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THE GRADUAL TRANSITION: NEO-ENCLAVE GROWTH*

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CHAPTER 10

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INTRODUCTION

In this chapter we analyze a type of transition growth process, which we will refer to as neo-enclave growth, to emphasize its continuity with the colonial past. Neo-enclave growth contrasts sharply with the politically-induced beginning of the transition, discussed in the previous chapter. The neo-enclave system involves a more gradualistic termination of colonialism, especially in the economic sense. Judging from the postwar experience of countries where this growth type has existed, this gradual transition is likely to be viable for a longer period than politically pushed industrialization. Among Southeast Asian countries, Malaysia may be cited as a typical example of neo-enclave growth, while Thailand also falls into this general type.[1]

The organizational features of neo-enclave growth rely upon a free market system, characterized by relative absence of government interference in the domestic market as well as in foreign trade. The government maintains relative neutrality in respect to industrialization and modernization of agriculture, leaving these to be controlled by market

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[1] In Thailand formal termination of colonial political control in its full sense was, of course, not necessary. A limited form of colonialism, beginning in the 18th century and more formally imposed by the Bowring and other treaties in the mid-nineteenth century, was gradually eroded in the two decades prior to World War II.

forces. Thus, the forced-industrialization emphasis discussed in the previous chapter is avoided.

Our analysis of neo-enclave transition growth is directed at two levels. We wish to proceed first at the historical level, investigating, in Section 1, the political, economic, and geographic conditions contributing to the emergence of this transition type. In Section 2 we proceed at the economic level, studying the mechanism of operation and the rules of growth of the market system as a transition phenomenon. This provides the background for analyzing growth in two types of export-led growth systems in Section 3. This will enable us to assess, in Section 4, the special meaning of development policy for this growth type. In the final section we speculate about the long-run evolution of neo-enclavism into other growth strategies.

1. EMERGENCE OF THE NEO-ENCLAVE SYSTEM

1.1 NEO-ENCLAVISM AS A COMPROMISE

From the economic viewpoint, the colonial enclave system was characterized by an external, commercial-oriented enclave, engaging in the export of raw material and/or labor-intensive products, the tempo of economic activity exclusively controlled by the forces of foreign market

demand.[2] The neo-enclave system retains the colonial economy's external commercial orientation, its concentration upon primary product exports, and its tolerance for transferring capital abroad. Domestic manufacturing continues to serve the export sector, and the growth of domestic industry is controlled by foreign demand for primary product exports.

Politically, the neo-enclave system represents a compromise with the previous colonial system on the issue of alien versus indigenous roles in the society. Overt foreign control of the government, to be sure, is progressively eliminated, but aliens[3] remain in dominant positions as entrepreneurs and managers in production and trade. While appearing to represent political maturity and economic realism at the time of decolonization, the compromise, in fact, generates tension, creating an increasingly delicate political balance. The compromise represents holding nationalism in rein although demands for eradication of foreign economic influence are likely to surface.

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[2]See Chapter 2, Section 3, and Chapter 9, Section 1.

[3]We use the term "aliens" to refer to the non-indigenous population; e.g., the non-Malays (British, Chinese, Indians) in Malaysia and the non-Thai in Thailand. Such usage is customary in Southeast Asia.

Failure of the economy to maintain satisfactory growth performance may exacerbate inter-group tensions and raise the threat of racial strife or other forms of political stress. Against this background, the government must constantly exercise restraint to maintain the compromise with alien economic interests, and this political climate shapes the course of economic growth under neo-enclavism.

It is important to realize that the free market system is a direct product of the political compromise. The government remains passive, abstaining from aggressive interference in the foreign trade and domestic markets. Alien and indigenous economic agents are free to participate in the economy on equal terms dictated by impartial market forces. Competitiveness, assured by free trade policy, is directly transmitted to the domestic economy. Since government market policies are relatively neutral and growth is led by agricultural exports, active government policy is confined to promoting productivity gains in agriculture through public investment rural infrastructure. A compromise of this nature has existed in Malaysia since independence (1957) and in Thailand since the 1950s.[4]

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[4]Beginning in the 1930s and until the mid-1950s, Thailand sought to avoid such a compromise by an unsuccessful effort to prevent the Chinese minority from dominating industry by a government industrial program. See Robert J. Muscat, Development Strategy in Thailand (New York: Frederick A. Praeger, 1966), pp. 187-196.

1.2 POLITICAL ORIGINS OF NEO-ENCLAVISM

A first necessary political condition for the compromise just discussed is an obvious one--a relatively peaceful process of political decolonization.[5] The transfer of sovereignty to the former colony must not be accompanied by a military struggle between foreigners and indigenous people. This peaceful climate allows aliens to retain their dominant stake in the economy. Conversely, where anti-foreign nationalism has been whipped into virulent form by a protracted struggle for independence (as in Indonesia), a compromise with alien economic interests is virtually impossible on political grounds.

A second factor contributing to the compromise solution is the absence of a vigorous indigenous entrepreneurial class. Despite the likely appearance of popular pressures for industrial development, forced industrialization via the avenues discussed in the last chapter is politically not feasible. Where forced profit transfers are employed--as in China: Taiwan, the Philippines, Pakistan, and India--an indigenous entrepreneurial class must exist to form a new economic alliance with the newly independent government. In the absence of an indigenous class to

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[5]This was true in the case of Malaysia, and in Thailand foreign political interference was terminated by renegotiation of treaties.

assume the industrializing roles, the new government is averse to squeezing agriculture to subsidize the non-indigenous groups capable of undertaking industrial development.[6]

If the "old" enclave base is to be retained, reliance upon foreigners and aliens who operate this base is essential, however distasteful such a compromise may be. Thus, the third political factor leading to the emergence of the neo-enclave system is the pervasiveness of non-indigenous groups and their dominance of important roles in the economy inherited from colonialism. Their services are indispensable to the continued satisfactory functioning of the primary product export base which lies at the heart of the neo-enclave system.

Thus, the evolution of a compromise solution involving market discipline and government neutrality is based upon three socio-political conditions: (i) a peaceful, smooth process of political decolonization; (ii) scarcity of indigenous entrepreneurship; and (iii) the dominance of alien economic agents in the operation of the economy's critical economic functions.

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[6]The experience of Thailand confirms both of these observations and shows the compromise solution arising after this lesson had been learned through earlier failures to achieve an anti-Chinese program of industrializing through policies similar to those discussed in Chapter 9.

1.3 THE ECONOMIC GEOGRAPHY OF NEO-ENCLAVISM

If a neo-enclave system is to endure for a generation or more, certain background conditions of a resource endowment nature must be present. The natural resource base must be adequate to continue to sustain a system whose means of expansion derives from primary product (raw material specific) exports. In Southeast Asia this base is primarily agricultural, in some cases supplemented by mineral deposits.

Quantitatively, the important condition is a favorable land/labor ratio which may be described as an "unlimited supply of land." This condition gives the neo-enclave economy a horizontal-expansion feature as reserve land is continuously "released" at rates equal to population growth, obviating the danger of population pressure and its consequent effect of increasing costs of producing exports. Relatively constant land/labor ratios enhance possibilities of increasing agricultural productivity through other means; e.g., the introduction of modern inputs into the agricultural sector.

Qualitatively, neo-enclavism is encouraged by a natural resource base amenable to output diversification. The system is more viable over time only if the resource base allows production of an expanding stream of secondary agricultural and mineral products (e.g., maize, palm oil, tin)

to supplement the main export crop (e.g., rice, rubber). Such diversification of export products affords the neo-enclave system protection against worsening terms of trade for primary products and short-run fluctuations in demand.

These natural resource advantages offer opportunity for a large segment of the population to continue to rely upon the export of natural resources, an opportunity not available to countries with less favorable endowments (e.g., Ceylon, Taiwan, India). Neo-enclave growth, therefore, carries a strong resource-orientation flavor in which access to resource augmentation and spatial considerations are important policy matters; e.g., social overhead investment in transport, land reclamation and clearing. In the long-run, however, the eventual exhaustion of natural resources from population pressure is a most crucial factor leading toward eventual abandonment of the neo-enclave growth system as a growth strategy.[7]

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[7]For both Malaysia and Thailand this problem involves a type of projective analysis which is a key development strategy issue.

1.4 INDUSTRIALIZATION AND ITS FINANCE

As background to our ensuing analysis of the neo-enclave system, it is important to stress the purpose of industrial growth as well as the nature of the commercial capital from which it is financed. Historically, the purpose of colonial industrialization was to serve the agricultural sector in a functional sense; i.e., by processing that sector's exports and providing it with manufactured consumer goods. In neo-enclavism, industrialization can take on a new feature--the stimulation of agricultural productivity--by providing modern inputs (e.g., fertilizer) and technical know-how to the agricultural sector. Thus, industrialization does not generate an independent growth momentum. Industry continues to be intimately involved with the expansion of agricultural (and mineral) exports, serving as a vehicle for transmitting stimulation to the agricultural sector to induce diversification and modernization.

Savings from commercial profits, the major source of finance, have their own unique characteristics. First, they are controlled by mercantile interests and, consequently, their utilization is oriented toward profits from short-term investment and marked by aversion to long-gestation investment. Second, this savings fund is largely controlled by "aliens" who typically show sensitivity to their politically insecure status

and to the attendant dangers of nationalization and confiscation. Both characteristics explain why commercial capital tends to flow mainly to trade and related services and, when used for manufacturing investment, tends to be confined to light consumer good manufactures with a short gestation period and quick capital turnover. These features are accompanied by a propensity toward capital flight when political or economic prospects deteriorate, and these transfers are usually tolerated in the free market compromise of neo-enclavism.

1.5 SUMMARY

As a continuation of much of the colonial economic heritage, the neo-enclave system represents a compromise between indigenous and alien economic interests and a gradual transition from the colonial epoch. Politically, it retains the colonial characteristic of alien domination of the basic economic functions; while, economically, growth continues to be export-oriented. Organizationally, this compromise is rooted in perpetuation of a relatively free market system, in which the government maintains a neutral stance toward industrialization, content to leave it to the dictates of competitive market forces.

The system is rendered viable as a gradualistic transition by a favorable natural resource base. Land must be abundant relative to

population and permit a diversity of export products. These conditions provide escape from the potential growth-depressing forces of population pressure and deteriorating terms of trade associated with rising costs of producing exports. The system's growth thrust may then be found in gradual gains in agricultural productivity from the stimulation mutually exerted by the agriculture-oriented industrial sector and/or the rural-centered infrastructure investment promoted by the government.

The system's primary mode of operation consists of reinvestment of commercial profits. The magnitude of this savings fund is governed by agricultural exports, while investment from this source is controlled by market demand for these exports. The industrial sector continues to serve the export sector rather than generating an independent growth momentum.

2. THE ECONOMICS OF NEO-ENCLAVE GROWTH

2.1 LEVELS OF APPROACH

Neo-enclave development through a free market system presents formidable problems for economic analysis. To understand the growth dynamics of such a system a "dynamic, general equilibrium" type of analysis is needed to investigate changes in both real flows and prices as

they are simultaneously determined in markets through time. Moreover, a special aggregate type of general equilibrium analysis is required to emphasize the salient features of open dualism.[8] Finally, the unique characteristics of the neo-enclave system must be incorporated. These characteristics, which have just been discussed, include the system's agricultural-export base, the agricultural-servicing nature of industry, the toleration of capital flight, and the competitive nature of free markets.

In view of the complexity of the analytical task just posed, the economics of neo-enclave growth must be approached from several levels. First, a distinction between the macroscopic and microscopic levels must be drawn. In the macro level approach, intersectoral relationships are emphasized; while, at the more disaggregated level, the details within each macroscopic sector (industry (Y), agriculture (X), foreign (F), and finance (Z)) are investigated. The significance of this distinction will be discussed in Section 2.2.

The approach must also distinguish between the static and dynamic levels. At the static level, we will discuss the free market

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[8] This implies that traditional general equilibrium theory of the micro variety (e.g., Hicksian analysis) is of little practical use for our purpose.

economy's mechanism of operation at a point in time, the time dimension being irrelevant.[9] At the dynamic level, however, the emphasis will be upon time as the economy's rules of growth through time are investigated. In terms of this distinction, we concentrate upon the meaning of the free market system at the static level in Section 2.3, proceeding then to the dynamic level. This procedure is not only a useful expository device but also assists in classifying central aspects of the problem.

The familiar distinction between the theoretical level and the policy level is also built into our approach. We proceed in Section 2.4 to examine the theory of neo-enclave growth through the free market system. The theory leads to certain results which may be manifested in different time perspectives, short run and long run. From these results of the theory, it is a natural step to policy and strategy conclusions, a subject considered in Section 4.

Given the complexity of the neo-enclave growth system, we find a further distinction between levels of verbal and mathematical model language helpful. We begin with the verbal, or "literary," level since it

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[9]Essentially, this static approach was employed in our "timeless" analysis of the forced industrialization phenomena of the last chapter.

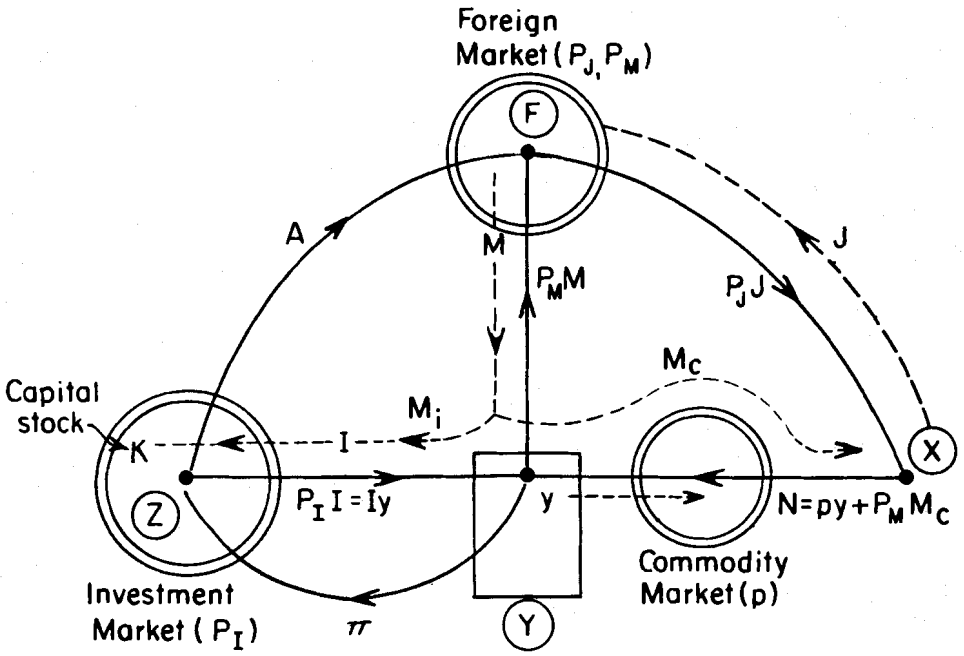
allows breadth of scope, providing room for our intuitive judgments. The mathematical model level is then introduced, not to verify our intuitive notions but, rather, to serve the important function of deducing results which would remain obscured at the intuitive and descriptive level of analysis.

2.2 THE INTERSECTORAL SYSTEM

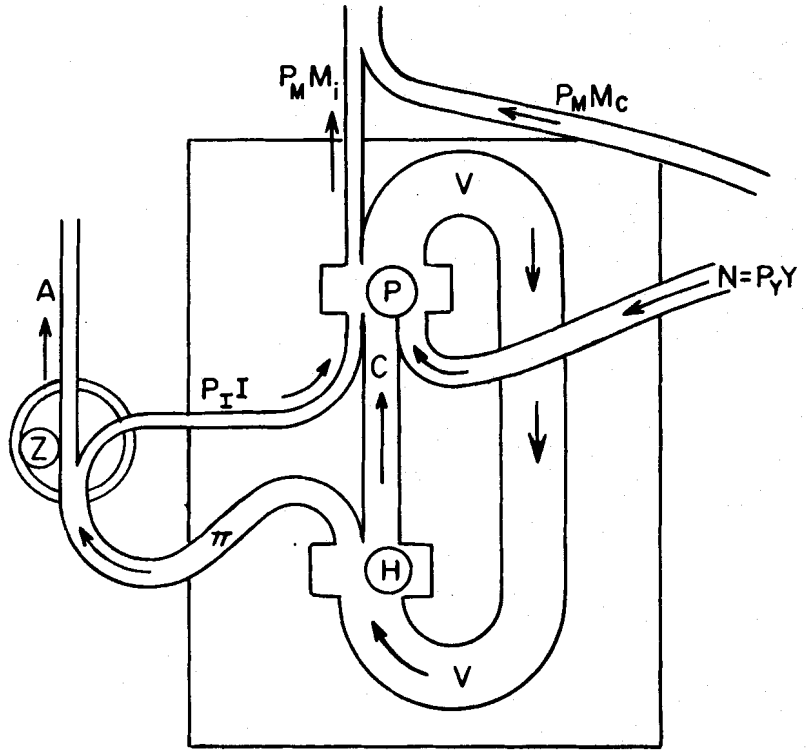
In Diagram 1a four macroscopic sectors are shown: industry (Y), agriculture (X), foreign (F), and finance (Z). Real flows (indicated by dotted arrows) and flows of monetary payments (the solid edges) show relationships among three markets (the three double circles) vital to the neo-enclave system: the foreign market, the domestic commodity market and the investment market.

There are six real flows in the system. Agricultural exports, J (units), flow to the foreign market, and imported goods, M, flow out of the foreign market. Imported goods consisted of two types, consumer goods, M_c, and capital goods, M_i. Imported consumer goods are destined for the agricultural sector, passing through the industrial sector only in the entrepot sense. Hence, they do not move through the domestic

Diagram I: Intersectoral and Intrasectoral Aspects of Neo-Enclavism



(a)



(b)

14a

commodity market--as shown by the detour of the dotted arrow.[10] The other type of imported goods, capital goods, M_i, consists of capital goods for use by the industrial sector (Y), and they are thus proportional to the investment goods flow, I, into the investment market.[11] Investment goods, I, are an output of the industrial sector, purchased by entrepreneurs to augment the industrial sector's capital stock (productive capacity), shown as K in the investment market. Output from this capital stock constitutes domestic industrial goods, y, delivered to the domestic commodity market. Thus, the sole purpose of industrial production is to supply the agricultural sector (X) with consumer goods. At the intersectoral level, therefore, there are six[12] real flows, J, M, M_c, M_i, I, and y, as well as the real capital stock, K.

A primary economic function of the three markets is the determination of the four prices:[13] P_J (for J), P_M (for M), p (for y), and P_I (for I)--as indicated beside the market circles in Diagram 1a.

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[10] In the neo-enclave economy, such as Malaysia and Thailand, however, this entrepot trade is an important source of commercial profits.

[11] In other words, imported capital goods, M_i, form a part of real investment goods, I.

[12] Since $M_i = M - M_c$, there are, in effect, <u>five</u> real flows whose magnitudes were to be determined.

[13] For simplicity we assume that the price of the two types of imports (M_c and M_i) are the same and, hence, that there are four prices for the six real flows.

Since our analysis will be concerned only with relative (rather than absolute money) prices, we may take J (agricultural exports) as a numeraire; i.e., we assume $P_J = 1$. The three markets then determine the three remaining prices, P_M, p, and P_I. We assume that the price of imports, P_M, remains constant throughout our analysis. This amounts to assuming that the country successfully defends itself against worsening terms of trade by preventing increasing costs of production and/or diversification of agricultural exports (see Section 1.3).

Of the two remaining relative prices (industrial commodities, p, and investment goods, P_I), p is determined in the commodity market and P_I is determined in the investment market. The price of industrial commodities, p, causally determines the price of investment goods, P_I, since this latter price is based upon discounting the future earnings of new investment, I, on the assumption that the resulting increments in output are sold at the price, p, prevailing in the industrial commodity market. The price, P_I, constitutes the major force of demand in the investment good market and, when combined with supply conditions, determines the

volume of real investment, I, in that market. Thus, logically, both P_I and I are simultaneously determined by p, the industrial commodity price.[14]

Turning now to flows of monetary payments, we see, first, at vertex (X) that agricultural income, J ($J = JP_J$ since PJ, the numeraire, equals 1) is spent either on imported consumer goods, $P_m M_c$, or on domestically produced industrial goods, py. The latter component, py, constitutes demand in the domestic commodity market. Thus, demand for domestic industrial goods is obviously controlled by agricultural exports and income, J. The logic of the system, therefore, is that higher income from agricultural exports leads to higher prices, p, of domestic industrial goods, which in turn encourages investment, I, in the investment market.

Expenditures in the domestic commodity market, py, lead to industrial profits, π, used to finance industrial investment expenditures, $I_y = P_I I$, a part of which represents purchases of imported capital goods, $P_m M_i$. If induced demand for imports, $P_M M$, is not strong enough to

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[14]The supply conditions include the cost of new investment goods. The logic of determination of P_I and I by p is a static type of investment determination analysis made famous by Keynes. This will be stated more formally later, until which point the reader is asked to accept these notions intuitively.

absorb all export earnings, $P_J J$, a part of industrial profits, π, will flow abroad as capital flight, A. Thus (in addition to the six real flows), there are six monetary flows (shown as the six solid edges) in the system: $J = P_J J$; $N = py + P_M M_c$; $M^* = P_M M$; $I_y = P_I I$; π; and A. Our immediate task, undertaken in the next section (2.3), is to analyze the mechanisms which determine the magnitudes of both these monetary and real flows.

It is now clear that agricultural exports constitute the primary growth-promotion force in the system. It is important to note, however, that the industrial sector is a <u>pivotal</u> sector, providing a response or adjustment mechanism. In Diagram 1a, a square is marked off by the four monetary edges (N, $P_M M$, I_y, and π) which touch the industrial sector, vertex (Y). This square is magnified in Diagram 1b to show the economic flows between households (H) and production (P) within the industrial sector. This leads to two new flows, income payments, V, and consumption expenditures, C, suppressed by the aggregate system of Diagram 1a. Although our analysis will first be conducted within the latter aggregate framework, we will use the disaggregated picture of Diagram 1b at a later stage, mainly to assist in analyzing profits, π, and investment, I.

Similarly, with regard to the agricultural sector, we have thus far omitted the intrasectoral view. We will take the intrasectoral level

into account at a later stage in the analysis when it becomes necessary, for greater realism, to consider the nature of inputs used for agricultural production. We proceed, first, under the simplifying assumption that all inputs are internal to the sector. This assumption is relaxed, and external resources are allowed as inputs in Section 2.3.

2.3 THE STATIC MARKET MECHANISM

We begin our analysis of the static market mechanism in the neo-enclave system by investigating forces of demand and supply in the domestic commodity market. For demand, we write the general function:

(i) $y = D(p, J)$ (Demand for domestic industrial goods)

which emphasizes that demand for domestically produced industrial goods, y, is a function of their price, p, and export income, J. In Diagram 2a, let price, p, be measured on the vertical axis and quantity demanded, y, on the horizontal axis. The demand function (i) is represented by a system of negatively sloped demand curves, each indexed by an export income index; i.e., $J_0 < J_1 < J_2$ ...etc., showing that higher export income causes the curve to shift upward.

We assume that the part of export income not spent on domestically produced industrial goods will be spent on imported consumer goods.[15] Hence:

(i') $P_m M_c = J - py$ (Demand for imported consumer goods)

Thus, the forces of demand are explicitly related to export income and consumption behavior from this income. Once the demand function (i) is given, we can determine the consumption pattern from export income (i.e., between y and M_c) as functions of price, p, and export income, J.

Turning to the supply side, short-run supply of domestically produced industrial goods is determined mainly by productive capacity; i.e., the capital stock, K, the short-run bottleneck factor. In a market-oriented economy, this assumption is reasonable because investment behavior is "rational."[16] This supply force is shown in Diagram 2b, in which the vertical axis (pointing downward) measures capital stock, K. The radial line pictures a production function:

(ii) $y = K/k$

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[15] For simplicity at this stage of the analysis, we assume there are no savings

[16] In essence, this means that capital stock is fully utilized. This assumption is appropriate for a market force economy in contrast to the politically pushed industrialization process of the previous chapter, where we noted frequent cases of unutilized capital capacity.

where k is a constant capital-output ratio. If the initial capital stock is K_o units, then output of Oy_o units will be generated and reach the commodity market. In short, both capital stock, K, and output, y, are fixed in the short run; they can be increased only through growth and capital accumulation.

The next link in the overall neo-enclave market mechanism is the stimulation of investment demand, I, by the commodity price, p, and, possibly, by many other factors. Formally, we may write the investment demand and the investment price functions as:

(iii) $I = \phi(p, P_M, k, i, w_n)$ (Investment Demand Function)

(iv) $P_I = \theta(p)$ (Investment Price Function)

Equation (iii) states that entrepreneurial demand for investment goods depends upon the commodity price, p; the price of imported capital goods, P_M; the productivity of capital, 1/k; the interest rate, i; and the wage cost, w_n. Equation (iv) shows that the price of investment goods, P_I, is determined simultaneously and consistently with (iii)--as explained earlier. Thus, given p,[17] both I and P_I are simultaneously determined by (iii) and (iv). It is obvious that the investment demand function is

[17] Based upon rigorous formulation of the theory in a later section, we posit that changing values of the other parameters (P_M, k, i, and w_n) will cause the investment demand function to shift.

highly complex since, in fact, it can be deduced only from the "optimizing behavior" of the entrepreneur, based upon his anticipations of future profits.

In Diagram 2c let investment, I, be measured leftwise on the horizontal axis. The investment function, $I = \phi(p)$, is then represented by the positively sloped solid curve. A more favorable investment climate reflecting changes in the "other" parameters in Equation (iii) will cause the curve to shift to the left and become more price elastic, as shown by the dotted curve. Notice that there is a floor commodity price, p_N, below which no investment will take place (i.e., investment occurs only when $p > p_N$). The existence of such a floor is explained by the fact that there is a positive real cost associated with new investment projects, and the commodity price will have to be significantly above zero to cover these costs and induce investment.

In Diagram 2e, let the horizontal axis, leftwise, be the price of investment goods. The investment price function, $P_I = \theta(p)$, is shown as a positively sloped curve. Higher commodity prices, p, lead to higher prices of investment goods, P_I, consistent with the increased demand for investment goods and short-run supply condition in the investment market.

Demand for investment goods, I, induces the production of new capital goods. At this point in the argument the framework of analysis

must shift to the less aggregated level of Diagram 1b, where it is shown that production of capital goods requires both an imported component, M_i, and current factor services (a part of V) provided by industrial households. While we defer temporarily detailed consideration of these intrasectoral relationships, we postulate a capital good import function:

(v) $M_i = m(I)$ (Capital Good Import Function)

This function is shown in Diagram 2c by a positively sloped curve, indicating that higher investment leads to increased capital goods imports.

We are now in a position to analyze the operation of the neo-enclave market system at a particular point in time. Two magnitudes, $K = K_o$ (capital stock) and $J = J_o$ (agricultural exports) are initially taken as given and fixed. This fixes the point K_o on the vertical axis of Diagram 2b and the position of the "J-curve" as J_o in Diagram 2a. From the point K_o we may now determine, in succession, (i) output (point a_o on the production function in Diagram 2b), (ii) the commodity price (point b_o on the demand function in Diagram 2a), (iii) the volume of investment (point c_o on the investment demand function of Diagram 2c), (iv) the price of investment goods (point e_o on the investment price function in Diagram 2e), and (v) the volume of capital imports (point f_o on

the import function of Diagram 2c). The short-run equilibrium is described by the "equilibrium rectangle," $K_o a_o$, $b_o c_o$, $f_o d_o$ (and the point e_o). Together these equilibrium points show the interactions of forces of production, supply, demand, investment, and imports portrayed by Equations (i), (ii), (iii), (iv), and (v).

Notice that we can also determine imports on current account, M_c, by Equation (i') and, hence, can determine the magnitudes of capital flight, A, and profits, π, at the closed end of the model; i.e.:

$$\text{(vi)} \quad A = P_J J - P_m(M_c + M_i) \qquad \text{(Capital Flight)}$$

$$\text{(vii)} \quad \pi = P_I I + A \qquad \text{(Industrial Profits)}$$

Thus, all of the real and monetary magnitudes are now determined through specifying the mechanism of the neo-enclave market system in an unambiguous way.

We re-emphasize that the postulation of <u>two short-run exogenous variables</u> (i.e., K and J) are key analytical concepts in this model. Once their values are given, every other variable in the system can be determined for <u>a point in time</u>. This fact elevates this pair of variables (K and J) to a special position in the analysis of the neo-enclave system. The dynamics of growth may now focus upon the rules of growth

determining changes of K and J through time. Once they are determined through time, all of the other variables in the system will also be determined.

To stress the significance of this point, we relate this pair of key variables in an index:

(viii) $j = J/K$ (Relative Agricultural Strength)

which we will refer to as the index of relative agricultural strength. Applied to the neo-enclave economy, this index relates the two sources of strength bearing upon the agricultural (export) sector; i.e., agricultural exports, J, and capital stock, K, in the servicing industrial sector. Thus interpreted, we may conceive of both J and K on a per laborer basis. Suppose L represents employment in the agricultural (export) sector; then J/L measures agricultural productivity and K/L represents <u>industrial capital per agricultural laborer</u>. We now see that a large j (high relative agricultural strength) means that the agricultural sector's economic strength is traceable more to agricultural productivity than to its service support from the industrial sector. In later sections we will find this index, j (which is determined by the two short-run exogenous variables, J and K), to be a valuable analytical tool. For later reference, all equations introduced in this section may be summarized as:

1a) $j = J/K$ (Index of Relative Agricultural Strength)

b) $y = D(p, J)$ (Demand for Domestic Industrial Goods)

c) $M_c = (J - py)/P_m$ (Demand for Imported Consumer Goods)

d) $y = K/k$ (Production and Supply of Domestic Industrial Goods)

e) $I = \Phi(p, P_M, k, i, w_n)$ (Investment Demand Function)

f) $P_I = \theta(p)$ (Investment Goods Price Function)

g) $M_i = m(I)$ (Demand for Imported Capital Goods)

h) $A = P_J J - P_m(M_c + M_i)$ (Capital Flight)

i) $\pi = P_I I + A$ (Industrial Profits)

2.4 TWO EXTREME GROWTH REGIMES

The "rules of growth" of the neo-enclave economy derive from the behavioristic forces which cause the values of K and J (the two short-run exogenous variables) to change through time. In this section we will investigate the basic growth-promotion force represented by augmentation of capital stock, K, which occurs through investment; i.e.:

2) $dK/dt = I$ (Investment and Augmentation of K)

At the initial equilibrium position at point d_o in Diagram 2d, the initial capital stock is K_o and investment is I_o. Capital stock in the next period is K_1, the addition being $I_o = K_1 - K_o$, as shown on the vertical axis. Notice that the slope of the dotted line, od_o, is the rate of growth of capital stock, η_k.

Export Stagnation

Let us begin by analyzing industrialization prospects under the assumption that agricultural exports are stagnant, as represented by a fixed demand curve; e.g., curve J_o in Diagram 2a. Let the J_o curve intersect the horizontal line extending from p_n (the floor price) at a point "s." Starting from the initial capital stock, K_o, and the market

equilibrium point, b_o (in Diagram 2a), successive periods of investment will lead to capital stock of K_1, K_2 ..., determining market equilibrium points, s_1, s_2 ...on the J_o curve. Notice that the process of industrialization comes to an end as point "s" is approached, at which point investment ceases. The equilibrium points, d_o, d_1, d_2 ... of Diagram 2d, approach the point K_s, the latter indicating the maximum capital stock.

This case is properly described as <u>export stagnation</u>. Any temporary expansion of investment from the K_s equilibrium point will depress industrial commodity prices (Diagram 2a), reducing investment incentives (Diagram 2e), causing disinvestment (Diagram 2c) until capital stock is reduced to the K_s equilibrium amount (Diagram 2d). This case reminds us that industrial growth is indeed pushed by agricultural exports in this system. Continuous expansion of agricultural exports is essential if industrial stagnation is to be avoided.

<u>Reversion to Enclavism</u>

Let us now consider the case in which agricultural exports expand continuously as the J curve shifts from J_o to J_1, J_2 .... We note, first, the consequences in the short run, with capital stock fixed at K_o. As the demand curve shifts progressively upward in Diagram 2a,

successive increases in price of industrial goods occur--from b_o to g_1, g_2, g_3 .... Note, however, that domestic price increases are not unlimited because of the eventual effect of <u>import competition in an open economy</u>. In Diagram 2a, the height of the horizontal line through the point P_M (on the vertical axis) represents the price of imported industrial goods. As agricultural exports exceed the J_3 level, the domestic industrial goods price remains at the P_M level because of import competition. At the export level shown by J_4, for example, the incremental quantity of industrial goods demanded of Δ_1 units will be met entirely from imports (the domestic supply being fixed at the level g_3).

We now turn to the effects of the existence of such a ceiling price (set by the import price in an open, free trade economy) in the long run, when augmentation of capital stock is possible. We begin the analysis with capital stock, K_o, and the export level, J_3, with an equilibrium level for the industrial goods price at point g_3 (Diagram 2a). As long as this ceiling price prevails and export demand increases (shifts upward), the volume of investment will remain constant in each succeeding period at the amount shown by point C_3 in Diagram 2c. The resulting growth path is shown by points d_3, d_4, d_5, lying on a vertical line in Diagram 2d. These points show a <u>constant</u> volume of investment; hence, capital stock increases by a constant amount from K_o (= K_3) to

K_4, K_5 .... Hence, domestic industrial output ($g_3 = s_3$, s_4, s_5 ... in Diagram 2a) will also increase by a constant amount through time.

3a) $K = K_o + \bar{I}t$

b) $y = y_o + (\bar{I}/k)t$

In each period capital stock grows by the amount of $\bar{I}$ (the constant volume of investment) and output by $\bar{I}/k$, where k is the capital-output ratio.

Industrial growth of this kind is slow; in fact, too slow to effect positive import replacement. Under our present assumption, expansion of agricultural output proceeds at a "satisfactory pace"; i.e., J is growing at least at a constant rate, "i."

4) $J = J_o e^{it}$

At the constant price level, P_M in Diagram 2a, we may reasonably assume that demand for industrial output (g_3, g_4, g_5 ...) will also expand at approximately the same rate.[18] Let the total demand for industrial goods be C; then:

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[18]This would be the case if savings from agricultural export income were zero or a constant fraction of income.

5) $C = C_o e^{it}$

It follows that imported industrial consumer goods, M_c, will occupy an increasing share of the domestic market; and domestic output, an ever decreasing share (by Equations 3b and 5):

6) $$y/C = \frac{y_o + (\bar{I}/k)t}{C_o e^{it}}$$

As a result of this phenomenon, we refer to this case as reversion to enclavism. The economy's openness (in the sense of lack of protection) produces a situation in which the agricultural (export) sector becomes increasingly linked with the outside world. The domestic industrial sector, although not absolutely stagnant, grows too slowly to achieve a larger share of the industrial consumer goods market. This reminds us of enclavism of the colonial epoch--which many less-developed countries try to overcome by avoiding import competition.[19] Reversion to enclavism is a realistic possibility where the country deliberately chooses a relatively free trade system.

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[19]See the discussion in the previous chapter.

2.5 VIABILITY OF THE NEO-ENCLAVE SYSTEM

The two extreme cases just discussed--export stagnation and reversion to enclavism--both contain undesirable features. The former is characterized by stagnation of agricultural exports and a decreasing index of agricultural strength, j, through time--leading to stagnation throughout the economy. The latter system, characterized by adequate expansion of agricultural exports and an increasing j, is not likely to be politically tolerable in the long run. It produces a lagging domestic industrial sector, out of keeping with the aspirations of newly independent countries.

In terms of our generation time perspective (the 20-year postwar time span), it is unlikely that the export stagnation case will survive throughout a period of this length. Agricultural stagnation and its effect of stalling growth throughout the economy would very likely produce a tendency for experimentation with another development strategy.[20] Thus, we consider the agricultural stagnation case as not viable, even in the short run. Conversely, however, the case of reversion toward enclavism

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[20] We shall see later that countries (e.g., the Philippines) indeed experimented with various development strategies during the generation time horizon.

may very well be tolerated for a generation or more if the agricultural sector expands adequately. However, the economy almost imperceptibly slips back into colonial-type enclavism in the long run.

The neo-enclave system preserves the growth-promotion forces of the colonial epoch, with agricultural exports remaining as the center of gravity, while industry is reduced to a mere servicing function and subjected to the discipline of import competition. The practical lesson we learn from our analysis is that, if the neo-enclave system is to be viable at all, it will endure only for a short-run period and produce moderate rates of expansion.[21] Moreover, abandonment of this system and the emergence of a new development strategy may be safely predicted in the long run. The remainder of this chapter elaborates this basic thesis; i.e., that neo-enclave growth can produce only slow growth in the short run and inevitably leads to a new strategy direction in the long run.[22]

We have not yet investigated the case that lies between the two extremes discussed in this section. In the "middle way" case, agricultural exports expand moderately, just enough to lead to a path of

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[21] Hence, we cannot expect average rates of expansion of real GNP in the neighborhood of 10-15% per year as in the most rapidly growing less-developed countries (e.g., Taiwan and Korea). The maximum average rate is likely to be less than half these rates.

[22] Development policy conclusions, consistent with this position, are presented in Section 4 of this chapter.

"dynamic equilibrium," or balanced growth of agriculture and industry--as measured, for example, by a constant value of j, the index of relative agricultural strength. Intuitively, such a course would suffice to provide moderate short-run progress, postponing the necessity for a major revamping of development strategy. To consider alternative growth paths associated with this middle course, we shift our attention to the causative factors which affect the rate of expansion of agricultural exports, J. This requires shifting our perspective to conditions prevailing within the agricultural sector.

3. MODERATE GROWTH: TWO EXPORT-LED ALTERNATIVES

3.1 INTRASECTORAL RELATIONSHIPS

The forces determining the volume of agricultural exports, J, and the demand for industrial investment, I, are the two growth issues crucial for understanding the growth dynamics of the neo-enclave system. Analysis of these important phenomena requires further elaboration of the model to include analysis of forces operating within the agricultural and industrial sectors. We begin by taking a closer look at the agricultural sector to identify forces controlling the growth of agricultural exports, J. This leads to a distinction between two alternative export-led growth

systems. In Section 4.3 we investigate conditions within the industrial sector to inquire into the determinants of demand for industrial investment, I.[23]

3.2 REAL COSTS BEHIND AGRICULTURAL EXPORTS

To analyze the growth of agricultural exports, J, four categories of real costs associated with the production and export of agricultural goods must be distinguished:[24]

(i) Intrasectoral Resources: labor, land and natural resources internal to the agricultural sector.[25]

(ii) Commercial Services: human and capital services needed for trading (e.g., transport, shipping, handling, wholesale and retail

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[23] Concretely, this means the forces which lie behind the investment demand function of Diagram 2c.

[24] All four categories of real costs have been neglected in the analysis to this point and must now be admitted into the model. With the exception of the category (i) type, the real costs involve acquisition of resources from outside the agricultural sector; and, hence, a model conducive to inclusion of both intersectoral and intrasectoral relationships is essential.

[25] We have asserted in the introduction to this chapter that this category of real costs must be favorable if the neo-enclave system is to emerge.

distribution) of both agricultural exports, J, and goods purchased by the agricultural sector from outside that sector.[26]

(iii) Processing Services: human and capital services needed for processing (e.g., packing, grading, simple transformation of agricultural exports).

(iv) Modern Inputs: intermediate production inputs (e.g., fertilizer, bio-chemical products, farm implements) manufactured by industry.

In all neo-enclave systems, real costs of categories (i) and (ii) are indispensable. The presence of real costs of categories (iii) and (iv) depends upon the nature of the export commodity. If the exported good is an indigenous agricultural product (e.g., rice in Thailand), we can neglect modern input costs (category iv).[27] We assume that production of these indigenous crops relies exclusively upon the sector's internal resources [i.e., real costs of type (i)] and involves traditional production techniques. This contrasts with the case where the exported good is a product introduced from abroad, typically by foreigners during the colonial epoch.

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[26] In Southeast Asian countries, including the two neo-enclave economies of Malaysia and Thailand, this category of real costs represents payments for services largely performed by their Chinese minorities.

[27] In fact, modernization of production, through improved technology and the introduction of modern techniques, has failed to appear in such cases, particularly in rice production in Thailand.

These products (e.g., rubber, tin, and palm oil in Malaysia) are exclusively produced for the export market, and their production involves modern inputs and the application of modern, scientific technology.

This distinction leads to a further distinction of two subtypes of neo-enclave growth systems. We conceive of Thailand as representing the indigenous good type, while Malaysia represents the modern good type.[28] This requires that the extension of our model, to include (endogenous) changes in J, must be handled somewhat differently for the two cases. We begin by considering the case of indigenous export goods, found empirically in Thailand.

3.3 AGRICULTURAL EXPORT GROWTH WITH INDIGENOUS EXPORT PRODUCTS

In this case of indigenous export products, we may neglect modern inputs (category iv) into the agricultural sector and treat minimum processing (e.g., rice milling) as an input of category (ii) costs; i.e., commercial services, rather than category (iii). In addition to its internal

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[28]The fact that Thailand escaped overt political colonialism leads us to hypothesize that the indigenous crop enclave system is more likely to be found where the political control of foreigners was circumscribed during the colonial period. Just as the Thailand type of limited colonial intervention was rare in Southeast Asia, so too is the absence of a modern-type commodity export base.

resources (i), therefore, the agricultural sector must acquire commercial services from the nonagricultural sector only to facilitate trade. In addition, a part of export proceeds is typically withdrawn, by taxation, to finance current expenditures of government since agricultural exports are the core of the monetized economy.[29] To enhance the realism of our discussion, we portray the operation of such an economy by using a numerical example. In Table I, we assume that $10 worth of rice is exported. We further assume that the income from rice exports is allocated among the claimants (real costs categories (i) and (ii) and government under the "Allocation" heading) by percentages and actual amounts as indicated in Columns (1) and (2). We then show the uses to which the various shares of income are put under the "Disposition" heading. Thus, of the $3 tax payments from rice exports, $2.4 (or 80%) is assumed to be spent (by government employees) on industrial goods (Column 3) and the balance, on agricultural goods; i.e., food (Column 4). Commercial services income is broken down into payments for labor and capital services. Income received for commercial labor services

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[29]This is, indeed, true for Thailand where the "rice premium," a tax imposed upon rice exports, is a major source of current government revenue.

TABLE 1

ALLOCATION AND DISPOSITION OF EXPORT EARNINGS FROM INDIGENOUS PRODUCTS
(A Numerical Example: $10 of Rice Exports)

Destination	Allocation		Disposition (in $)		
	%	$	Spent on Industrial Goods	Spent on Agricultural Goods	Savings
	(1)	(2)	(3)	(4)	(5)
1) Tax Payments	30%	3.0	2.4	.6	-
2) Commercial Service					
Labor Services	40%	4.0	3.2	.8	-
Capital Services	10%	1.0	.2		.8
3) Internal Inputs (Agricultural income)	20%	2.0	2.0	-	-
Total	100%	10 (J)	7.8 (y) +	1.4 +	.8

($4 or 40%) is assumed to be disposed in the same consumption pattern as for government. By contrast, income for capital services ($1 or 10%)[30] is assumed to be largely saved (80% or $.80) while the small remainder ($.20) is spent for industrial goods. Agricultural sector income from exports ($2 or 20%) is spent entirely for industrial goods.[31]

This example helps to emphasize that industrial growth in the neo-enclave system is agriculture-led--primarily because a major part (in our example, almost 80%) of export income eventuates as demand for industrial goods (see y in the bottom row of Table I).[32] This demand is generated by agricultural exports, the proceeds of which, when spent in the market, constitute the only force pulling industrialization. We may, as a first approximation, think of a constant fraction, h, of export income becoming demand for industrial goods (in our Table I example, h = .78), and we shall refer to h as the industry-pull coefficient. This coefficient

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[30]Thus, we assume that as much as 50% of export earnings represents the cost of acquiring commercial services, an assumption empirically valid for economies exporting indigenous products. Of this "cost," 20% is assumed to represent capitalist income (i.e., profits).

[31]The income realized by the agricultural sector is assumed to be spent entirely for industrial goods since the rice exports are over and above requirements for local agricultural sector consumption.

[32]This is a modification in the direction of greater realism of the more restricted model in Section 2, in which all export income was viewed as "agricultural sector" income.

obviously measures the "pull" which agricultural exports exert upon growth of the industrial sector. The higher the value of the coefficient, all other things being equal, the greater likelihood that industry will grow.

Given the indigenous product base and the associated traditional methods of production, the gains in agricultural productivity will be slow and moderate. Typically, gains are derived from diversification, the introduction of other indigenous crops for exports, retaining the traditional production milieu. We do not expect spectacular gains in agricultural productivity, such as we find attending introduction of modern inputs and agricultural innovations. Rather, slow and moderate progress is dependent upon the abundance of the essential resources internal to the sector, controlled entirely by forces internal to the sector.[33] Hence, the assumption appropriate to expansion of agricultural exports, J, under this regime is described by Equation 4, where J grows at a slow rate, i, determined completely by dynamics internal to the sector.

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[33] "Windfall gains," due to exogenous market forces and not based upon productivity gains are excluded from consideration at this point.

3.4 THE DYNAMICS OF INDIGENOUS EXPORT LED GROWTH

Taking into account these characteristics of indigenous exports, we can investigate indigenous export-led growth by slightly modifying the basic model structure presented in Section 2. The essential behavioral assumptions for the static and dynamic applications are:

Static

7a) $y = hJp^{-\alpha}$ (Demand function; $\alpha \geqq 0$ is price elasticity of demand; $h \geqq 0$ is agriculture-pull coefficient) by Equation 1b.

b) $y = K/k$ (Production of y; k is capital-output ratio) by Equation 1d.

c) $I = a'p^{\beta}$ (Investment demand function; $\beta \geqq 0$ is price elasticity; $a' \geqq 0$ is coefficient of demand level) by Equation 1a.

Dynamic

d) $dK/dt = I$ (by Equation 2).

e) $\eta_J = i$, or $J = J_o e^{it}$ (See Equation 4.)

Equation 7a is a demand function for industrial goods chosen to represent for this particular case the general function presented in

Diagram 2: Market Dynamics: The Neo-enclave System

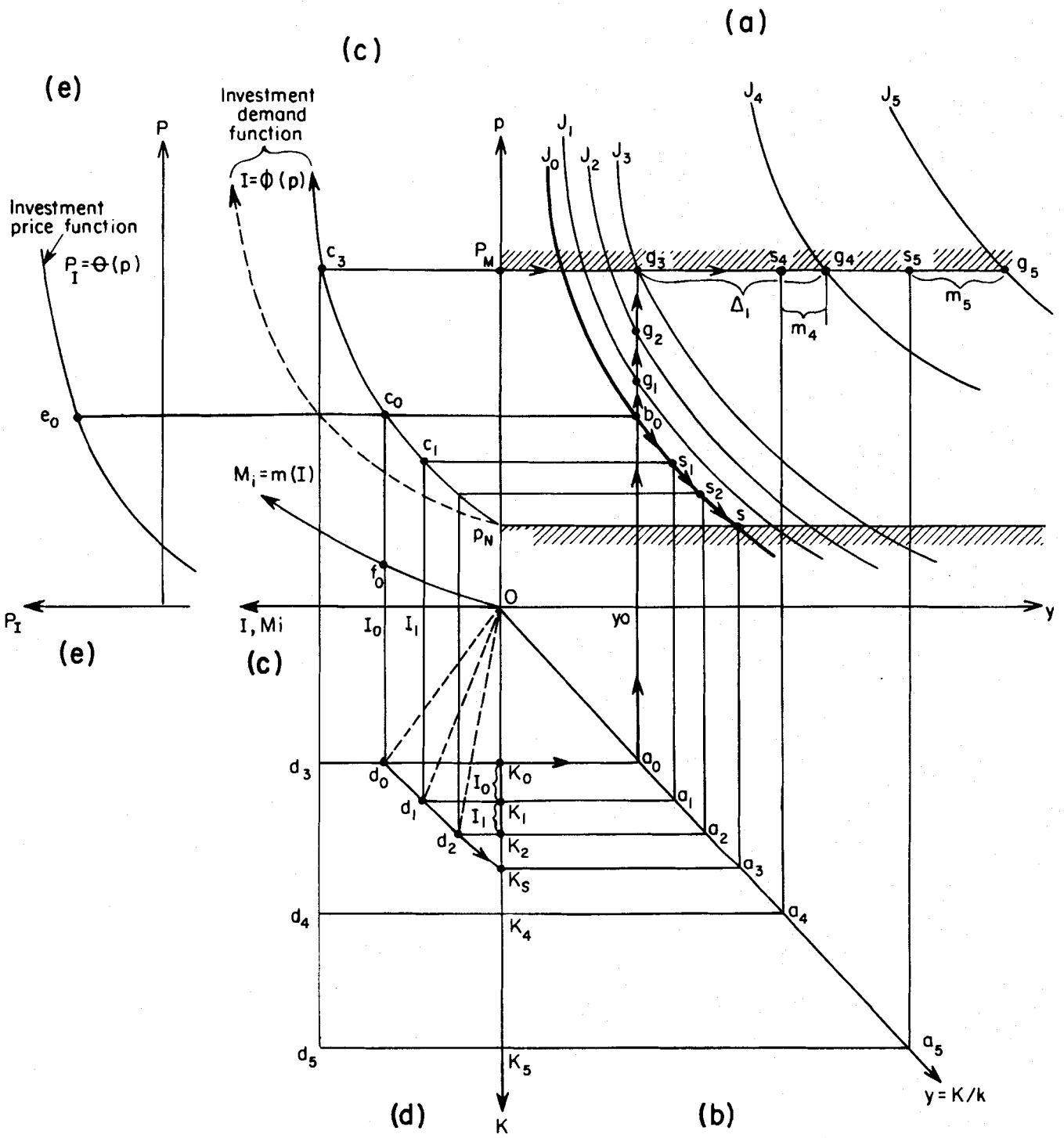

Diagram 2a.[34] In this equation, $\alpha \geqq 0$ is price elasticity of demand and hJ denotes the effect of income on demand. Notice that h is the pull coefficient just introduced and that it is assumed to be constant. Higher values of J will be represented by upward shifts of the demand curve, as shown in Diagram 2a. Equation 7b is the production function (Diagram 2b) based on a constant capital-output ratio, and Equation 7c is a concrete form of the general investment demand function of Diagram 2c. In this latter equation, $\beta \geqq 0$ is the price elasticity of demand, while $a' \geqq 0$ is a coefficient of the investment demand level.[35] The equations, (7d) and (7e), for the dynamic application are merely reproductions of Equations 2 and 4. The justification for the latter assumption (constant growth rate of exports) has been given in the last section. Thus, the six parameters of the system are h, α, k, a', β, and i, representing the basic behavioral forces in operation.

For solution to the system, let us first express p (price of industrial goods), I (investment), and py (expenditure on industrial goods) in terms of j = J/K, the index of relative agricultural strength (see Equation 1a):

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[34] Equations 7a, b, c, d, and e correspond, in order, to the following equations previously introduced in this chapter: Equations 1b, 1d, 1e, 2, and 4.

[35] In Diagram 2c, the dotted investment demand function corresponds to a higher value of a'.

8a) $p = k'j^{1/\alpha}$ where $k' = (hk)^{1/\alpha}$

Proof: $p^{\alpha} = hJ/y = hJk/K = hjk$ (by Equations 7a, b)

b) $I = aj^{\beta/\alpha}$ where $a = a'(hk)^{\beta/\alpha}$ (Investment)

Proof: $I = a'(k'^{\beta} j^{\beta/\alpha})$ (by Equations 7c and 8a)

c) $py = hJp^{1-\alpha}$ (Total Expenditure) (by Equation 7a)

We can then also deduce the rate of growth of industrial capital, η_K, in terms of j and J:

9a) $dK/dt = aj^{\beta/\alpha}$ (by Equations 7d and 8b)

b) $\eta_K = aj^{u/J}$ where $u = 1 + \beta/\alpha$ (by Equation 9a)

Proof: $\eta_K = aj^{\beta/\alpha}/K = aj^{\beta/\alpha} j/J = aj^{1+\beta/\alpha}/J$

From the definition of j, we readily see that:

10) $\eta_j = \eta_J - \eta_K$

which leads directly to the following differential equation in j:

11) $\eta_j = i - aj^{u}/J_o e^{it}$ (by Equations 10, 7e, and 9b)

With the aid of Equation 11, we can investigate the time path of j. We can readily see that the value of j cannot be bounded from above. For, suppose that $\beta \geqq j$ is an upper bound for j. Then Equation 11 implies:

$$\eta_j \geqq i - aB^u/J_o e^{it} \rightarrow i \text{ as } t \rightarrow \text{infinity}$$

This is a contradiction,[36] and, hence, j must increase without bound in the long run.

Let us compute from Equation 11 the rate of acceleration of j to obtain:

12a) $d\eta_j/dt = (i - \eta_j)(i - u\eta_j)$ (Rate of Acceleration)

b) $\bar{\eta}_j = i/u = i/(1 + \beta/\alpha)$ (Stationary value of η_j)

c) $j \rightarrow \infty$ as $t \rightarrow \infty$ (j approaches infinity)

Proof:

$$d\eta_j/dt = -\frac{a}{J_o}\left[\frac{e^{it}uj^{u-1}dj/dt - j^u ie^{it}}{e^{2it}}\right]$$

$$= (aj^u/J_o e^{it})(i - u\eta_j)$$

$$= (i - \eta_j)(i - u\eta_j) \quad \text{(by Equation 11)}$$

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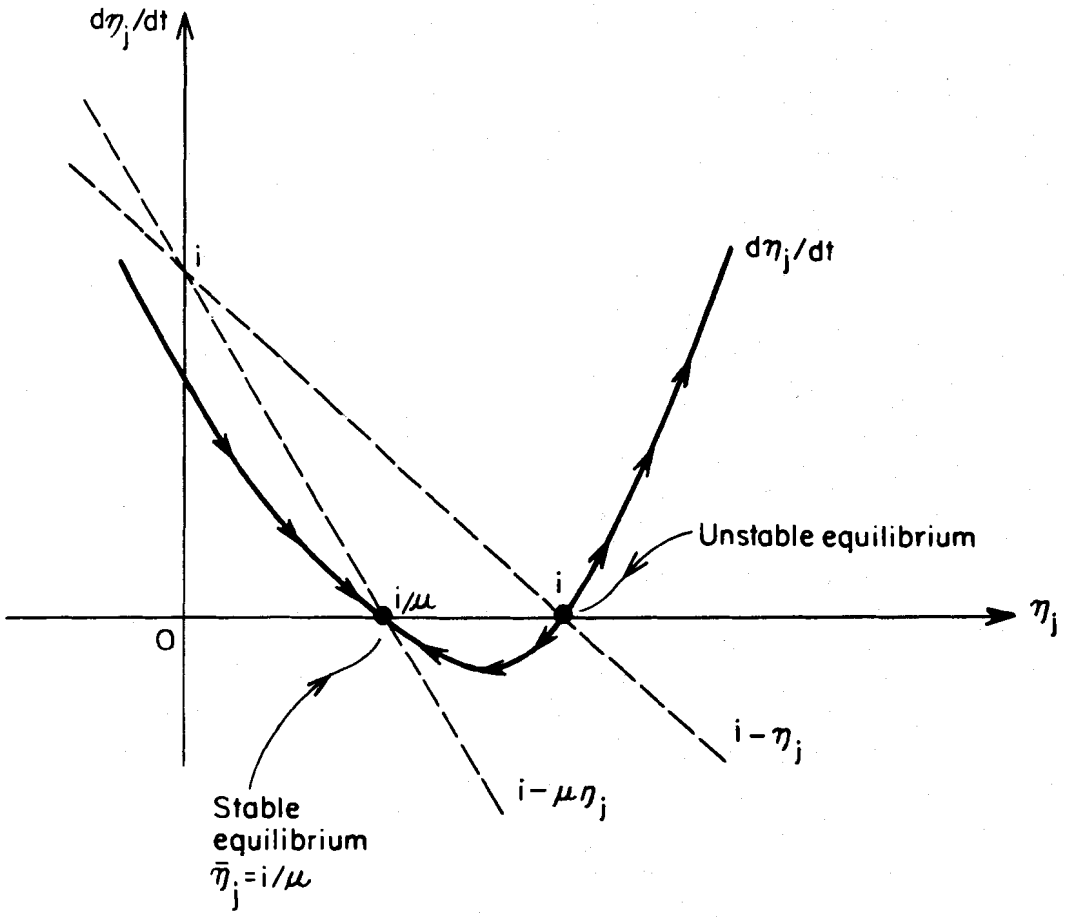
[36] A value of η_j close to i is inconsistent with a bounded value for j.

Diagram 3: Indigenous Export-led Growth:
Rate of Acceleration



Let η_j be measured on the horizontal axis in Diagram 3. Let the values of i and i/u[37] be marked off on the horizontal axis, through which points the two (dotted) straight lines are drawn to represent the two factors on the right-hand side of Equation 12a. The acceleration, $d\eta_j/dt$, is now seen to be represented by the parabola shown in the diagram. There are two long-run stationary values for η_j (i.e., i/u and i), of which the former (i/u) of Equation 12b is stable equilibrium. The direction of change of η_j through time is indicated by the arrows on the parabola. As long as the initial value of η_j is less than i, η_j will always converge toward i/u in the long run.[38] If the initial value of η_j is greater than i, then η_j will increase without bound. We will concentrate on the long-run behavior in the first case, assuming that j increases at a constant rate, as in Equation 12c, toward infinity.[39] Since we have expressed other variables (prices, p; investment, I; expenditures on industrial

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[37] From Equation 9b we see that $u > 1$ so that $i/u < 1$.

[38] There are two types of transient behavior of η_j as it returns to the stable equilibrium of i/u, either monotonically decreasing (if the initial value of η_j is less than i/u) or monotonically increasing (if the initial value of η_j is greater than i/u)--as shown in Diagram 3.

[39] The long-run behavior of the second case (in which η_j increases indefinitely) is one in which j increases toward infinity at a faster rate than in the first case and, hence, it would produce no qualitative differences in our conclusions below.

goods, py) in terms of j (Equations 8a, b, c), the constancy of the rate of growth of j allows us to predict the behavior of these other variables through time.

To consider briefly the economic meaning of the preceding technical discussion, we see, first, that gains in the relative strength of agriculture, j, are directly related to the rapidity of agricultural export expansion, i, and the price elasticity, α , of demand for industrial goods. The higher this price elasticity, the more consumption of industrial goods is discouraged, leading to a slower growth rate of (industrial) capital stock and accentuating the economy's agricultural-export orientation. Second, we see that a larger β (reflecting more price elasticity of investment demand) will promote a domestic orientation, because it induces a larger (industrial) investment response to the price stimulation effects exerted by increasing export income.

The foregoing analysis supports our earlier conclusion[40] that with even a moderate rate, i, of export growth, the economy will inevitably shift toward agriculture and export and away from industry (i.e., show an increase in the index of relative agricultural strength, j). However, this growth system may be both tolerable and viable in the

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[40]See Section 2.

short run since industrial investment will increase under the stimulation of continuous price increases, p, for industrial goods.[41] Moreover, if we let ($z = py/hJ$) represent an index measuring the share of the industrial market supplied by domestic production[42] and $w = J/(J + py)$ be an export ratio (exports as a fraction of GNP),[43] we have:

13a) $z = py/hJ = k'j^{(1-\alpha)/\alpha}$ (Domestic Market Share)

Proof: $py/hJ = p^{1-\alpha} = (k'j^{1/\alpha})^{1-\alpha}$ (by Equations 8a, c)

b) $w = J/(J + py) = 1/(1 + py/J) = 1/(1 + hz)$ (Export Ratio)

We see from Equation 13b that z and w move in opposite directions, signifying that growing external orientation (increasing w) is consistent with declining domestic industrial market shares

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[41] From Equations 8a, 8b, we see that p and I are increasing functions of j.

[42] Notice that py is total expenditure on domestically produced industrial goods and hj is total expenditure on all industrial goods, domestic plus imported.

[43] J is the value of exports and J + py (the sum of exports and domestically produced goods) may be taken as an approximation of GNP.

(decreasing z) and vice versa. From Equation 13a we see that increasing j may cause the index z to increase ($\alpha < 1$) or to decrease ($\alpha > 1$); i.e., depending on the price elasticity of demand for industrial goods. If the elasticity is near unity, the short-run viability of the system is enhanced by a resemblance to "balanced growth" as shown by stability of internal (constancy of z) and external (constancy of w) structure.

Continuous expansion of j, however, and the consequent increase in industrial goods prices will eventually render the economy vulnerable to import competition. When the domestic industrial price level rises to the ceiling corresponding to the import price level P_M (in Diagram 2a), the phenomenon of industrial price stability will be encountered. Thus, a turning point will be reached when j increases sufficiently. The value of j at this turning point can be calculated by substituting P_M (the import price level) in Equation 8a:

14) $j_T = P_M^{\alpha} kh$ (Turning Point Value of j)

After this point, further export expansion will be accompanied by stable industrial prices and the domestic economy will be constrained by constant investment (and the linear increase of K and y), as we have

explained earlier.[44] As a summary, constrained growth after the turning point may be described by the following system of equations:

15a) $\bar{I} = a'P_M^{\beta}$ (Constant Investment)

(Equation 7c, substituting P_M for p)

b) $K = K_o + \bar{I}t$ (Linear Increase of Capital)

(Equations 7d, 15a)

c) $y = y_o + (\bar{I}/k)t$ (Linear Increase of Output)

(Equations 7b and 15b)

d) $z = py/hJ$

$= P_M(y_o + [\bar{I}/k]t)/hJ_o e^{it} \rightarrow 0$ (Decreasing Domestic Market Share)

(Equations 7e, 15c)

e) $j = J_o e^{it} K_o + \bar{I}t \rightarrow \infty$ (Increasing Agricultural Strength)

f) $\eta_j \rightarrow i$ Long-run Value of η_j

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[44]See Section 2.4.

From the time path of the z index (Equation 15d), it is apparent that the domestic share of the industrial market will inevitably decrease through time, and, hence, from the w index (Equation 13b) we see that the economy will assume increasing export orientation. The time path of j (Equation 15e) shows that its rate of growth will, in the long run, increase to the value of i. Comparing Equation 15f with Equation 12b, we learn that import competition raises the rate at which the economy progresses toward external orientation (i.e., the value of η_j). This acceleration of pace toward external orientation caused by import competition, is the force which causes the economy eventually to revert to enclavism.

The analysis of this section is summarized by the time paths shown in Diagram 4. The uppermost curve, J, shows agricultural exports expanding at the constant rate, i. This leads to an increasing time path for j (beginning from j_o at a rate $i/[1 + \beta/\alpha]$) until the turning value of j_T is reached.[45] At this point, the force of rising prices for industrial goods is replaced by the constant price P_M as import competition comes into play. Thus, there are two growth phases,

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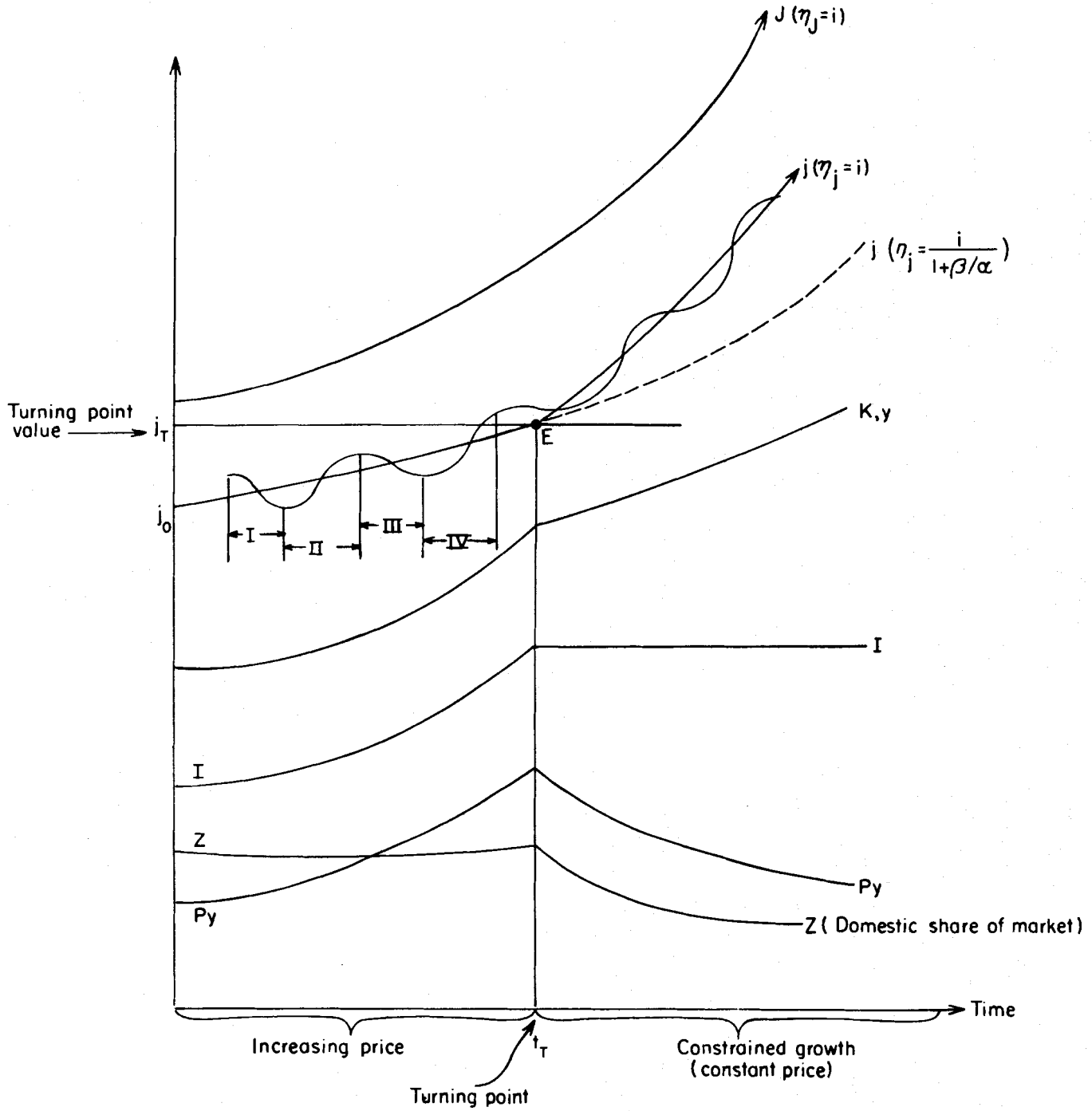
[45] After Point E, the dotted curve is irrelevant, replaced by the solid j curve.

Diagram 4: Indigenous Export Economy:

Long-run Potential



51a

marked off by the turning point on the horizontal axis. They differ in several respects. In the second ("constrained") growth phase, j grows at the higher rate i, causing increasing external orientation and industrial expansion to lag behind agricultural export growth. Moreover, at the turning point the previously increasing industrial investment is replaced by constant investment, and increasing growth of capital and output give way to linear growth. As a result, what may have been an increasing share of domestic production in the industrial market[46] during the first phase (before the turning point) is reversed and the domestic share declines during the second phase.

3.5 EXPORT GROWTH WITH MODERN EXPORT PRODUCTS

In contrast to the case of indigenous export products, just discussed, modern export products[47] (introduced from abroad) rely heavily upon modern input costs. We may classify income generated from modern exports as we did in Table 1 for indigenous product exports. In Table II, $10 of assumed income from modern exports is

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[46] Assuming relatively inelastic demand.

[47] In this section, modern exports refer to both the agricultural and mineral products.

TABLE II

Allocation and Disposition of Export Earnings from Modern Products
(A Numerical Example: $10 of Modern Exports)

Destination	Allocation		Disposition (in $)		
	%	$	Spent on Industrial Goods	Spent on Agricultural Goods	Savings
1) Tax Payments	15%	1.5	1.2	.3	-
2) Commercial Services	30%	3.0	2.0	.8	.2
3) Modern Inputs	30%	3.0	3.0	-	-
4) Internal Inputs	25%	2.5	2.5	-	-
Total	100%	10 (J)	8.7 (y)	1.1	.2

thus classified from the viewpoints of allocation and disposition. In this table, the category of modern inputs is now added, representing purchase of intermediate good inputs from the industrial sector.

As we would expect, the addition of a new kind of industrial inputs into agriculture, modern inputs of Column 3, results in higher

($8.7) spending on industrial goods than in the previous case. Thus, the agricultural pull coefficient is h = .87, compared to .78 in the indigenous exports example in Table I. This reflects the fact that an economy based upon export of modern goods necessarily involves a higher degree of integration between agriculture and industry.

Notice that export income spent in the industrial sector now includes purchase of intermediate production inputs ($3) as well as consumer goods ($5.7). In the present model, therefore, industrial output, y, includes both consumer goods and intermediate good inputs supplied to the agricultural sector. We may refer to the ratio of intermediate good inputs to total industrial goods demand as the real cost coefficient, q. In the Table II example, q = 3/8.7.

In the neo-enclave system based upon modern exports, the source of agricultural productivity gains lies in the injection of these modern intermediate good inputs and the accompanying technology. Thus, modernizing forces are transmitted from outside the agricultural sector.[48]

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[48] In terms of the R-M-T growth forces discussed in Chapter 8, the agricultural sector relies upon the foreign sector for markets (M), and upon the industrial sector for resources (R) and technology (T), the latter two forces being transmitted through domestic trade on current account.

We may now define qy/J as modern inputs per unit of exports. We may reasonably assume:

$$16)\quad dJ/dt = u(qy/J)^{\gamma}$$

where $u \geqq 0$ is the stimulation constant and $\gamma \geqq 0$ is the stimulation coefficient.

Equation 16 may be referred to as the agricultural stimulation function, providing the major growth-promotion force affecting the value of exports, J, through time. The equation states that the higher the value of modern inputs per unit of exports, qy/J, the larger will be the gain in output per unit of time, dJ/dt. The elasticity of this gain, dJ/dt, with respect to per unit of modern inputs, uy/J, is the stimulation coefficient, γ, where u is a stimulation constant.[49] This behavioristic assumption is based on the following grounds: (i) modernization of agriculture originates from contact with the industrial sector; (ii) in particular, productivity gains are associated with the transmission of technology and resources embodied in modern inputs; and (iii) it is consistent with a learning-by-doing thesis, according to

[49]Thus, γ describes the elasticity while u describes the level of stimulation.

which greater application of modern inputs will not only affect the existing level of output but also will continue to engender productivity gain in the future.[50] The assumption of Equation 16, therefore, provides a major growth-promotion force of a new kind, contrasting with the assumption of Equation 7e for the model in the previous section.[51]

3.6 THE DYNAMICS OF MODERN EXPORT-LED GROWTH

The only difference between the modern export model and the indigenous export model of the last section is the replacement of Equation 7e by Equation 16. With this exception, Equations 1-10 of this chapter are valid. Expressing dJ/dt in terms of j, we have:

17a) $dJ/dt = bj^{-\gamma}$ where $b = u(q/k)^{\gamma}$

Proof: $dJ/dt = uq^{\gamma}(K/kJ)^{\gamma} = u(q/k)^{\gamma}j^{-\gamma}$ (by Equations 7d, 16)

b) $\eta_J = bj^{-1-\gamma}/K$

Proof: $\eta_J = bj^{-\gamma}/J = bj^{-\gamma}/jK = bj^{-1-\gamma}/K$ (by Equation 17a)

---

[50] Thus, the agricultural stimulation assumption of Equation 16 involves more than a purely "resource oriented" approach to agricultural productivity growth.

[51] Specifically, gains in agricultural productivity in the earlier model were determined by forces internal to the agricultural sector whereas they are determined here by external forces.

which, when substituted in Equation 10 leads to the differential equation:

18) $K\eta_j = bj^{-1-\gamma} - aj^{\beta/\alpha}$ (by Equations 9a, 10, and 17c)

In Diagram 5, let j be measured on the horizontal axis and let the two terms on the right-hand side of Equation 18 be represented by the two curves in the upper deck of the diagram. The increasing curve represents stimulation of industrial investment (see Equation 8b), while the decreasing curve represents stimulation of agricultural productivity.[52] The two curves necessarily intersect at a point, E, determining a point marked on the horizontal axis as j_e, the value of which is:

19a) $j_e = (b/a)^v$ Long-Run Stationary Value of j

where: $b_j^{-1-\gamma} = aj^{\beta/\alpha}$; $j^{1+\gamma+\beta+\alpha} = b/a$

b) $v = \alpha/(\alpha+\beta+\gamma\alpha)$

c) $b = u(q/k)^\gamma$ and

$a = a'(hk)^{\beta/\alpha}$

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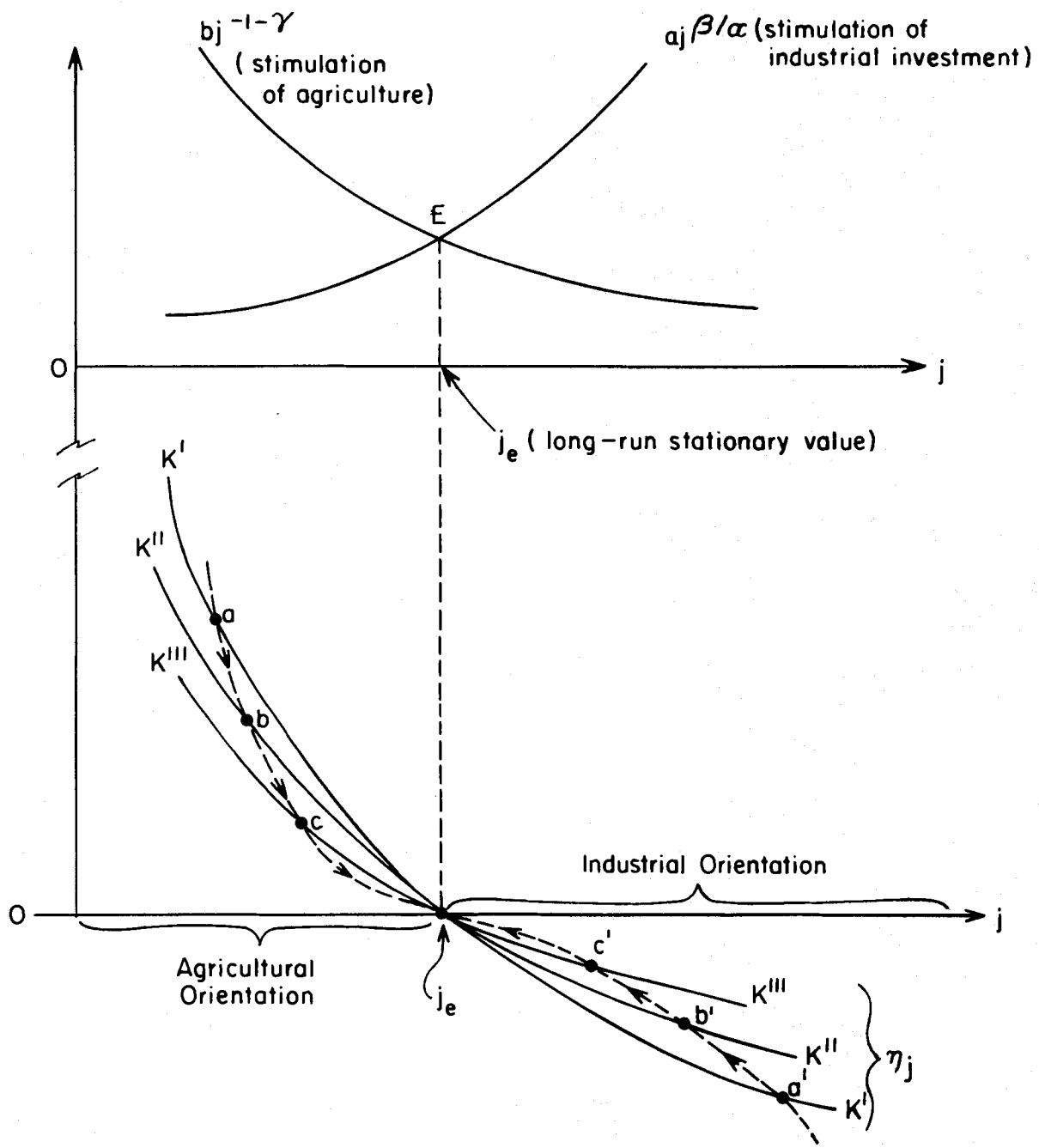
[52] Notice that as relative strength shifts to agriculture (i.e., increasing j), stimulation of agricultural productivity is diminished because of the lagging industrial sector.

Diagram 5: Modern Export Economy:
Long-run Potential



57a

If $K = 1$, we see from Equation 18 that the vertical gap between the two curves in the upper deck is η_j. At any point this gap may be represented by a negatively sloped curve, as in the lower deck of Diagram 5. For a sequence of increasing values of K, e.g., K', K'', K'''....., the corresponding values of η_j may be shown as a family of such curves, each indexed by a fixed value of K. Note that "flatter" curves are indexed by larger values for K.

Beginning with a point, a, lying between the origin and j_e, we observe that η_j is positive and its movement is rightward, toward increasing value of j. Simultaneously, an increase in the value of K causes a shift to a lower η_j curve. Thus, the typical growth path is shown by the dotted curve a, b, c...., toward the long-run stationary value, j_e. Similarly, beginning from a point, a', beyond j_e, produces a growth path a', b', c'...., representing decreasing values of j and η_j. Thus, j_e is the long-run stationary value of j.[53] The two types of transient behavior of j are determined by the initial value of j; i.e., j_o, as compared to the stationary value, j_e:

---

[53] When Equations 19b, 19c, are substituted into Equation 19a, we can investigate the direction of changes in j_e resulting from changes in any of the parameters, u, α, k, γ, β, and q. It can be shown that j_e is an increasing function of u and α, and a decreasing function of k, γ, and β --with obvious economic interpretations.

20a) $j_o < j_e$ (Agricultural orientation: j increases monotonically)

b) $j_o > j_e$ (Industrial orientation: j decreases monotonically)

In Equation 20a we see a case with monotonically increasing j which may be described as agricultural orientation, while in Equation 20b j decreases monotonically and represents an industrial orientation case.

With time measured on the horizontal axis in Diagram 5, the behavior of the two cases is represented by the dotted long-run j curves, which both converge toward the long-run stationary value, j_e. We conclude, therefore, that the long-run tendency of the modern export type of neo-enclavism is toward dynamic equilibrium, characterized by constancy of the value of j.[54] A feature of this behavior is "balanced growth" between the growth-pulling sector of agriculture and the industrial sector, which is propelled by the pull from agriculture. The long-run balance aspect is reflected in the long-run tendency toward constancy of price, p (seen from Equation 8a) and investment, I (seen

---

[54]Note that this is a type of long-run neo-enclave growth behavior which has not been confronted before in our formal analysis. We discussed two "extreme cases," one where j persistently increased ("reversion to enclavism") and the other where j continuously decreased ("agricultural stagnation"). In the case of indigenous exports of the previous section, we also saw a long-run tendency toward increasing j.

from Equation 8b). Moreover, it can be readily shown (see Section 3.7, Equations 23d, e) that the domestic share of the industrial market, as measured by the z index, and, hence, the export ratio, w, take on a constant value in the long run.

Compared to the alternative cases discussed in this chapter, the balanced nature of dynamic equilibrium suggests that it is a viable type of growth in terms of its political tolerability in the short run. We believe, further, that the assumed conditions exist in several cases of postwar country experience. Thus, we envisage the feasibility of testing the results of our model of this section. The stability (or constancy) of the structural characteristics just cited in a slowly expanding economy, presents testable hypotheses. Empirical testing of these hypotheses will be undertaken in later chapters.

We have suggested earlier--on the basis of intuitive reasoning--that the neo-enclave system is likely to possess only short-run viability as a growth system. We now investigate, more rigorously, whether this presumption also applies to the dynamic equilibrium type of neo-enclave growth.

3.7 THE VIABILITY OF DYNAMIC EQUILIBRIUM

It is quite clear from the preceding discussion that dynamic equilibrium may not possess long-run viability because eventually import competition may induce reversion to enclavism. Suppose that the critical turning point value for j_T, as determined by Equation 14, is at the level shown on the vertical axis of Diagram 6. Then, as in the case of Diagram 4, increases in the value of j beyond Point E will lead to stability of the price of industrial goods, $p = P_M$--determined by the import price level--and the system will gravitate toward increasing export orientation and a reversion to enclavism.[55] While this consequence may be of significance in some types of neo-enclave dynamic equilibrium, we emphasize another threat to the long-run viability of the system, one traceable to "internal" forces, on the assumption that keen import competition does not exist or is politically tolerable.[56]

---

[55] Under the assumption in Equation 16 an increase in j and the attendant lag of industrial sector growth may cause retardation in agricultural export growth itself. Hence, unlike the earlier case of "reversion to enclavism," the present growth system, when constrained by a constant price for industrial goods, implies a stagnation force originating from the agricultural sector, transmitted to industry and back to agriculture.

[56] In Diagram 6, the case of constrained growth can occur only where j increases. From Equation 20a we see that such a case is characterized by a low initial value of j_o. In most export economies, initial export

The inner difficulty of the dynamic equilibrium is readily grasped when we realize that the condition of a constant growth rate of exports, J, always implies that j will grow at a constant rate.[57] Thus, balanced growth can be achieved only at the price of slow growth or, more precisely, with a decreasing growth rate. Since in the long run j takes on a stationary value, j_e, the growth rates of capital, K, and exports, J, become:

21a) $\eta_K = aj_e^{\beta/\alpha}/K \rightarrow 0$ Long-run Growth Rate of Capital (By Equations 9a, 19a)

b) $\eta_J = bj_e^{-1-\gamma}/K \rightarrow 0$ Long-run Growth Rate of Exports (By Equations 17c, 19a)

indicating that in the long run both growth rates decline to zero and are inversely proportional to the growing capital stock, K. This result is primarily caused by the fact that the long-run growth of K, y, and J is linear; i.e., they increase by a constant amount per unit of time:

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[56] orientation is already high (especially Malaysia and Thailand) so that we neglect this case. Technically, from Diagram 6, we see that constrained growth will not occur if $j_e < j_T$ where j will never confront the price constraint.

[57] This was shown rigorously by Equation 12b.

22a) $K = K_o + \bar{I}t$ Long-run Growth Path of K

(by Equations 8b, 19a)

where $\bar{I} = aj_e^{\beta/\alpha}$

b) $y = y_o + (\bar{I}/k)t$ Long-run Growth Path of y

(by Equations 7d, 22a)

c) $J = J_o + \Delta J^t$ Long-run Growth Path of J

(by Equations 17a, 19a)

where $\Delta_J = bJ_e^{-\gamma}$

The behavior of K, y, and J thus exhibits the long-run growth patterns as portrayed in Diagram 5 and reproduced in Diagram 6.

We conclude, therefore, that the dynamic equilibrium case of neo-enclavism implies <u>long-run retardation of growth</u>. In fact, it is precisely this retardation effect which gives this growth system its balanced growth feature--as reflected, for example, in the constancy of the following set of observable economic magnitudes (in addition to j_e):

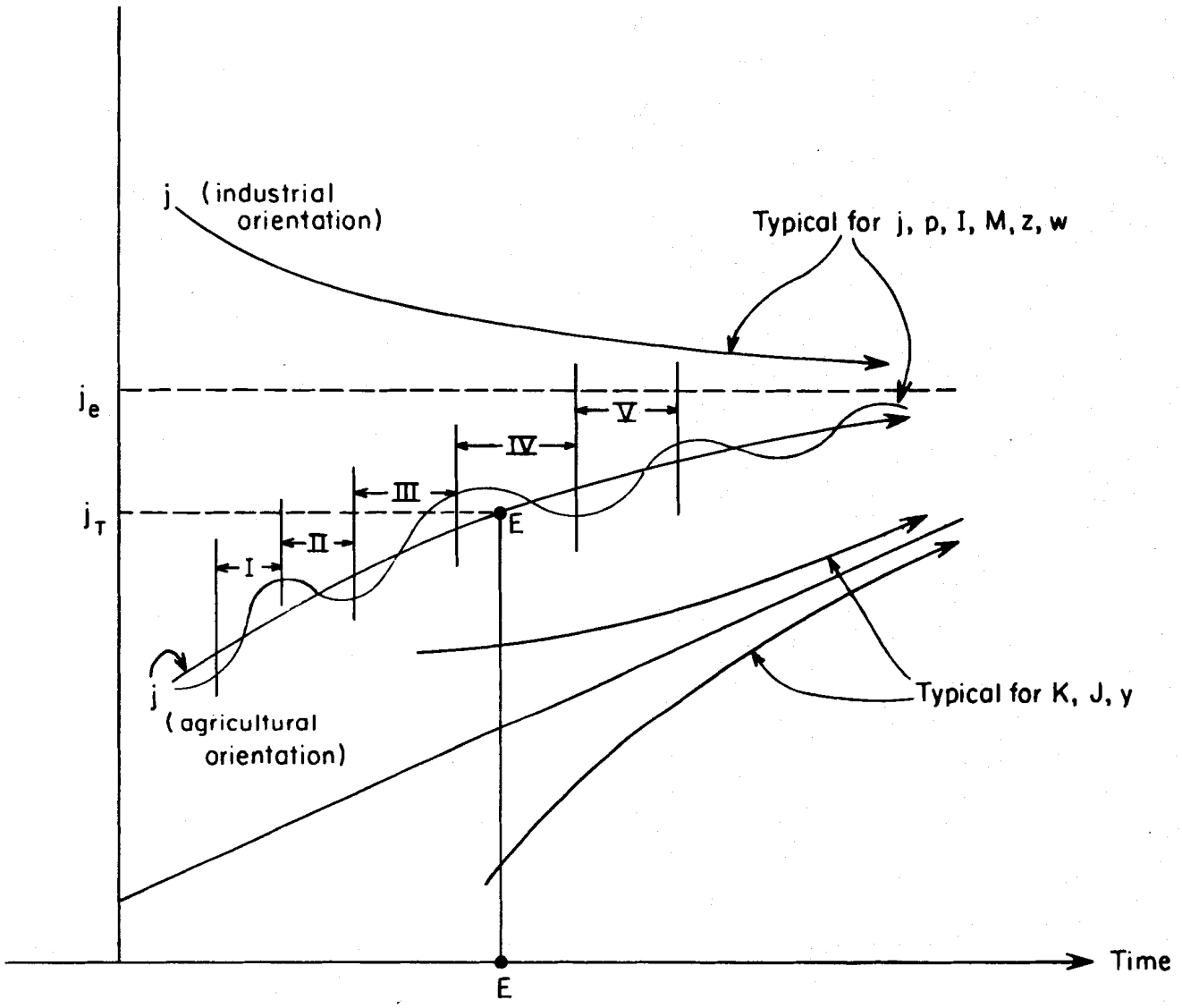
23a) $p_e = k'j_e^{1/\alpha}$ Long-run Stationary Value for Price

(by Equation 8a)

b) $I_e = aj_e^{\beta/\alpha}$ Long-run Stationary Value for Investment

(by Equation 8b)

Diagram 6: Dynamic Equilibrium:
Balanced Growth and Retardation



c) $M_{i_e} = mI = maj_e^{\beta/\alpha}$ Long-run Stationary Value for Capital Imports

(by Equation 18)

d) $z_e = py/hJ = p_e^{1-\alpha}$ Long-run Stationary Value for z

(by Equation 8c)

e) $w_e = 1/1 + hz_e$ Long-run Stationary Value for w

(by Equation 13b)

Notice that all of the variables whose stationary values are given in Equation 23 exhibit the same general growth pattern as that portrayed for j in Diagram 6; i.e., they all converge toward stationary values by way of an increasing or decreasing transient path.

3.8 SUMMARY: INDIGENOUS VERSUS MODERN EXPORT-LED GROWTH

We summarize the discussion of this section by comparing the two export-pulled growth cases, one based upon indigenous products and the other upon modern exports. Diagram 4 shows long-run growth trends for the indigenous product case, and Diagram 6 portrays the modern export case. The fundamental difference between the two cases, and the cause of different growth trends shown in the two diagrams, lies in the determinants of exports, J. In the indigenous export case,

growth is pushed by forces within the agricultural sector, and these forces are summarized in the constant rate of export expansion, i, of Equation 7e. By contrast, growth of modern exports is externally pushed by forces emanating from contact with the industrial sector. The stimulation to export growth resulting from this contact is described by Equation 16.

This key difference in the forces determining the major growth-promotion force of exports, J, produces contrasting long-run growth consequences between the two cases. A first difference lies in the fact that the indigenous export growth system always leads industrial growth to progress toward the import price ceiling, P_M, and thus to confront foreign competition while this does not occur in the modern export case. The internal momentum of growth within the indigenous agricultural export sector relentlessly pushes the system toward this point, the turning point E in Diagram 4. By contrast, the dynamic equilibrium nature of growth in the modern export case (shown in Diagram 6), in which agricultural and industrial growth are closely linked, produces constancy of industrial goods prices, averting price increases to the ceiling price, P_M.

Both indigenous and modern export-pulled growth involve long-run difficulties, though of a different nature. In the indigenous export

case, we see from Diagram 4 that after the turning point, t_T, industrial growth will slow down as shown by the constant value assumed by industrial investment, I, and the consequent retardation of the growth of capital stock, K, and industrial output, y. This produces a falling z index after the turning point, reflecting a decreasing domestic share of the industrial goods market. Agricultural export orientation (shown by the w index) accelerates after the turning point because the growth of j, the index of relative agricultural strength, accelerates. Combined, these trends may be described as a return to colonial-type enclavism, the very growth system from which the transition is intended to provide escape. For this reason, this long-run result is likely to be politically intolerable. The dynamic equilibrium nature of modern export-pulled growth involves long-run difficulties of another kind. Diagram 6 shows that all growth variables converge toward a constant rate of growth, involving retardation and eventual slow growth.

Moreover, both types of export-pulled growth fail to provide a long-run tendency toward shifting the economy's center of gravity to the industrial sector. In both cases, the long-run result shows that investment, I, and capital stock, K, will eventually grow linearly, for the indigenous export case after the turning point (Diagram 4) and for the modern export case as the growth paths approach the stationary growth

rate, j_e (Diagram 6). In the former case, lagging industrial growth is caused by the economy's growing agricultural export orientation; in the latter, by the loss of internal growth momentum. We conclude, therefore, that both systems may be viable as short-run transition vehicles but that neither is satisfactory to complete a transition to modern growth over the longer run.

4. DEVELOPMENT POLICY

4.1 INTRODUCTION

Development "policy" issues may be broadly classified into two types, short-run development policy and long-run development strategy. By short-run development policy we mean policy issues germane to growth problems in a given growth regime during which the economy's rules of growth remain essentially unchanged. In the present context, policy issues are those addressed to facilitating the functioning of the export-pulled growth system in which industry continues to play a servicing role. By development strategy, we mean decisions involving changes in the economy's basic rules of growth--to promote the evolution of a new growth regime. We consider short-run development policy aspects of export-pulled growth in this section, while strategy aspects will be discussed in Section 5.

Two short-run policy issues are of overriding importance where neo-enclave growth is found: maintenance of an adequate rate of export expansion and enhancing the system's stability. The first emphasis is obvious, given the export-pulled nature of neo-enclave growth. Government policy to promote export productivity gains must be consistent with the competitive market system required for neo-enclavism. Development policy is thus likely to focus upon social overhead investment to promote the growth of export production and trade and, given the land-based nature of the system, public investment will concentrate upon improving land resources. These policy implications are relatively self-evident so we will restrict our discussion (in Section 4.2) to the second short-run policy issue, the quest for stability.

Long-run development strategy issues inherent in the neo-enclave growth system revolve about the dilemma posed by the system's long-run alternative tendencies toward either growth retardation or reversion to enclavism. In both cases, as we noted in the last section, this dilemma is associated with an inadequate pace of industrialization. Behind this latter difficulty lies the narrowness of the investment perspective in the neo-enclave system. Lagging industrial investment may be associated with import competition stemming from the free-trade orientation required by this system. If this were the only obstacle to

expanding industrial investment, a protectionist strategy (such as we discussed in the last chapter) is the obvious panacea. We shall look at the rationale of the protectionist solution in a later section of this chapter.

The narrowness of the investment perspective may, however, be a predominately internal matter, quite independent of import competition. We have seen in the previous section that retardation of industrial growth may occur without activation of import competition. Thus, the more basic strategy issue concerns the motivations and rationale that lie behind entrepreneurial investment in the industrial sector. This aspect of development strategy apropos the neo-enclave economy will be examined in Section 4.3.

4.2 SHORT-RUN STABILITY

All export-oriented economies confront problems of economic instability because of the fluctuating nature of external demand. For reasons well known, primary products are particularly subject to sharp price fluctuation in the world market. In the neo-enclave system, fluctuations in J are readily transmitted throughout the domestic economy through the relatively unfettered market mechanism. As a consequence, growth of the neo-enclave economy is characterized by

short-run instability, alternating between expansionary and contractionary phases. These short-run fluctuations are superimposed upon the smooth underlying long-run growth trends analyzed in the last section.

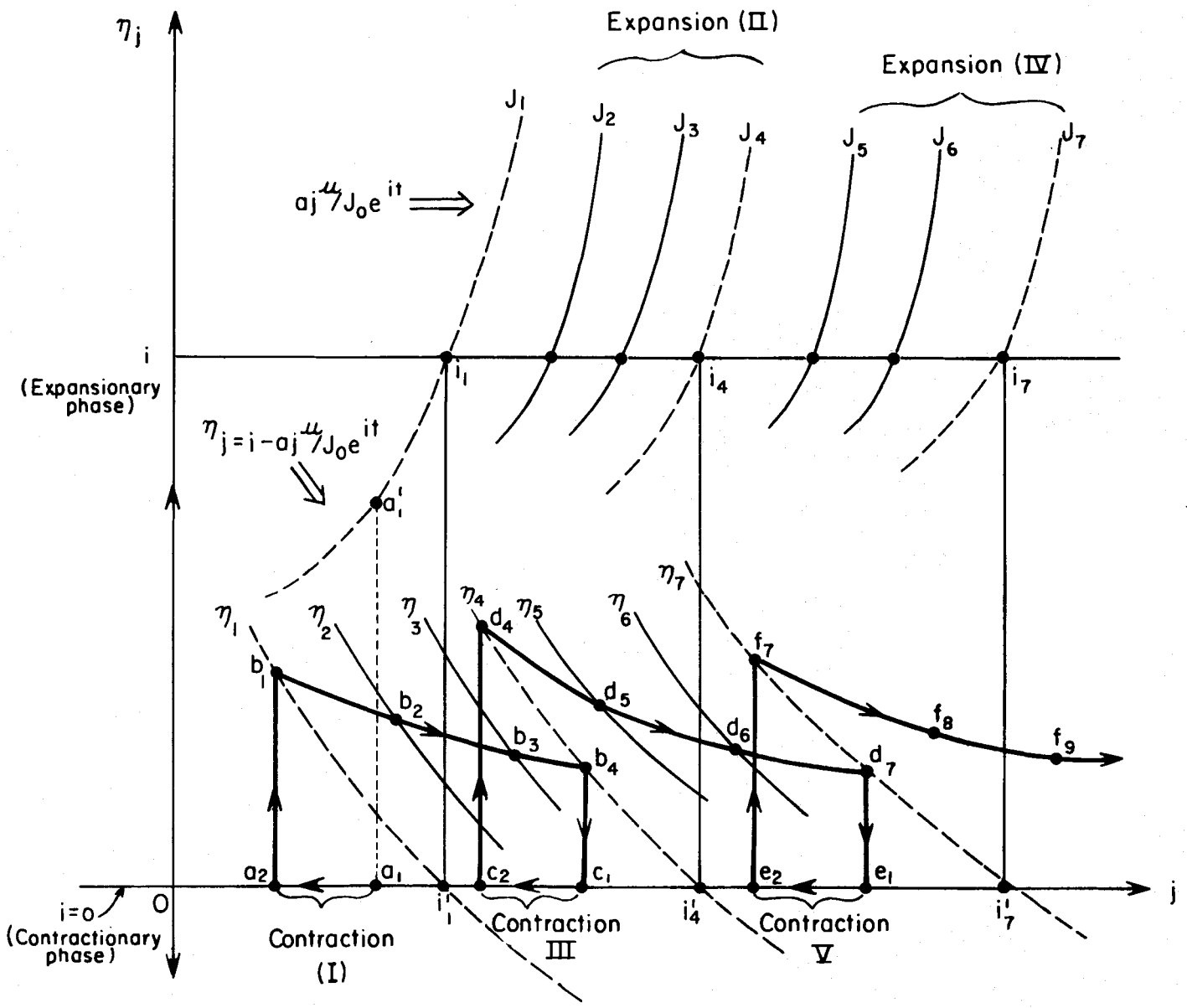
Short-run fluctuations will be integrated into our earlier analysis for the two cases of indigenous and modern export-pushed growth. To begin with the indigenous export case, we refer back to Diagram 4. Fluctuations occur around the long-run growth path of j. We may think of Equation 11 as describing an expansionary phase during which the expansion of j is sustained at the rate given by Equation 12a. A short-run departure (contractionary phase) may then be described by letting i = 0 so that J maintains a constant value. Thus, the two phases may be described by:

24a) $\eta_j = i - aj^u/J_o e^{it}$ Expansionary Phase

b) $\eta_j = -aj^u/\bar{J}$ Contractionary Phase

In Diagram 7, let j be plotted on the horizontal axis and let the term $aj^u/J_o e^{it}$ be represented by a system of positively sloped curves, each indexed by a particular value of J; i.e., J_1, J_2, $J_3 \ldots$, indicating that these curves shift to the right as J expands through time during expansionary phases. The horizontal line through i (on the

Diagram 7: Short-run Fluctuations:
Indigenous Export Case



vertical axis) intersects these curves at points i_1, i_2, i_3.... With the aid of these points of intersection the vertical gap between the J curves and the horizontal line is measured and represented by the negatively sloped curves indexed by η_1, η_2, η_3...., the height of which, by Equation 24a, measures η_j.

Let us begin with a <u>contractionary phase</u> (Phase I in Diagram 7) when J is held at a constant level, J_1. The dotted J_1 curve, whose position is fixed, is now relevant.[58] Suppose the initial value of j is a_1, as shown on the horizontal axis. Then, by Equation 24b, η_j is negative and, hence, the value of j decreases toward a_2. A contractionary phase is thus characterized by a decreasing value of j, caused by the stagnation (constant absolute value) of exports, J.

We now suppose that an <u>expansionary phase</u> (Phase II) begins. The growth path[59] that ensues is described by points b_1, b_2, b_3, b_4, showing the effect of increasing exports, J, as the value of j increases through time.[60] Again, a contractionary phase (Phase III) sets in when

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[58]However, the η_1 curve is irrelevant because i = 0; i.e., J is constant. The magnitude of the η_j is now indicated by the negative of the J_1 curve. For example, for $j = a_1$ (on the horizontal axis), η_j is the <u>negative</u> of the distance a, a'_1.

[59]The points b_1, b_2, b_3, b_4, lie on successively lower η curves.

[60]Since i now is positive, j increases and, hence, the η_j curves become relevant during the expansionary phase.

$j = c_1$, causing the value of j to recede to c_2. This is again followed by an expansionary phase, Phase IV.

Had the first and later expansionary phases not been interrupted by temporary setbacks, caused by flagging export demand, growth would have maintained the smooth growth path (shown in Diagram 3) toward the eventual expansion of j at the constant rate of Equation 12b.[61] In the real world of fluctuating external demand for indigenous exports, however, the system will be periodically interrupted by the temporary setbacks of the contractionary phases (I, III, V), causing an alternation between expansionary and contractionary phases. These are superimposed upon the long-run growth trends as shown by the wave-like movements around the smooth path of j in Diagram 4.

To analyze fluctuations in the other case--modern export-pulled growth--we may take Equation 18 as describing the expansionary phase. For the contractionary phase, we let $u = 0$ in Equation 16,[62] signifying that increases in J cease and, hence, exports, J, temporarily assume a constant value. Thus, we have:

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[61] In Diagram 7, this is shown by the fact that the growth paths for the expansionary phases, (b_1, b_2, b_3, b_4), (d_1, d_2, d_3, d_4), and (f_1, f_2, f_3, f_4), all converge toward a positive constant value.

[62] From Equation 17b we have $b = 0$ and, hence, the first term of Equation 18 vanishes--as shown in Equation 25b.

25a) $J\eta_j = bj^{-\gamma} - aj^{1+\beta/\alpha}$ Expansionary Phase (by Equation 18)

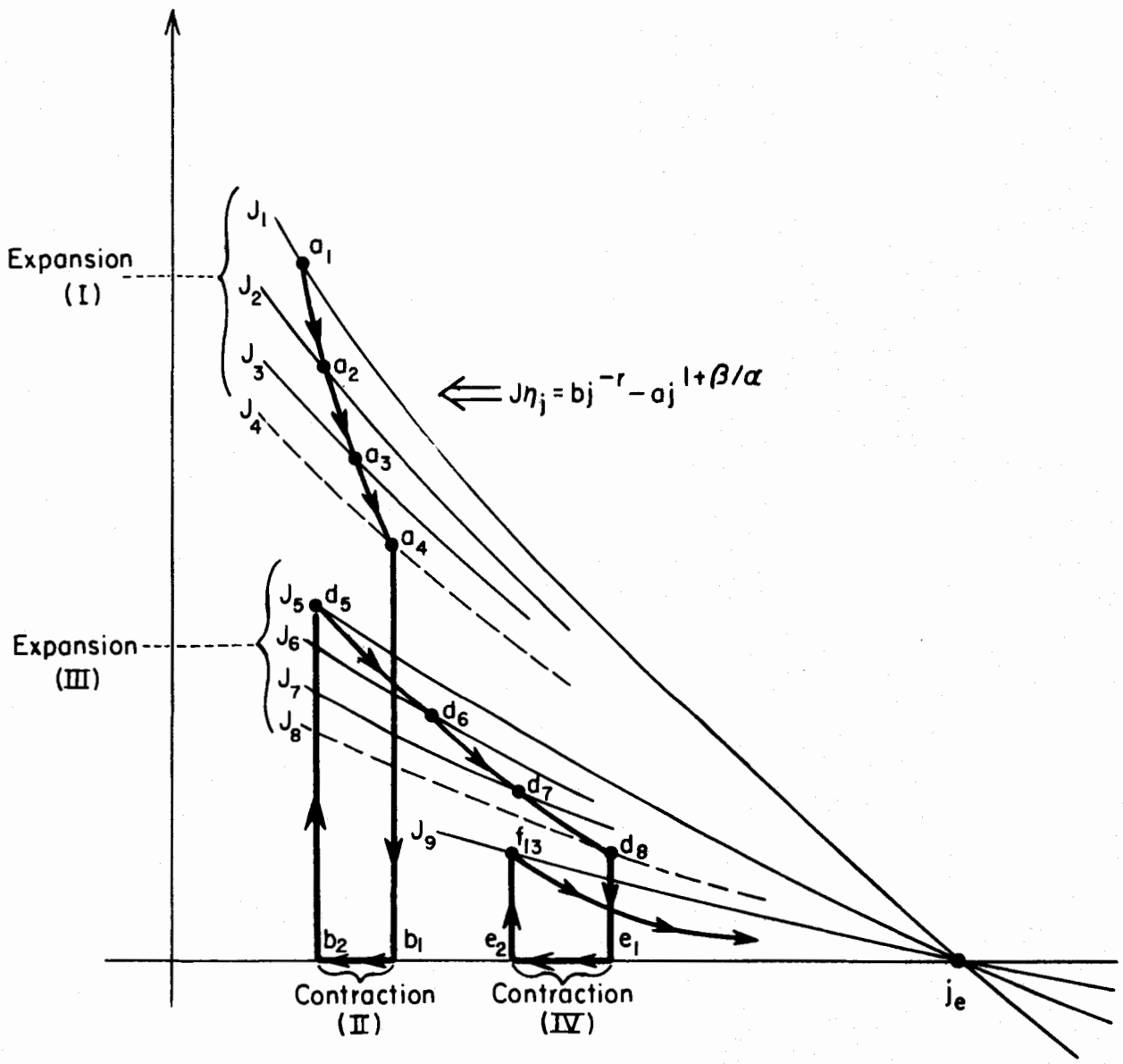
b) $\eta_j = -aj^{1+\beta/\alpha}/\bar{J}$ Contractionary Phase

The negatively sloped family of η_j curves of Diagram 5 are reproduced in Diagram 8, the only modification being that each curve is now indexed by a fixed value of J; i.e., J_1, J_2, J_3...according to Equation 25b. Let us begin with $J = J_1$ for an expansionary phase (Phase I) at the point a_1. The ensuing growth path is a_1, a_2, a_3, a_4. Now suppose that at $J = b_1$ (on the horizontal axis), a contractionary phase (Phase II) sets in. The value of j will decrease toward b_2, according to Equation 25b. Resumption of expansion occurs in Phase III, shown by the growth path d_5, d_6, d_7, d_8. Thus, alternation between the two phases continues. The superimposition of these short-run fluctuations on the long-run smooth growth path of j may be seen from the wave-like movements around the j curve in Diagram 6. In the dynamic equilibrium case, in which j approaches a constant long-run value, the short-run phases will be observed as fluctuations around the constant trend value of j.

The short-run instability of j, originating from fluctuations in exports, J, will induce fluctuations in all the other variables in the system.

Diagram 8: Short-run Fluctuations:

Modern Export Case



In the expansionary phase, prices of industrial goods, p, investment, I, and imports on capital account, M_i, will increase, attended by an "adequate" growth of capital stock (K) and industrial output, y. Conversely, during the ensuing contractionary phase, growth of all these variables will slow perceptibly. Thus, growth in the neo-enclave system is inherently unstable because of its exclusive dependence upon the growth momentum provided by exports. Preoccupation with short-run stability by policies consistent with the free market regime is thus an inevitable by-product of this growth system.

4.3 DETERMINANTS OF INDUSTRIAL INVESTMENT

In the relatively free market system of neo-enclavism, inducements to investment are basically oriented toward profit expectations, as determined by the free market system. This underlying assumption has built into the investment demand function (Equation 1e) and the investment price function (Equation 1f) postulated in Section 2. Having investigated the forces affecting the major growth-promotion force of exports, J, in the previous section, we now turn to investment to explore what lies behind the two functions just mentioned.

For this purpose we introduce Diagram 9a, in which capital is measured on the horizontal axis, and the production function, $y = K/k$

of Equation 7b, is represented by the radial line, OR. Let us assume that initial capital stock is K_o. We now consider Point N (on the radial line directly above K_o) as the origin for a second "diagram" in which investment, I, is measured on the horizontal axis and the following increasing functions of investment are postulated:

(i) the radial line, py, representing the anticipated gross revenue stream (obtained by multiplying OR by p).

(ii) the gap between py and the radial line, N_n, representing current costs of operation (e.g., labor, raw materials of new output capacity).

(iii) the radial line, N_n, representing the anticipated net income stream (i.e., the difference between gross revenue and current costs).

(iv) the radial line, $P_I I$, representing the present value of the anticipated net income stream (obtained by discounting [iii] by the market rate of interest, r).[63]

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[63] If w_n is the wage cost per unit of output, then, conceptually:

$$P_I I = \int_o^\infty (I/k)(p - w_n)e^{rt}dt = I(p - w_n)/kr$$

The last function (iv) is now shifted down to the main part of the diagram as the $P_I I$ function beginning from a new origin, K_o, and is construed as the present value of investment. The curve CC' represents total costs of investment (i.e., all costs associated with construction of new capital goods). The shaded vertical distances then represents profits. Since rationality is assumed on the part of industrial entrepreneurs in the free market system, they will choose that level of investment, I_o, which will maximize profits, shown as the vertical distance, FE. This maximizing principle is shown in Diagram 9b, immediately below Diagram 9a. In Diagram 9b, the horizontal line, P_I, is the price (or average revenue) of investment goods, and average and marginal cost curves are also shown. The equilibrium (maximum profit) point is I_o, where marginal cost equals price.

This market investment logic[64] shows that the level of investment, I_o, as well as the price of investment goods, P_I, are functions of the price of industrial goods, p.[65] This framework of

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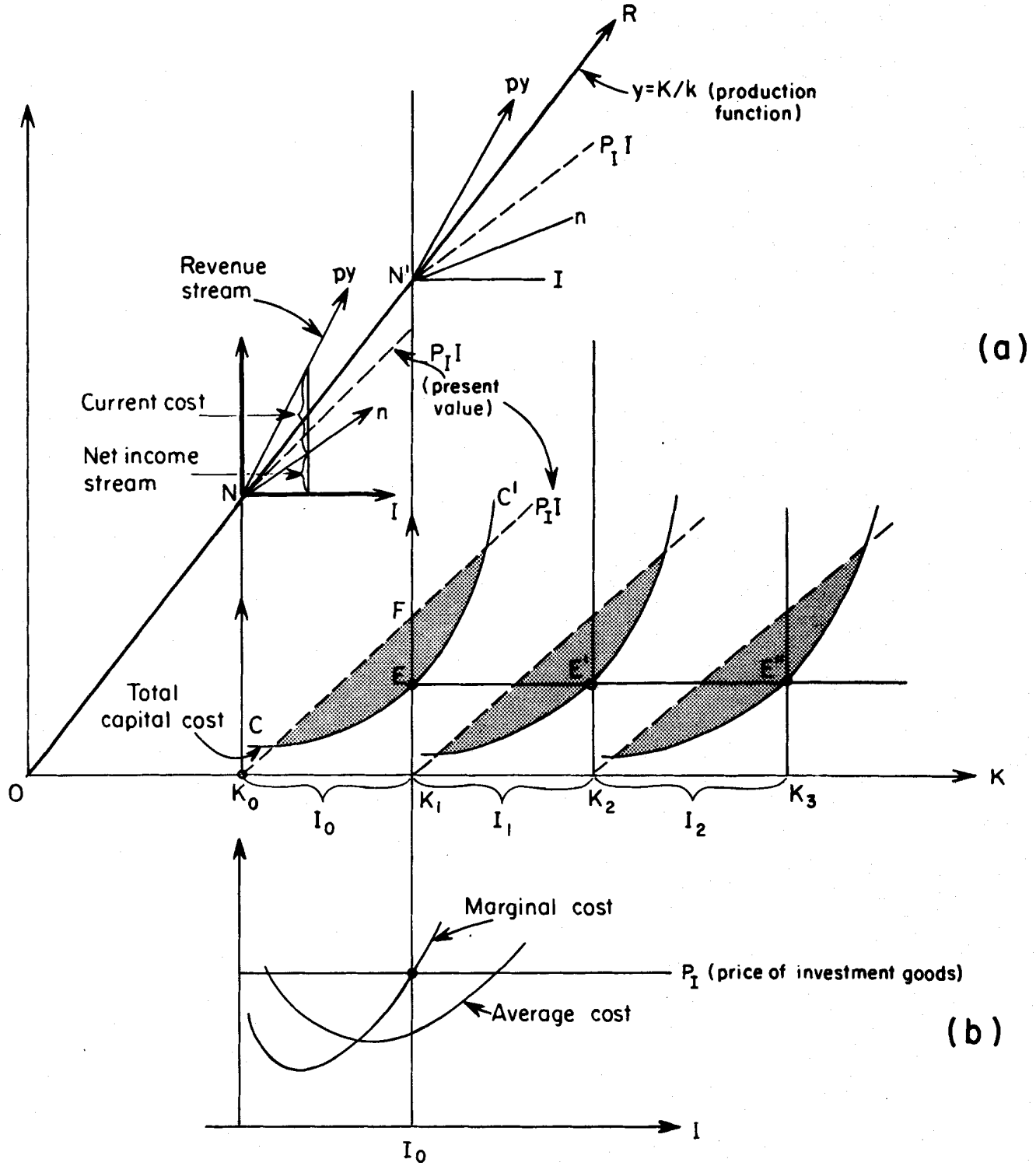
[64]This analysis is an adaptation of the Keynesian investment decision mechanism. We differ from the Keynesian method only in using a concept of "marginal efficiency of investment" in place of "marginal efficiency of capital."

[65]From Diagram 9a, we see that P_I is the slope of the radial line, $P_I I$, and is causally determined by price, p, current costs, and the interest rate. The equilibrium level of investment, I_o, is a function of all of these, as

Diagram 9: Investment Determination



thinking is a familiar one and is, indeed, the only possible rational interpretation of investment demand based upon profit maximizing behavior in a competitive market. The short-run theory of investment demand is an integral part of the long-run growth mechanism. In the second period, for example, the capital stock is K_1 (i.e., $K_o + I_o$), and the short-run analysis can be repeated to show determination of investment, I_1, and, similarly, for succeeding periods. This investment demand determination involving price, p, the interest rate, r, as well as current and capital costs, ultimately constitutes an essential and sensitive mechanism in the rules of growth in the development of an economy under a free market regime. It is this type of behavior which is relevant to assessing long-run growth prospects of a neo-enclave system.

4.4 UNEMPLOYMENT AND CAPITAL FLIGHT

In the neo-enclave system, growth of the industrial sector is led by agricultural exports. Progress of the industrial sector through time may, for example, be measured by the number of workers engaged

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[65] well as capital construction cost. These factors are reflected in the general investment demand function postulated in Equation 1e.

in the manufacture of industrial goods, y.[66] We may assume as a first approximation that employment in manufacturing is proportional to capital stock so that labor absorption will be proportional to new investment.[67] In association with capital stock, K, the growth of the industrial labor force determines the size of the industrial sector, as it is pulled along by agricultural export expansion through time.

To carry forward the analysis, we now resort to an intrasectoral view of the industrial sector--shown in Diagram 1b. The production sector (Y) requires inpayments (representing demand for its output) from sales of investment goods, $P_I I$, consumer goods absorbed by the agricultural sector, $p_y y$, and consumer goods sold within the industrial sector, c.[68] This subsector makes outpayments for imports of capital

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[66] We thus work with a tripartite classification of the labor force in the present model: (i) agricultural labor, (ii) labor providing commercial and government services, primarily oriented toward serving agricultural exports, and (iii) labor engaged in the manufacture of industrial goods, y.

[67] The pace of labor absorption into manufacturing will, in fact, depend on the extent to which the technology is capital-using (labor-saving). In our model, this special aspect of growth can be introduced in Diagram 9 via the production function ($y = K/k$).

[68] We assume that the industrial laborers spend all of their income. Hence, c stands for their income, their consumption, and, by a proportionality factor, their number.

goods, $P_M M_i$, and value added, V, which is subdivided into c and π, industrial profits.[69] Notice that capital goods imports, M_i, are proportional to investment (by Equation 1g). Division of V between c and π is governed by the equilibrium considerations shown in Diagram 9,[70] and for simplicity we may assume that a constant fraction of V constitutes profit income, π, and materializes as savings.

Thus, the structural and behavioral equations for the intrasectoral model may be listed as follows:

Structural

26a) $\underline{P_I} I + c + \underline{py} = V + P_M M_i$ Aggregate Demand and Supply

b) $V = c + \pi$ Income Disposition

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[69]This is seen from balancing of industrial household subsector, H. As a first approximation we assume that all wage income is spent on consumption and all profits are saved.

[70]In Diagram 9, there are two components of wage costs: those associated with current production of industrial goods and those associated with production of new investment goods. Both wages and profits refer to new as well as existing firms.

Behavioral

c) $M_i = m(I)$ Import Function

d) $\pi = sv$ Savings Function

The agriculture export-pulled nature of industrialization is reflected by Equation 26a, in which the two major components of aggregate demand, $P_I I$ and py, are underlined to emphasize their determination by the level of agricultural exports, J. Responding to this external stimulation, the values of industrial value added, V, industrial wage income, c, and the size of the industrial labor force are determined, via a "multiplier" principle:

27a) $V = \frac{1}{s}\left[\underline{(P_I - mP_M)I + py}\right]$ Multiplier Principle (by Equation 26a)

b) $c = (1 - s)V/s$ Wage Income and Consumption (by Equations 26d, 27a)

c) $\pi = (P_I - mP_M)I + py$ Profit (by Equation 26d)

d) $A = \pi - P_I I = py - mP_m I = py - P_M M_i$ Capital Flight

e) $A + P_M M_i + P_M M_c = py + P_M M_c + J$ Intersectoral Consistency

(by Equation 27d)

In Equation 27a the underlined terms on the right-hand side are related to the expansion of agricultural exports[71] which, when multiplied by the static investment multiplier, 1/s, determines the short-run equilibrium magnitude of industrial value added, V. The other variables, c, π, and A, are determined residually at the closed end of the model.[72]

This intrasectoral analysis points toward two sources of potential difficulty within the neo-enclave system's industrial sector;

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[71] The variables in these terms are determined by the intersectoral model of Sections 2 and 3 and, once determined, they, in turn, determine the magnitudes of the intrasectoral variables in the industrial sector. This analytical procedure in our model is, of course, based on the agricultural export-pulled nature of growth in the neo-enclave economy.

[72] Notice that in Equations 27c, d, the values of π and A are completely determined by intersectoral analysis. Thus, the intrasectoral multiplier analysis determines only the size of value added (and its related variables, c and industrial employment) but not the magnitudes of profits, π and capital flight, A. In Equation 27e we show the consistency of the present intrasectoral analysis with the intersectoral view adopted in the earlier sections of this chapter.

namely, the unemployment problem and the danger of capital flight. Growth of industrial value added, V, wage income, c, and employment are all seen to be proportioned to the growth of capital stock, K, and industrial output, y. Hence, the growth of the intrasectoral variables is constrained by the slow growth of K and y; industrial sector value added, wage income, and employment can grow only by a constant amount per time period.[73] If labor supplied to the industrial sector, for example, is growing at a constant rate (say, 2 per cent per year), urban unemployment will become increasingly severe in the long-run accentuated during the short-run contractionary phases.[74] Unless agriculture and its related service employments can absorb an increasing fraction of the total labor force, therefore, the unemployment problem may generate social unrest and hasten the abandonment of the neo-enclave growth strategy.

We can readily deduce from Equation 27d that flight of industrial profits abroad, A, will be inevitable and persistent in the neo-enclave system and that this leakage will aggravate through time.[75]

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[73]Notice from Diagrams 4 and 6 that in both neo-enclave cases I takes on a constant value in the long run and the growth of K and y becomes linear. Hence, V and c will also grow linearly (see Equations 27a, b).

[74]Short-run fluctuations are discussed in Section 4.2.

[75]In Equation 27d, while M_i tends to be constant (i.e., proportional to I), the value of y increases through time, causing A to increase.

The risk of capital flight is a characteristic of an open, free trade economy and, as a part of the neo-enclave compromise,[76] it is more covert and, hence, politically less sensitive than unemployment. Nevertheless, this leakage obstructs industrialization in the free market climate by preventing the reduction of interest costs which would result from larger supplies of domestic savings. Increased availability of savings would, in principle, cause a reduction in the interest rate, r, and induce an upward shift in the present value of the anticipated income stream, $P_I I$, in Diagram 9a, which would, in turn, lead to a higher equilibrium level of investment through time.[77] Thus, we see that our use of conventional tools to analyze investment stimulation assists in understanding one important factor explaining lagging industrial growth in a neo-enclave economy which condones capital flight.

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[76]The compromise between indigenous and foreign interests leading to neo-enclavism is discussed in Section 1.

[77]In Diagram 2c, an interest rate reduction by giving encouragement to investment will cause the investment demand function to shift from its original position shown by the solid curve to the dotted curve.

5. THE LONG-RUN PROGNOSIS

Neo-enclavism is a growth system which evolves from a unique set of political, economic, and geographic conditions. As a vehicle to launch a transition from the long colonial epoch, it represents a compromise with foreign economic interests while political control is held by indigenous leadership. In continuing to rely upon traditional exports as the source of growth momentum and upon alien and minority entrepreneurship, the economy's mode of operation remains essentially colonial in nature. Investment continues to be financed from commercial profits. Industrial development, thus financed, is oriented toward serving the agricultural export sector. Savings and investment behavior are conditioned by the outlook of the alien and foreign entrepreneurs, showing sensitivity to the political climate and a propensity toward capital flight.

The neo-enclave compromise represents a device to launch the transition without disrupting this fundamental mode of operation. The compromise is institutionalized in a free market system, both externally and internally, leaving both export and industrial growth to be controlled by market forces. To the extent that government participation in growth-promotion activities occurs, it emphasizes infrastructure

investment to strengthen the agricultural (and perhaps mineral) export base of the neo-enclave economy.

The long-run economic prospects of this system were analyzed in Sections 2 and 3. The conclusions emerging from those sections emphasize that, while neo-enclavism may possess short-run viability by offering moderate growth, it is unlikely to survive in the long run because it fails to offer a basis for successful transition to a modern economy. Two types of neo-enclave systems were distinguished; one based upon growth led by indigenous export products, the other, modern export product-led growth. In the former, the agricultural export sector increasingly dominates the economy in the long run, reflected in a rising index of relative agricultural strength, j. As industrial growth lags, the economy eventually reverts to an enclave situation--the situation from which a successful transition must provide escape. The other neo-enclave pattern, "dynamic equilibrium" based upon modern exports, has the merit of providing more balanced growth of agricultural exports and industry. In the long run, however, this very feature of balance leads to a retardation of growth throughout the economy. The ultimate indictment of both neo-enclave growth types lies in their failure to shift the economy's center of gravity from exports to the industrial

sector. In both, the industrial sector remains the handmaiden of the export sector and industry fails to achieve a growth momentum of its own.

In addition to these internal forces jeopardizing the long-run viability of neo-enclavism, the system may be threatened by erosion of the unique conditions (discussed in Section 1) essential for its existence. The export-based growth momentum requires a land-surplus economy in which new land resources are continually available to feed export growth. It is unlikely, in view of population growth rates in less-developed countries, that this condition will persist indefinitely. The Philippines, for example, shows a tendency toward exhaustion of this land-surplus condition within the postwar generation period.[78]

The "political" condition behind the neo-enclave compromise may also change, undermining the durability of the system. The fundamental prior condition of alien domination of entrepreneurial and related roles in the economy may be gradually overcome. This can come about either through the gradual evolution of indigenous entrepreneurs or through erasing distinctions between alien minority groups and the indigenous population. Either change would remove the necessity for a

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[78] George L. Hicks and Geoffrey McNicoll, "Foreign Trade and the Growth of the Dual Economy: A Study of the Philippines, 1950-66" (Washington: Center for Development Planning, National Planning Association, 1968), pp. 312-315 (mimeo).

compromise solution, allowing the shift to a strategy which would transfer resources to an "acceptable" entrepreneurial class for an aggressive industrialization effort. This might entail, for example, abandoning the free market quality of neo-enclavism, as well as its permissiveness toward capital flight. Either type of change in the society's entrepreneurial conditions might engender a new investment psychology and, reinforced by access to savings from sources other than commercial profits, might lead to a system capable of providing industry with its own growth momentum.

The eventual breakdown of the neo-enclave system, whether for reasons of its lack of long-run "internal" viability or erosion of the "external" conditions essential for its existence, immediately raises the issue of the subsequent growth strategy which might emerge. The particular growth phase that arises to replace the neo-enclave entry into the transition will be governed by the complex of forces operating within a society, especially those which lead to the abandonment of neo-enclavism. The two extreme alternatives are the politically-pushed industrialization strategy (discussed in Chapter 9) and a free market industrialization pattern capable of providing industry with its own growth momentum. The latter alternative is one which offers some degree of continuity with the neo-enclave strategy. As found in the growth experience of New Zealand,

for example, it represents a strategy appropriate to an economy which continues to enjoy a land-surplus character. The important difference from neo-enclavism lies in reversing the relative roles of industry and agriculture. In free market industrialization domestic agriculture becomes a sector feeding industrial growth by supplying indigenous raw materials for manufacture and, in a traditionally open economy, lacking a large domestic market, industrial exports replace raw-material specific exports. Industrial entrepreneurship becomes oriented toward industrial growth for its own sake rather than to service the agricultural export sector. Such a strategy emphasizes industrialization based upon an economy's land surplus character. Consequently, it does not share the exclusive industrial bias of the politically-pushed industrialization strategy. Though industry gradually becomes the center of gravity, agricultural modernization is an essential concomitant.

We have observed in Section 1 that these long-run strategy issues are of overriding importance for countries in which neo-enclave growth exists. A successful shift of strategy requires that the new growth system be adapted to the society's background conditions.[79]

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[79] Many cases of failure, resulting from inappropriate strategies, might be cited. It will suffice to refer to the case of Thailand's unsuccessful politically-pushed industrialization strategy, abandoned in the 1950s (mentioned earlier), and to perhaps the most flagrant failure of all, Indonesia's experiment with a similar strategy from 1950-1965.

The success of one of the alternative strategies just cited, or some modification thereof, as a vehicle to accelerate the transition to modern growth, depends upon the society's capacity to carry out a new mode of the economy's operation. We have seen, in earlier chapters, that this task is comprehensive, involving entrepreneurial, resource, and organizational dimensions. Further prognostication on these strategy issues will be deferred to the later chapters in which our theory is applied to the countries upon which our empirical work focusses.