^s without increasing G^d , if there is to be $G^d = G^s$. This is a tall order indeed, but nevertheless let us explore possible operations with the parameters of equations (2) and (7) so as to satisfy the condition expressed by equation (8).

THE CONTROL OF EFFECTIVE DEMAND

The operational possibilities of reducing G^d are necessarily limited by the basic objective of fostering domestic economic progress without up-

setting foreign balance of payments equilibrium. With this restriction in mind, let us first contemplate possible reductions in exogenous parameters α , β , and y , taking endogenous parameters s' , m' , and b' as given.

By how much autonomous investment, government expenditure, or export income should fall for any given level of national income depends on the multiplier and the desired decrement of effective demand involved, for we know from equation (1) that the required contraction of any of those multiplicands is given by $\Delta I = \Delta Y^d/k$, $\Delta G = \Delta Y^d/k$, or $\Delta E = \Delta Y^d/k$, where $k = 1/(s' + m' - b')$. Let, for instance, $s' = 0.05$, $m' = 0.3$, $b' = 0.1$, $\Delta Y^d = 1$. Then autonomous investment considered as relevant source of demand will have to contract by an amount equal to $\frac{1}{4} = 0.25$, according to $\Delta I = \Delta Y^d/k$. The same holds valid for any other multiplicand.

It is important that the choice of any particular source of demand for reduction must be guided by reference to possible repercussions on the balance of payments and the secular growth of productive capacity.

As far as the balance of payments is concerned, an autonomous fall in exports relative to any given level of demand (y) could, cet. par., reduce G^d without provoking external imbalance, provided s' increased relatively to b' at the same time. Inasmuch, however, as a change in y has no direct influence on s' , a reduction in y as a particular way to dampen excess demand must be ruled out as inconsistent with the aim of maintaining balance of payments equilibrium. Moreover, since the demand for a single economy's exports is mainly a function of other economies' income levels, it is not usually open to a single economy to manipulate y as it sees fit (with the possible exception of the U.S. which could considerably influence the foreign demand for its exports through large-scale loans and gifts, as was demonstrated by the Marshall Plan). As far as the secular growth of productive capacity is concerned, a fall in α

or β need not reduce the productivity of capital (σ), if such a fall is effected at the expense of unproductive components of autonomous private investment and government expenditure (e.g. pyramid-building and armaments). If a fall in α or β is brought about through a 'dear money' policy, it may well have the effect of discourage-'roundabout' methods of production and hence of reducing the productivity of capital in the long run (this latter effect operating via the possibly decreasing effect of a lower capital-labour ratio on labour productivity, as in $Y/K = (Y/N) (K/N)$).

Taking α , β , and γ as given, we may now consider possible operations with s' , m' , and b' for the same purpose of controlling effective demand, albeit with due regard for the balance of payments and the secular growth of productive capacity.

A rise in s' is capable of reducing G^d without defeating the purpose of promoting balance of payments equilibrium and of expanding productive capacity. For, on the one hand, $s' = b'$ makes for $\Delta M \leq \Delta E$, as our earlier analysis has shown, while, on the other hand, the same increase in s' tends to increase \underline{g} and \underline{o} in the long run and so to raise G^s without much dependence on a large external deficit in terms of ratios, $\underline{m} > \underline{e}$. The necessary reservation to have here is that the measures for increasing s' may prove inexpedient inasmuch as they imply consumption austerity possibly beyond what is considered tolerable in some cases.

A rise in the marginal propensity to import, m' , might also be contemplated, provided that the marginal propensity to save exceeds or equals the marginal propensity to invest. For $s' \geq b'$ makes for $\Delta M \leq \Delta E$, as mentioned above. In addition to reducing G^d , a rise in m' tends to increase \underline{m} in the long run so to help increase G^s . Furthermore, if a higher m' has the 'substitution effect' of diminishing the demand for home-produced consumer goods, abstracting from any offsetting 'income effect', it

will to that extent increase s' and \underline{s} , thus reducing G^d and raising G^s still more.

A fall in the marginal propensity to invest, b' , might also be considered as an alternative operational possibility. A fall in b' tends to decrease G^d without thereby worsening the balance of payments, for we have already seen that zero or small b' gives full play to the Keynesian case of 'undercompensation'. Moreover, insofar as a fall in b' is brought about through measures designed to enlarge the scope of innovational investment (a la the acceleration principle), it tends to increase \underline{c} in the long run and so to raise G^s .

Thus in inflationary circumstances arising from $G^d > G^s$, the growth of demand can be controlled so as to make $G^d = G^s$ through (1), a rise in s' (2), a rise in m' (3), a fall in b' (4), a fall in α (5), a fall in β , and/or (6) a fall in \underline{y} —without provoking balance of payments disequilibrium and without impeding the secular growth of productive capacity remains yet to be discussed.

THE CONTROL OF PRODUCTIVE CAPACITY

To increase the rate of growth of productive capacity is admittedly more difficult than to decrease the rate of growth of effective demand. This difficulty is all the greater because of the restriction imposed upon our parametric operations, namely, not to increase G^s in such wise as to increase G^d and to entail $\Delta R < 0$. With this restriction at the back of our mind, let us explore possible operations with the parameters of equation (7).

An increase in the productivity of capital (σ) has the advantage of accelerating G^s without the self-defeating accompaniment of rising demand and without the worsening of external balance. For it signifies greater productive and exporting capacity through more efficient utilization of

a given stock of capital rather than an increment of capital that might generate unwanted demand or necessitate unwanted imports. We may see it as follows.

Suppose that the total stock of capital (K) is partitioned into that which is owned and utilized by home-biased industries (K_h) catering to domestic markets and that which is owned and utilized by export-biased industries (K_e), catering to foreign markets, so that

$$K = K_h + K_e, \quad (9)$$

the distribution ratio of which is

$$\frac{K_h}{K} = \eta, \quad \frac{K_e}{K} = 1 - \eta. \quad (10)$$

Next we define productive capacity (Y^s) as being made up of home-biased output (Y_h^s) and export-biased output (Y_e^s) so that

$$Y^s = Y_h^s + Y_e^s, \quad (11)$$

the right-hand side of which equation may be specified as

$$Y_h^s = \sigma_h K_h, \quad (12)$$

$$Y_e^s = \sigma_e K_e, \quad (13)$$

where σ_h is the average and marginal productivity of capital in the home-biased industries as a whole and σ_e the average and marginal productivity

of capital in the export-biased industries. Here we shall assume $\sigma_e > \sigma_h$ on the plausible ground that decreasing-cost (increasing-return) industries are the ones that usually require expanding export markets (especially in the absence of expanding domestic frontiers and markets), in addition to the home market. This assumption is crucial for the present argument in favour of increasing the distribution ratio, $I - \eta$, for the purpose of raising the productivity of capital for the whole economy as well as the productive capacity of the export-biased industries.

Taking equations (10), (12) and (13) into account, we can rewrite equation (11)

$$Y^S = \sigma_h K_h + \sigma_e K_e = \sigma_h \eta K + \sigma_e (I - \eta) K. \quad (14)$$

From (14) we have the average productivity of capital for the whole economy:

$$\frac{Y^S}{K} = \sigma = \sigma_h \eta + \sigma_e (I - \eta), \quad (15)$$

which indicates that the average productivity of capital for the whole economy is capable of increasing as a result of an increase in the distribution ratio $(I - \eta)$, provided that $\sigma_e > \sigma_h$. It also implies that export-biased output is enlarged by that rise in the distribution ratio $(I - \eta)$, that is, via $Y_e^S = \sigma_e (I - \eta) K$.¹ Moreover, this increase in

¹ Such a rise in the capacity to produce exportable goods does not, however necessarily result in an increase in the demand for exports which depends on foreign incomes, relative prices, exchange rates, and possibly non-economic foreign policies. That R. Nurkse recommends such an increase in Britain's export industries is at best a reflection of the special circumstances in which are foreign demand for exports, (from the

capital productivity coefficient (σ) has the added advantage of necessitating a smaller import ratio (\underline{m}) to supplement the domestic saving ratio (\underline{s}).

A rise in the saving ratio (\underline{s}) could increase G^s without at the same time increasing G^d , if it tended to increase \underline{s}' and so to decrease the rate of growth of effective demand. Also a higher domestic saving ratio, like a higher productivity of capital, makes for less reliance on imports as a supplement to domestic real capital, according to equation (7). It may be presumed that a higher saving ratio is brought about through a redistribution of disposable income in favour of high-saving income groups or through a persistent budgetary surplus.

A rise in the import ratio (\underline{m}), if it also represents a rise in \underline{m}' , is capable of increasing G^s without increasing G^d . But from the standpoint of long-run balance of payments equilibrium it is a rise in the average propensity to import capital goods (m_i) which is to be encouraged, keeping the average propensity to import consumer goods (m_c) constant. For the import ratio is actually the sum of these propensities, $m = m_c + m_i$. This means that if $\underline{m} = \text{constant}$, m_i can be increased only at the expense of m_c and that if $m_c = \text{constant}$, a rise in \underline{m} signifies a rise in m_i . If a rise in \underline{m} is due to a rise in m_i instead of in m_c , it will make a direct contribution to the domestic capital-goods

U.K.) happens to coincide with what Britain is capable of supplying. But for many trading nations (e.g. Japan) it is not so much the lack of exporting capacity as the lack of foreign markets (demand) which is troublesome. Accordingly an increase in the productive capacity of export-biased industries, while it may contribute to overall productivity and growth, nevertheless can prove rather disappointing for lack of expandable foreign markets.

industries.¹ In terms of trade policy this may mean that tariffs and other import controls should be so directed as to keep the average propensity to import consumer goods (m_c) from rising.

Lastly, a fall in e relative to given m would increase G^s without militating against the other aim of reducing G^d , since a fall in e may well represent a fall in y in the shorter run. However, a fall in e may have a detrimental effect on balance of payments equilibrium. The most that a single economy can do to protect its long-run balance of payments position is to rely on the increasing effect of a rise in y on e so as to avoid an otherwise large deficit ratio, $e - m < 0$, that would be needed to increase G^s . Beyond that a single exporting economy can merely hope that the rest of the trading world will increase their incomes or their average propensities to import, given relative prices and exchange rates. The extent to which e should fall relative to given m depends on the prevailing values of c and g , for as a less developed economy becomes more productive and more thrifty, it can develop its productive capacity without importing foreign goods and capital in excess of what it can pay by its own exports.

CONCLUDING REMARKS

To emphasize the demand side of a growing economy alone is to lose sight of the capacity-creating aspect of foreign trade which classical

¹ This is not to say that imported consumer goods are unproductive, for they do have the indirect effect of contributing to the domestic capital-goods industries by releasing productive factors that would otherwise be used in producing consumer goods. But for those economies with relative factor immobility and inadequate exchange reserves it is of great practical importance to concentrate on the importation of capital goods.

theory from Adam Smith's Wealth of Nations down to the present has taught. To stress the supply side alone is to ignore the income-generating aspect of foreign trade which Keynesian theory has shown and to repeat the classical error of assuming that supply creates its own demand. Accordingly the realization and maintenance of equilibrium growth with full employment (both of labour and capital) but without internal inflation and external imbalance requires that the rate of growth of effective demand and the rate of growth of productive capacity be brought into equality with each other. With the inflationary circumstances occasioned by $G^d > G^s$ in view, we have explored possible operations with the parameters of the growth of demand equation and the growth of capacity equation so as to make $G^d = G^s$, that is, ways and means of reducing G^d without thereby reducing G^s and of increasing G^s without simultaneously increasing G^d .

If the choice must be made between domestic growth and balance of payments equilibrium, most underdeveloped economies will probably prefer the former to the latter, and with reason. For capacity growth is a presumption in favour of gradually improving balance of payments, while excessive preoccupation with the balance of payments problem tends to encourage the one-sided growth of 'exchange-earning' industries at the expense of overall industrialization, as colonial history so abundantly illustrates.

Underdevelopment, like underemployment, is a strong presumption against free non-discriminatory trade, for underdeveloped economies are always tempted, to protect and often justified in protecting their indigenous industries against the competition, actual or potential, of foreign goods. This is the important element of truth in Friedrich List's theory of industrialization through protection¹ which all but free-trade

¹ See his Das nationale System der plitischen Ökonomie.

purists would recognize, especially in the light of the understandable drive for 'international homogenization', to borrow Haavelmo's phrase.¹ It is just as unfruitful to hope for multilateral trade without developing the underdeveloped areas of the world as it is idle to preach the advantage of free trade without promoting universal full employment. This latter is what we have recently learned from Keynesian theory. In this regard, it is instructive to recall that Keynes definitely linked as International Monetary Fund to 'the policy of full employment' and considered it an increasingly important task of a World Bank 'to make the resources of the world more fully available to all mankind, and so to order its operations as to promote and maintain equilibrium in the international balances of payments of all member countries'.² Our analysis suggests that less developed economies have every reason to proceed with their industrialization programming without undue fears of balances of payments disequilibrium.³

¹ T. Haavelmo, A Study in the Theory of Economic Evolution.

² See Keynes's speech before the House of Lords, May 23, 1944, and his Opening Remarks at the First Meeting of the Second Commission on the World Bank July 3, 1944.

³ We may make the following qualifying observations about the possible antinomy of industrialization: (1) The greater production and exportation of manufactured goods incident to industrialization may raise the income elasticity of foreign demand for imports (or exports of the industrializing economy in question) far beyond unity, $(\Delta M_w/M_w)/(\Delta Y_w/Y_w) > 1$, where M_w is imports of the rest of the world and Y_w its national incomes considered as a whole. The exporting economy is then likely to experience greater instability in its foreign balances and, more particularly, a serious loss of exports whenever national incomes in the rest of the world take a downturn. (2) If the industrializing economy's imports consist largely of capital goods, it is possible to consider imports as a function of the rate of change of income, that is, $M_k = \beta \Delta Y$, where M_k is imports of capital goods and β the capital-output ratio involved (the reciprocal of the productivity of imported capital goods). Dividing both sides of this import

equation by \underline{Y} , we get the import ratio: $M_k/Y = \beta (\Delta Y/Y)$, which shows that a rise in the rate of growth of domestic income is capable of increasing the import ratio above the given export ratio (E/Y)—unless the capital-output ratio (β) is reduced by the increased productivity of imported capital goods. (3) The higher money wage-rate accompanying increased labour productivity may increase the average export price (P_e) relatively to the average import price (P_m) so as to discourage exports and increase imports, the latter effect being via $\Delta M = m \Delta Y = m k' t \Delta E$, where k' is the foreign-trade multiplier, $t = P_e/P_m$ or the terms of trade index, and E exports. Such a rise in t is often offset by a government subsidy to exporters or by a monopolistic agreement among exporters not to raise export prices, however. (4) The expansion of export-biased industries at full employment may increase general prices (including export prices) to the detriment of export trade, while the same expansion at less than full employment may increase domestic real income and induced imports, the net effect on the foreign balance being the more adverse the more price-elastic is the foreign demand for imports, and the higher is the domestic marginal propensity to import.

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