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TYPOLOGY IN DEVELOPMENT THEORY: RETROSPECTIVE AND PROSPECTS

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I. Introduction

Much of Hollis Chenery's professional life has been devoted to the investigation of differential patterns of growth in the developing world. If one traces the evolution of his and his collaborators' work over the past two decades, it may be fairly characterized as starting with the notion that there is a "typical" developing country whose expected performance over time can be captured by cross-sectional analysis across all economies at varying levels of income--with deviations from this pattern to be explained by further analysis. From these beginnings it is clear that Chenery's work has become increasingly sensitive to the need to disaggregate, certainly between developed and developing, but also among developing countries; increasingly modest in the extent of sectoral detail insisted on; and increasingly leery of attaching normative importance to any of the "average" patterns observed. Taking advantage of the accumulating record of more than three decades of post-war LDC growth--a laboratory not available in the 50s and early 60s--Chenery has increasingly turned to the use of the LDC historical laboratory as complementary to his initial cross-sectional analysis.[1]

In one sense Simon Kuznets' work[2] can be characterized as closely related to that of Chenery and associates, though it relies more heavily on the "eyeballing" of statistics in place of Chenery's more sophisticated

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[1]Also influenced, of course, by his work on individual LDC's, starting with Southern Italy during the Marshall Plan days and including Israel, Turkey and Pakistan.

[2]E.g. S. Kuznets, Modern Economic Growth: Rate, Structure and Spread, Yale University Press, 1966.

regression analysis, and was, from the very beginning, more influenced by, as well as sensitive to, the potential richness of historical analysis, not only with respect to post-war LDC experience but also with respect to at least some now developed countries of Western Europe and, of course, Japan. Kuznets' main concern was that of understanding the transition from an epoch of agrarianism to one of modern growth, with the evolution marked basically by changes in the composition of output among the three main sectors, A, M, and S, as income increases. His interest in defining the main characteristics of modern growth, including the systematic application of science and technology, the acceleration of growth, major structural change, and the diffusion of the process across countries, all led him to a strong early emphasis on the use of historical evidence and, over time, an increasing interest in typological differences among countries, with respect, for example, to country size and other differences in initial conditions.

Other investigators, including Arthur Lewis, Fei/Ranis, Kelley/Williamson/Cheetham,[1] had a somewhat different starting point, i.e. simple (or not so simple) two sector closed economy models, applied initially to the historical performance of a small set of now developed countries, conspicuously England and Japan. Over time they moved out from there to incorporating various crucial open economy dimensions and widening the application to other contemporary LDC's, especially members of the same sub-family or typology. Specifically, this school proceeded to examine the open economy development experience of the relatively small East Asian labor surplus developing countries, i.e. Korea and Taiwan over

[1] "Development with Unlimited Supplies of Labour," Manchester School, 1954, Development of the Labor Surplus Economy: Theory and Policy, 1964, Dualistic Economic Development Theory and History, 1972.

three post-war decades and to contrast it with that of Japan after the Meiji Restoration. More recently efforts have also been made to contrast the experience of members of this typology with others differing in initial conditions, such as size, extent of labor surplus, human and natural resource endowment etc. such as the Latin American and African types. This more casual method might best be called comparative historical analysis. It rejects the proposition that every country is sui generis and that its transition growth experience thus defies generalizability and transferability. But it is also skeptical of the effort to extract general conclusions for growth from the flash bulb exposure of country data points.

We perceive a gradual convergence over time between the rigorously econometric comparative patterns approach of Chenery, on the one hand, and the more casually empirical comparative historical analysis approach of the latter group, with Kuznets standing somewhere in between from the very beginning. Both approaches aim at the same objective: a better understanding of the causes of and impediments to successful growth in developing societies as well as of the reasons for inter-country divergence of performance; and ultimately, of course, at isolating the elements of non-transferability provided by the straightjacket of nature as well as the, hopefully substantial, elements of transferability relating to both the technical and political dimensions of the man-made environment.

In what follows we tend to briefly present our own assessment of the terrain these various groups of researchers have, in fact, been traversing, following parallel and, we believe, increasingly convergent paths over the past several decades. Second, we intend to examine the

contrasting transition growth performance of three major types of contemporary developing countries as a substantive demonstration of one of these paths. Finally, we intend to conclude with some reflections on what is likely to lie ahead in the continuing joint search for a richer understanding and consequently better national and international policies.

II. Convergent Approaches Outlined

In order to make an intellectual point it is sometimes necessary to exaggerate. In this sense to call Hollis Chenery's earlier work strictly cross-sectional and the Lewis/Fei/Ranis/Kelley/Williamson/Cheetham model strictly historical is undoubtedly an exaggeration. In his "Patterns of Industrial Growth"[1] (1960) Chenery estimated the parameters of one average expansion path valid for all countries by regressing indicators of economic structure on per capita income and population. Here the data set used was purely cross-sectional, i.e. one observation for each country, but we must remember the acute scarcity of LDC time series data at the time. Lewis/Fei/Ranis, on the other hand, make no use of econometrics, use only time series data largely for such historically relevant DC cases as Japan, and are concerned mainly with such indicators as savings rates and the exhaustion of the labor surplus as criteria for successful development. Kelley/Williamson/Cheetham do use fairly sophisticated econometric analysis for Japan in the effort to project history backward. None of these early approaches included a full treatment of the foreign sector.

In the later 60s, in "Development Patterns Among Countries and Over Time"[2] (1968) Chenery, with Lance Taylor, for the first time fits a regression line to time series data plotted alongside those fitted to cross-sectional data. Also, much more attention is now paid to the role of international trade, as the share of primary exports versus manufacturing exports in total exports becomes part of the explanatory

[1] American Economic Review, Vol. 50, September.
[2] Review of Economics and Statistics, Vol. 50, November.

Whatever the intellectual point of departure both approaches now clearly assume that there exists a meaningful family affinity among subsets of developing countries giving them a certain uniqueness not necessarily shared by other LDCs ; the most obvious example is the role of trade and other open economy dimensions in small vs. large countries; a less obvious example is the difference between a Japanese and a Spanish colonial heritage. Acceptance of such a typological approach does not connote a lack of awareness of the fact that even within any one sub-family there may, and usually do, exist important, instructive differences among individual countries. A really helpful typological approach, no matter from what school it emanates, should help bring out in clear focus the important elements of family affinity while not suppressing meaningful intra-family differences.

More controversial is the question of whether or not differences in policy should be included as part of the typological environment or treated endogenously. In his 1975 book with Moises Syrquin, "Patterns of Development,"[1] Chenery developed a typology of development patterns in which transitional countries are classified according to identifiable development strategies, including primary specialization, balanced development, import substitution and industrial specialization. Countries' strategies are identified by how far they deviate from the "normal" pattern established by the regression equations, i.e. in terms of their trade orientation, production orientation, and other aspects of structure. It is concluded that "the four basic patterns observed here have their counterpart in the development plans and policies of the transitional countries" (p. 106). These strategies, it should be noted in passing,

[1] Patterns of Development, 1950-1970 (London: Oxford University Press).

consist in large part of trade-related policy alternatives.

Simon Kuznets would have no difficulty in insisting that discussions of strategy or policy be kept out of any examination of the transition growth process based on the twin phenomena of differing initial conditions and different points of observation on structure over time. He would be content to observe a relatively shrinking A sector, an expanding M sector and a fairly stable (if markedly changing in composition) S sector in the course of development, and to analyze said structural changes as reflective of underlying changes in both final demand and capacity conditions. Deviations from the expected pattern of structural change under growth would be largely attributed to differences in the state of nature, i.e. the objective economic environment. Unfortunately, however, in the real world, deviations from "normal" behavior over time, in either direction, are not unrelated to whether or not government policies in fact, serve to accommodate or to obstruct underlying economic forces which may be at work.

But even Kuznets, averse as he may be to the premature introduction of policy issues, is quite aware of the fact that the rapid structural shifts caused by the march of technology change on the supply side, as well as Engel's Law on the demand side, are subject to breakdowns and conflicts among socio-economic groups. As he puts it, "if established groups attached to large economic sectors suffer or foresee contraction of their share or base in economic society...they are likely to resist by using political pressure to slow down the process."[1] In the open economy context this applies to the extent of resistance or accommodation

[1] Simon Kuznets, "Driving Forces of Economic Growth: What can be Learned from History", Weltwirtschaftliches Archiv, Vol. 116, 1980 p.419.)

given the pressures of a marching comparative advantage over the long term--which is, in fact, closely related to the policy-tinged subphases of transition growth in the labor surplus open dualistic economy, as we shall see below. As Kuznets in the same context puts it, "if these conflicts are to be resolved so as to preserve a sufficient consensus for growth and change and yet not at a (prohibitive) cost some resolution mechanism is needed."[1] If he is willing to reflect on the application of this conflict to a matter of war among nations he certainly should be willing to accept the much more modest notion that it is, in fact, the consensus about policy among various vested interest groups which determines which path the society takes in the course of its transition growth effort.

Adherents of the comparative historical approach have incorporated the role of policies as endogenous variables into their more casual analytical framework. This is apparent, for example, in the 1980 Ranis paper "Challenges and Opportunities Posed by Asia's Super Exporters: Implications for Manufactured Exports from Latin America"[2] as well as in the forthcoming "Economic Development of Korea, Taiwan and Japan in Historical Perspective" by Ohkawa, Fei and Ranis[3] a product of the so-called Comparative Analysis Project. Phasing in the Fei/Ranis tradition seeks to answer essentially the same question as Chenery and Kuznets, i.e. how are productivity gains and increments in domestic and foreign demand allocated among sectors as income rises and how, if at all, does the modus operandi of the system change. In that sense import substitution

[1] Simon Kuznets, ibid.

[2] In Export Diversification and the New Protectionism edited by W. Baer and M. Gillis, NBER, 1981.

[3] To be published, 1983.

may be viewed as a temporary, if important, aberration from neo-classical equilibrium, with the dimension of openness explicitly introduced, but its importance differing with country size and other facets of the initial endowment. But there is more. Sectors are not homogeneous in the input-output tradition and do not necessarily interact smoothly over time. Moreover, transition subphases are identified and deployed analytically--with the crucial political economy decisions labor surplus systems face at the inevitable termination point of their primary import substitution subphase, i.e. whether to pursue secondary import substitution immediately or only after having moved successfully through a labor intensive export substitution subphase. Once again we may note that trade policy seems to be a key element.

There is, of course, another strand of Chenery's work which also explicitly evokes the use of phases based on changes in the societal capacity to accomplish certain tasks. In his 1966 article with Alan Strout "Foreign Assistance and Economic Development"[1] Chenery identifies development phases according to the constraints which are binding in the context of a simple dynamic model, moving from the ability to blueprint, to the ability to save, to the ability to export competitively as a society continues to mature. Unfortunately, most of the attention here has been focused on the two-gap approach cross-sectionally, with relatively less follow-up on the sequentially changing nature of the constraints in the context of a single historical case such as Pakistan's, focussed on in the original article. Thus there has never been a real wedding between Chenery's patterns approach and his two-gaps approach. Yet it is not a far cry from equating both the savings

[1] AER, 1966, Vol. 56, September.

constrained phases (i.e. the blue-printing constraint as well as the ability to save constraint) as tantamount to early primary import substitution, with the export constrained phase reminiscent of "the" choice when primary import substitution runs out of steam.

The notion of transition growth which we adhere to, and will try to further illustrate in this paper, accepts an evolutionary or metamorphic view of economic development, i.e. it envisions the existence of subphases in the course of the transition process for each of the major types of developing countries, with each subphase characterized by a distinct set of structural characteristics and a distinct mode of operation. By this we don't mean to imply any sense of the inevitability of movement along a fixed historical pattern but, instead, to make an empirical observation with respect to the evolutionary phenomena observed in some of the major typological cases around the world—either with respect to the rules of behavior within one typology or with respect to contrasts among families of LDC's. The evolution from one subphase to another is related both to cumulative changes in the fundamental internal conditions within each system and the presence or absence of accomodating policy adjustments.

III. A Brief Demonstration of the Comparative Historical Analysis Approach

Let us briefly compare the development record to date of three countries representing three distinct types: Kenya, representing the relatively land surplus, natural resources rich, human resources deficient or "African type"; Mexico, representing the moderately labor surplus, relatively natural resources and human resources rich,

"Latin American type"; and Taiwan, representing the heavy labor surplus, relatively natural resources poor, human resources rich, "East Asian type." We could spend a good deal more time in spelling out these dimensions of the differences in the so-called initial conditions, the precise degree of labor surplus measured by man/land ratios; the human capital endowment measured by literacy or educational attainment rates, the natural resources endowment measured by the relative availability of exportable minerals or cash crops (see table 1). Others,--e.g. size, with Taiwan and Kenya fairly small, and Mexico somewhat intermediate--could well be added, leading to a large potential number of typological cells; but this is not our basic purpose here. Rather, we want to demonstrate our approach at a rather elementary level in application to these three country type representatives.

The beginning of the transition growth effort is set rather arbitrarily at the point when the system moves out from its "colonial" pattern during which it exports mainly primary products in return for the import of consumer non-durables, deployed to attract workers into the export enclave, as well as capital goods deployed to permit the expansion of the export enclave. The next subphase almost invariably constitutes an effort at primary import substitution, once the newly independent country is able to get control of its foreign exchange earnings, supplemented by foreign capital. The beginning of the transition period has thus been placed around 1960 for Kenya, shortly before independence; in 1930 for Mexico,[1] given the fact that independence there occurred much earlier and that the Great Depression gave a tremendous impetus to import substitution;

[1]Though the process actually can be said to have begun as far back as 1880.

and around 1952 for Taiwan after both retrocession from Japan and political separation from the Mainland. According to table 1 Kenya may be characterized as small in size, intermediate in labor surplus, poor in human capital and poor in natural resources. The Latin American type, Mexico, may be viewed as intermediate in size, low in labor surplus, low in human capital and rich in natural resources; finally the East Asian type, Taiwan, is small in size, heavy in labor surplus, rich in human capital, and poor in natural resources.

All this, incidentally, is somewhat reminiscent of Chenery's typology once again, certainly with respect to country size, as he includes all systems with a 1965 population in excess of 15 million. It is less clear for the differentiation between his small, primary oriented and his small, industry oriented cases which are demarcated by differences in countries' actual export patterns and the average pattern predicted for its size and income level. However, this difference is intended as an indirect measure used in the "absence of satisfactory direct measures of natural resource endowment,"[1] (Chenery 1979, p. 22), and Chenery is fully aware that he is here using an endogenous result of resource endowments rather than the endowments themselves which indeed means that his typology is "more directly linked to government policies"[2] (Chenery 1979, p.22). A fuller differentiation between skilled and unskilled labor as well as between land and exportable natural resources would certainly have been helpful and prevent the possibility of a small country switching from one Chenery type to another simply as a result of government policy change.[3]

[1] Structural Change and Development Policy (New York, Oxford University Press

[2] Ibid.

[3] For example, Kenya changes it classification from "small primary oriented" in (Chenery and Taylor 1968) to "small industry oriented" in (Chenery and Syrquin 1975), reflecting the fact that the 1968 paper consisted entirely of pre-independence observations, still within the colonial structure, while the data sets for the 1975 book contained a number of observations from the beginning of Kenya's transition when Kenya had already moved into the primary import substitution subphase.

Notice (figure 1, row 1) that in the three countries under observation we find that, during the colonial or pre-transition era, the agricultural sector A is exporting traditional raw materials or mineral products, of t X_a, to the foreign country F, and importing producer goods, M_p, for the expansion/ to the enclave, along with manufactured consumer non-durables, M_{CN}, consumed in addition / domestically produced food, D_f, by the agricultural households, H. Export earnings may, of course, be supplemented by "private" foreign capital—Japanese foreign capital in the case of Taiwan, U.S. foreign capital in the case of Mexico, and British foreign capital in the case of Kenya.[1] The policy setting to sustain this modus operandi of the economy during the pre-independence or colonial period in all three country cases includes an industrial policy specifying the role of domestic industry within the colonial system, with minimal infant industry protection outside those narrow bounds and most colonial investments focussed on overheads and services to facilitate the raw material or cash crop export.

Of course there also exist major differences not unrelated to the colonial heritage among the three countries during this pre-transition phase. Parts of the "initial conditions" are indeed related to the particular type of colonial master experienced, i.e. the commodity content of the traditional export X_a which is indeed not unrelated to what the colonial power is basically interested in procuring. In the Kenya case X_a consisted mainly of cash crops produced on large plantations, leading to a dualistic division of sector A into a plantation sector owned by non-Africans producing cash crops for export and a smallholder sector dominated by Africans producing food for domestic subsistence needs.

[1] i.e. we do not wish to emphasize the balanced trade aspects of the colonial situation. In fact, net investment or repatriation of foreign capital essentially depend on the relative rates of return in the mother country and/or other colonies.

In the Mexican case X_a consisted mostly of minerals and raw materials again requiring access to international markets, with fairly capital intensive techniques of production in vogue, along with a food producing domestically oriented agricultural sector.[1] The attention of agricultural research as well as of infrastructural investments such as ports, railways etc. by colonial and early post-colonial governments in both Kenya and Mexico was thus focussed in support of traditional cash crop exports. In contrast, Japan was almost entirely interested in food production, and Taiwan's exports of rice and sugar were certainly instrumental in focussing Japanese attention on the provision of small-scale rural infrastructural investments, such as irrigation, roads, and electricity as well as an emphasis on organizational innovations such as land reform, as early as 1905, and the creation of farmers' associations. This helped prevent both the development of a dualistic agriculture and an undue "separation" between agriculture and nonagriculture as well as to set the stage for a dynamic rural economy at a later point in time.

The initial transition subphase (row 2 in figure 1) almost universally adopted in contemporary LDCs, is that of primary import substitution (PIS). Using the whole arsenal of policies by now too well known to require enumeration--all intended to protect and support the new infant industrial class--public policy effected the gradual displacement of the previously imported non-durable consumer goods, M_{CN}, by the domestically produced variety, D_{CN}, in all three cases

[1] Mexico had also historically been producing some food for export on a large scale latifundia basis in the North.

under discussion. X_a continues to fuel the process, with the foreign exchange earnings now, however, used to import the producers' goods, M_p, needed for the construction of the nondurable consumer goods industries in the newly important non-agricultural sector NA. This description corresponds rather closely to what Chenery (1979, p. 29)[1] calls the early phase of the transition "characterized by the emphasis on primary exports, easy import substitution, and the availability of external aid on soft terms."

While these rough outlines of the primary import substitution subphase are equivalent in all three country cases, we may note one difference as well. This relates to the fact that Mexico was already importing basic foodstuffs at this stage, M_f, while, in the cases of both Kenya and Taiwan, domestic food production remained more than sufficient to satisfy domestic household requirements. This difference is related to the fact that, in the case of Taiwan, primary import substitution was of the "mild" variety, i.e., while it adhered to the "package" previously referred to, the extent of protection of the industrial sector via tariff, exchange rate, and interest rate policies, as well as distortions of the terms of trade against the agricultural sector, were milder as compared to the typical LDC case. In the instance of Kenya, on the other hand, because of a relatively small population on relatively abundant land, food was still sufficiently plentiful, at least in this early phase of transition growth, to avoid the need to import from abroad.

We can observe the progress of primary import substitution, PIS, during this initial subphase by calculating the ratio of the value of M_{CN} to the value of total merchandise imports, M, over time, as D_{CN}

[1] Op. cit.

gradually replaces M_{CN} (see table 2); we may note that this ratio had already reached a low level plateau for Mexico by 1950, indicating that the inevitable termination of this subphase with the exhaustion of domestic markets had already been reached; Taiwan was nearing the completion of this subphase in the early 1960s, i.e. after about a decade; and Kenya seems to be nearing the point of completing it at this stage. It is worth noting that the time between the beginning of the transition effort and the completion of this first transition subphase was apparently longer for Mexico than for Kenya or Taiwan; this is probably due to the fact that it takes longer to saturate the domestic markets of somewhat larger countries, but undoubtedly also relates to the "telescoping" phenomenon, i.e. the attempted acceleration of countries by vintage, i.e. late-late comers are in an even greater hurry—even for equivalent changes in per capita income—than late-comers, an effect most noticeable when we compare contemporary LDCs with such a case as nineteenth century Japan.[1]

The comparative performance of the three countries under observation during this PIS subphase can be best judged by examining tables 3, 4 and 5 for Kenya, Mexico and Taiwan, respectively. In spite of Kenya's higher savings and investment rates (rows 3 and 4) we may note that she has, thus far at least, achieved a much lower rate of per capita income growth (row 1) during this subphase than did Taiwan. Moreover, she has reached only a much lower level of labor force reallocation from agriculture to nonagriculture (row 2) than either Mexico or Taiwan. Both these dimensions of her relatively

[1] See Fei, Ohkawa and Ranis, "Economic Development of Korea, Taiwan and Japan in Historical Perspective," Comparative Analysis Project, to be publ. 19 especially the section on 'telescoping.'

worse performance were, of course, in large part a function of an initially quite poor human resources endowment combined with an only moderately good natural resources endowment. When one adds to this, over time, a relatively severe neglect of a potentially productive food producing agricultural sector in the context of maintaining an extensive slash-and-burn type of cultivation, as well as a relatively high population growth rate threatening to substantially increase her initially favorable man-land ratio, plus a rather capital intensive and inefficient choice of industrial output and process mixes, the conditions for an unfavorable "bottom line" are given.

It is perhaps more instructive to concentrate in what follows on the comparison between Mexico and Taiwan. This is both because of Kenya's much later start--thus the more constrained historical laboratory offered--but also because of her overall less favorable initial conditions--especially in terms of her more constrained industrial entrepreneurial capacity. During their PIS subphase both Mexico and Taiwan did quite well in terms of the "bottom line" indicator of growth and quite poorly with respect to income distribution. While her growth performance has been relatively unsatisfactory, Kenya, on the other hand, seems to occupy a more favorable position with respect to income distribution, although the one year (1969) for which data are available does not permit any very strong conclusion. Kenya is only now approaching the end of PIS when further industrialization must necessarily slow to the pace of population plus per capita income growth. The significant divergence in the performance of Mexico and Taiwan took place only at this historical point in time. Kenya may be well advised to analyze this divergence in terms of its own impending societal choice.

Once the initial subphase of transition has run out of steam developing countries indeed do have a rather momentous political decision with respect to the choice of the second sub-phase. to make/ This is illustrated by the divergence between the Mexican and Taiwanese cases as illustrated in row 3 of figure 1. One possible strategy, adopted by Mexico (column 2), and certainly representing the majority LDC case, is to shift to a so-called secondary import substitution (SIS) growth path. This basically means extending the pre-existing import substitution policy syndrome, but now shifting the non-agricultural output mix from non-durables to durables, capital goods as well as the processing of raw materials (summarized as D_{CD}), i.e. moving into the more technology, capital and skil intensive industrial activities, mainly directed towards the domestic market. The shift to SIS production, i.e. from D_{CN} to D_{CD} in figure 1, row 3, usuall indeed requires applying a heavier dosage of the policy package already in place, since the economy is now likely to be at a still somewhat greater distance from its international comparative advantage position. While production is now more costly and capital intensive, it nevertheless permits a continuation of a rapid rate of industrialization while avoiding a major restructuring of the policy regime.

As long as ample natural resource exports continue to be available and/or can b supplemented by foreign capital, this pattern can, and, in most cases, has been followed in the typical Latin American case, as well as elsewhere in the developing world. In more recent years such continued pursuit of the import substitution policy regime has been coupled with an effort to export some of the same industrial goods--which can, of course, be accomplished only by way of subsidy--either provided directly by the government or effected by dual pricing structures within firms subject to government pressures (see below). A second, increasingly pronounced, casualty, of course, is the food producing agricultural sector which becomes even more neglected and discriminated against. In fact, we

may note an ever-increasing tendency to import food in Mexico, once a major grain exporter.

The minority Taiwan case stands in some contrast in the sense that the primary export substitution subphase (PES) chosen here at the conclusion of PIS basically consists of exporting into the international markets the same non-durable consumer goods previously supplied only to the domestic market, i.e. X_{CN} (in row 3, column 3 of figure 1), while any consu durables required for final consumption are likely to be mainly imported (M_{CD}). Th successful penetration of international markets for non-durable consumer goods is usually accompanied by the gradual removal or at least reduction of protective devices favoring the new industrial class so that domestic prices can be brought into closer alignment with world prices. Trade regimes associated with the PES growth pattern are substantially closer to the free trade paradigm as industrial exports expand on the basis of a dynamically changing comparative advantage structure, with entrepreneurs, having matured during the prior PIS period of infant industry protection, increasingly in a position to take full advantage of the system's abundant supplies of unskilled labor.

The third transition subphase shown in row 4 follows more or less naturally from the choice of the second subphase already discussed. It is fair to say that the objective of all developing countries is ultimately to produce for the domestic market, and to export, a wide and increasingly sophisticated range of industrial products. In the case of Taiwan this is likely to represent a natural sequel to the primary export substitution pattern in the sense that, once the labor surplus has been exhausted,

there is a natural tendency to shift towards the more capital and technology intensive product mixes for the domestic market and, given their relatively small size, to simultaneously, or at least soon, also export such commodities. Thus the extent of simultaneity of the SIS/SES growth subphase is very much a function of the size of the domestic market; putting it another way, the length of the "tail" of the "flying geese" in a dynamic comparative advantage or product cycle setting[1] depends on the size of the domestic market. It should also be noted (see row 4 column 3) that essentially natural resources poor systems like Taiwan will ultimately be food importers.

The SIS/EP or export promotion growth path, in the case of Mexico, on the other hand (see figure 1, row 4, column 2), is an indication of the aforementioned desire to export industrial manufactured goods even if the labor intensive industrial export phase has been "skipped." The beginnings of this effort, especially after 1965, can be seen in table 4, row 9, indicating manufactured exports shifting upward substantially even as the overall export orientation remains steady or declines (see row 11). It is accomplished by superimposing industrial exports on the continued secondary import substitution structure of subphase two--which can be accomplished only through the direct or indirect subsidization of such exports. In contrast to export substitution, export promotion is defined as the selective encouragement of particular industries or even individual firms by administrative action in order to "push out" such exports in the absence of a general decline in the level of protection or import liberalization. Such subsidization is achieved either by way of public sector fiscal measures, e.g. interest rate differentials, tax or tariff

[1] See Raymond Vernon, "International Investment and International Trade in the Product Cycle," Quarterly Journal of Economics, May, 1966.

rebates, or, alternatively, by private sector price discrimination forced by the authorities which assure the same companies, in return, of the retention of large windfall profits in protected domestic markets. Increasing industrial export orientation in Mexico is thus not caused by the product cycle evolution resulting from increased entrepreneurial maturation, increased international competitiveness, and the achievement of an end to the labor surplus condition but is the consequence of additional controls and incentives planted "on top of" an existing import substitution superstructure. At this level of aggregation of industrial exports it is, of course, difficult to distinguish SIS/EP growth from SIS/SES growth. When we decompose manufacturing exports further, however, we find that, in 1970, 20% of Mexico's total were in the consumer non-durablescategory, as compared with 41% of Taiwan's.[1] We must emphasize, moreover, that the Mexican development path continues to be clearly much less export oriented overall and gives evidence of a much lower proportion of manufactured exports than the Taiwan case--even if we concentrate on changes over time rather than on absolute levels--thus reducing the impact of differences in country size.

In summary, traditional exports[2], recently augmented by oil and always by foreign capital, could continue to fuel the industrialization effort in Mexico, including the export of fairly sophisticated capital and consumer durables. In Taiwan the burden of financing continued industrialization was, in contrast, gradually shifted to non-durable consumer goods exports during the crucial PES phase, thus getting industry to increasingly help pay the wa in the foreign exchange allocation sense--for its own continued expansion.

[1] Fei, Ranis, Kuo, Growth With Equity: The Taiwan Case, Oxford University Press, 1979.

[2] of which natural resources based tourism is an important component.

The evidence seems to support the notion that whatever choice is made with respect to this second transition subphase usually also carries implications for the third subphase. Both alternative sequences are covered, without adequate differentiation, in what Chenery calls the "later phase" of transition during which he notes "a shift to non-primary exports, second stage import substitution and external borrowing on harder terms" (Chenery 1979, p. 29).[1] In other words, he does not distinguish between countries that adopt a strategy of "skipping" the non-durable consumer goods export subphase, i.e. the Latin American case, and those that move into the same sophisticated output and export mixes by way of the labor intensive phase, i.e. the East Asian case . Those whom Chenery identifies ex post as "industry specialization" cases, however, generally seem to follow the East Asian sequence, and countries identified ex post as "primary specialization" cases very often follow the continued (secondary) import substitution path, for reasons already referred to.

Differential growth performance but especially divergent employment and distributional outcomes largely resulting from these alternative choices of transition growth must be noted (see rows 1, 5 and 6 of tables 4 and 5). It is true that the more equitable distribution of land at the outset was helpful on these scores to the Taiwan case. But much of the differential in the level and trend of income distribution over two decades of fairly rapid growth in Mexico and very rapid growth in Taiwan must be laid at the doorstep of the continued relative neglect of agriculture and rural activities generally in Mexico. The gravitational pull of policies away from food and towards export crops tended

[1] Op. cit.

to make for lower labor intensities and a less favorable agricultural income distribution. By contrast, in Taiwan we have the famous shift from sugar to mushrooms and asparagus. With respect to rural non-agricultural income, usually more equally distributed than agricultural, this constituted a very small proportion of Mexican rural income, in the vicinity of 10-15 percent, in contrast to the 30-50 percent plus figures for Taiwan. Moreover, given the continued maintenance and deepening of the import substitution regime, both rural as well as urban industry and services are much more capital intensive and contribute much less to favorable employment and income distribution outcomes as a consequence. The labor share, urban and rural, in the typical Latin American case like Mexico is much lower, i.e. in the .5 range and falling over time, when compared with Taiwan and other East Asian cases where it is .6 to .7 and usually rising during the primary export substitution phase.

While we can't go into detail here, the functional distribution of income within each sector, along with the relative importance of non-agricultural activities in the rural areas, is an important determinant of the size distribution of income.[1] Consequently, income distribution equity improved throughout the period under observation in Taiwan; what is especially remarkable is the complete avoidance of the so-called U-shaped or Kuznets curve phenomenon during the PES subphase of the 1960's, the period of most rapid growth, and before the labor surplus had been fully exhausted. In fact, the combination

[1] See Fei, Ranis, Kuo, Growth With Equity: The Taiwan Case, Oxford University Press, 1979 for detailed theoretical as well as empirical treatment.

of early attention to agriculture, the shift towards more labor intensive crops within that sector, the importance of labor intensive rural industry and service activities, and the relatively labor intensive output and technology choices in the rest of the industrial sector all contributed to one of the best performances in terms of employment generation and income distribution equity anywhere in the developing world. This stands in some contrast to Mexico where underemployment was probably rising and income distribution held at very poor levels, if not worsening, throughout the last two decades.

We are, of course, entitled, in fact enjoined, to ask why such a deviation in pattern as between the East Asian and Latin American types, or, as Chenery might put it, why such a deviation of the "minority" East Asian type from the "majority" Latin American pattern approaching "average" regression performance. Partly, of course, our Latin American representative, Mexico, is substantially larger in size than our East Asian representative, Taiwan; and, as we have already indicated, has a much lower level of labor surplus and a much better natural resource endowment. Consequently, even if policies had been precisely identical in the two cases, we could anticipate a less pronounced and probably shorter primary export substitution phase in the case of Mexico, given its generally higher levels of income and lower levels of labor surplus. Its relatively stronger natural resource endowment, even before petroleum became important, can be expected to yield a relatively stronger exchange rate and, by way of the so-called "Dutch disease," be less favorable for potential labor intensive manufacturing exports typical of the PES subphase.

But, quite in addition to these endowment driven phenomena, are the package of policy interventions which further curbed any possible underlying tendency to move towards more diversified production and exports by way of the PES subphase. This set of policies or strategies are based, in part, on economic forces but also deeply grounded in political economy. In other words, natural resource bonanzas and abundant capital inflows not only render the exchange rate strong but they also exert a politico/psychological effect making it not only feasible for the system to continue to afford heavy protectionism and the relatively inefficient growth path chosen but, in fact, politically difficult to deviate from it. It is increasingly well understood that a shift from PIS to PES must overcome the resistance of industrialists, reluctant to shift from certain, large unit profit rates on a small volume in domestic markets to uncertain smaller unit profit rates on a larger volume in export markets; the resistance of the civil service threatened with a reduction of its influence or power as controls are reduced; and, finally, it flies in the face of much of organized labor's tendency, especially in the Latin American case, to keep its eye on wage rates rather than the wage bill and the income of working families. In fact, there is increasing recognition that the feasibility of effective policy change depends much more heavily on the capacity to forge viable political coalitions inside developing societies--with the proper orchestration or muting of foreign influence--than in deriving the technocratically "perfect" package.

Thus, a country like Mexico, given the relative abundance of her natural resources and access to foreign capital could not only afford

to "pay" for the prolongation of import substitution and attempt to "skip" the primary export substitution subphase but also found it politically infinitely easier to do so. In a situation of deeply encrusted habits and strong vested interests a society can move further and further away from its comparative advantage position; it can try to raise industrial wages even in the presence of substantial unemployment; and it can import food even in the presence of potential "bargains" in the agricultural sector. Until very recently Mexico thought she could "afford" the relatively costly choice of an SIS/EP growth path in the belief that her natural resources were plentiful enough, foreign capitalists responsive enough and the employment/ distributional outcomes tolerable enough. Unfortunately there now exists considerable doubt, certainly with respect to the second of these assumptions.

The East Asian cases, including our representative, Taiwan, on the other hand, did not have the same options from the outset. While the agricultural sector could be viewed as a temporary, if important, source of fuel, the system's long run comparative advantage had to be sought elsewhere, i.e. first in its human resources, and now increasingly via the contribution of routinized science and technology as during the epoch of modern growth. The secular shortage of natural resources, in particular, and the unwillingness of foreign capital to support continued import substitution in a relatively small domestic market context forced an early change in policy towards the utilization of human resources and away from land based resources and, once a more market oriented growth pattern had been established, it began to have

its own modus operandi, i.e. one of flexibility, responsiveness to changing endowment conditions and a changing international environment.

IV. Prospects

The contemporary typological approach to development, whether it has its origins in a cross sectional or a comparative historical approach, by now fully embraces the notion that economic history, especially that of the developing world since the Second World War, represents a still much underutilized laboratory for analyzing contemporary development issues. Differences, of course, remain with respect to the appropriateness of the tools to be deployed in that laboratory. Individual case studies often lack the requisite statistical underpinning for generalizability, and regressions using pooled time series and cross-sectional data often lack sufficient behavioral insight. How systems are best sectored, if at all, as between smooth input-output disaggregations and an emphasis on the possibly meaningful heterogeneity of sectoral organizational as well as product mix contexts, also remains controversial.

Some basic ideas, however, seem to have emerged which provide some cement and beckon to be built on further. One is the more precise definition of the Kuznetsian notion of modern growth and how it is to be achieved; a second builds on the identification of meaningful country types in terms of the initial conditions as well as the policy setting over time; a third introduces the notion of the necessary rules of transition between any two subphases as the modus operandi of the system is substantially altered; a fourth insists that, whatever sectoral or sub-sectoral disaggregation is made and differential assumptions

introduced, we are interested in the retention of a holistic view, i.e. of wanting to better understand a system's total performance at the end of the day.

We are more and more agreed on aims. As Chenery and Syrquin put it (in Patterns of Development, 1975, p. 3),[1] it is to identify "uniform features of development, to provide a consistent description of a number of interrelated types of structural change and also to identify systematic differences in development patterns." The comparative historical approach has found it useful to look at major "successful" cases of economic development, for example Japan and the contemporary East Asian countries, to contrast them with less "successful" types, and has tended to define "success" as the exhaustion of the countries' labor surplus or the advent of modern growth. The pooled time series and cross-sectional school has segmented a much larger LDC sample by population size, natural resource endowment and the pre-existing structure of production and trade in the effort to assess the proximate determinants of good versus inferior performance. While one approach is more casual, the other more econometric, one more normative, the other more positive, it is perhaps most useful to ask where we are (jointly) likely to go from here in putting all our machinery to work most effectively.

One obvious point of emerging agreement is that whenever an individual country has been identified as deviating from the average historical pattern such a case should be explored in a more fundamental, "deeper" fashion, perhaps, but not necessarily, via the comparative historical approach illustrated in this paper. In this sense the "average pattern" becomes the beginning of wisdom and needs to be supplemented by a more

[1] Op. cit.

systematic modelling approach in the comparative historical tradition.

The industrial development pattern, for example, for all LDCs (see figure 2, taken from Chenery and Syrquin) could be related to Taiwan's particular industrial development pattern between 1950 and 1975 as indicated by the dotted line in the same figure. Perhaps even more suggestive would be a comparison of the same Taiwan industrialization pattern with what Chenery and Taylor called their "small industry oriented" subset of countries in figure 3 and, perhaps most productive, at a more disaggregated level of industrial activity, an examination of the Taiwan pattern contrasted with the overall small industry-oriented country pattern, as shown in figure 4. Such analysis would provide the first step towards a richer and simultaneously tighter explanation of observed deviations, especially those associated with more successful development performance among otherwise similarly placed countries.

In this context it also becomes incumbent on the comparative historical school to fill in more of the "typological spaces" between such relatively extreme cases as Taiwan, on the one hand, and Mexico, on the other. A comparative examination of the development experience of Malaysia in Asia, Peru in Latin America as well as of some of the semi-industrialized countries of Southern Europe such as Greece, Spain and Portugal might prove very useful in this context.[1] It also needs to become more precise about the role of initial conditions, size, man/land ratios, natural resource endowments, human capital, as well as, possibly submerged, cultural differences[2] as well as in modelling the transition between subphases and the availability of policy options over time.

[1] Generalizing our own approach in this fashion was actually explicitly suggested by Chenery in his "Comments on 'Challenges and Opportunities Posed by Asia's Super-Exporters: Implications for Manufactured Exports from Latin America" in Export Diversification and the New Protectionism edited by W. Baer and M. Gillis, NBER, 1981.

[2] Admittedly usually neglected, including in this paper.

Secondly, it is our conviction that both aforementioned approaches have been too exclusively trade oriented to date. In fact, in our view, and in some contrast with the theoretical literature, this has been a problem with too much of the empirically oriented work in development over the past 20 years. Chenery's countries, for example, are said to be experiencing "balanced development" when their trade, production orientation and level of exports are sufficiently close to the "average," but there is no implication that such "balance" has any normative meaning in terms of any of the many definitions of the term in the development literature. Not only trade but also foreign capital, public and private, as well as foreign technology, of course, needs to be accommodated within an integrated open economy framework. But if we indeed agree to accept "success" as an important selection criterion for our research and policy strategy it seems clear , moreover, that a second crucial blade of any successful development strategy is almost invariably the mobilization of the LDC's domestic economy, agricultural and non-agricultural, often largely rural, in a balanced growth fashion.

This is very much emphasized in the early work of Arthur Lewis as well as in Fei and Ranis but has been given relatively short shrift in the more casually empirical open economy versions of these models. Chenery and associates similarly have focussed heavily on the trade and foreign capital aspect of structure and growth and much less, at least until recently[1], on the dynamics of alternative internal inter-sectoral patterns of development. In fact much of the work of recent years including that of Little, Scitovsky and Scott, Bhagwati, Krueger, Balassa and their associates has focussed on development phases heavily influenced by trade policies, which is

[1]See H. B. Chenery, Structural Change and Development Policy, Oxford University Press, 1979.

all well and good; but almost invariably the importance of the initial distribution of land, of the provision of rural infrastructure, of the dimensions of how well appropriate technology and appropriate goods options have been disseminated through the hinterland of even small countries, has been given inadequate attention. As Kravis has pointed out,[1] "export expansion did not serve in the nineteenth century to differentiate successful from unsuccessful countries." We believe that a similar righting of the "engine" versus "hand-maiden" balance is still required with respect to the interpretation of post World War II development experience. This is a point especially valid for the large countries of Asia and Latin America but even a system like Kenya, not so large but with a very substantial agricultural hinterland, needs to pay much more attention to the conditions for successful agricultural, along with rural industrial productivity increase, for instance, than either of the main approaches discussed at length in this paper have tended to thus fa

As we have noted in our description of the Taiwan case, even in small labor surplus developing countries much of the ultimate success must be placed at the doorstep of the ability to generate successful balanced growth in the rural areas as part of the triangular pattern of absorbing the labor surplus and "shipping it out" in the context of an overall satisfactory agricultural and rural performance. It is this second blade of an overall successful development effort, including the importance of appropriate goods as well as the harnessing of appropriate technology, which needs to be more fully incorporated into future modelling efforts.

[1] Irving B. Kravis, "Trade as the Hand-Maiden of Growth: Similarities Between the Nineteenth and Twentieth Centuries," Economic Journal, December 1970, p. 850.

Thirdly, given the fact that failure seems to have too many causes, if not parents, the profession overall has perhaps paid too much attention to the "success" cases. Chenery's positive approach indeed weighs all countries as equally important and has recently pointed us to the primary specialization strategy of special potential in the African context. It is undoubtedly important to more fully examine typological groupings of comparative historical experiences on either side of the average, thus rendering the historical approach less normative and enriching the field of inquiry. In that context the conceptual development of subphasing which adds domestic parameters to the dominant foreign trade dimensions of the comparative historical approach demonstrated in Section III would be an important ingredient. This, in turn would require some accommodation between the emphasis on pure per capita income change of the "homogeneous" sector, neo-classical school and the meaningful acceptance of turning points within the "heterogeneous" sector structuralist approach. While there is no unique or inevitable transition growth path for any type of LDC--just as there is no meaningfully average behavior pattern--a good deal of room exists for innovative modelling here, in order to test the notion of endogenously determined subphases within a more rigorously specified econometric context.

Figure 1

Comparative Subphases of Development

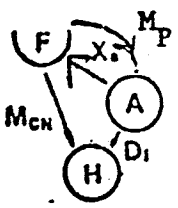
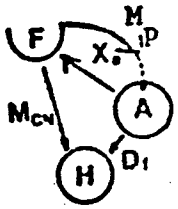
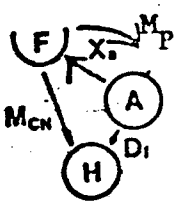
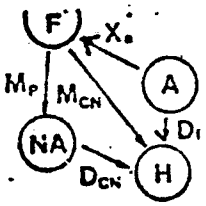
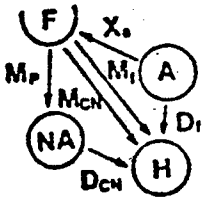
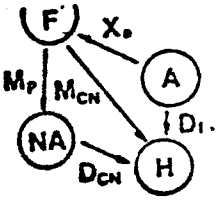
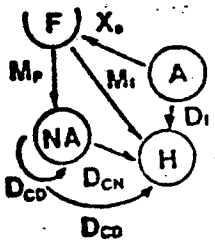
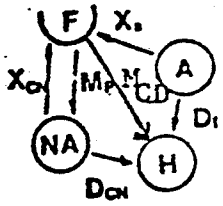
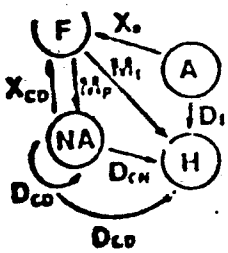
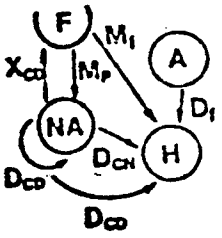
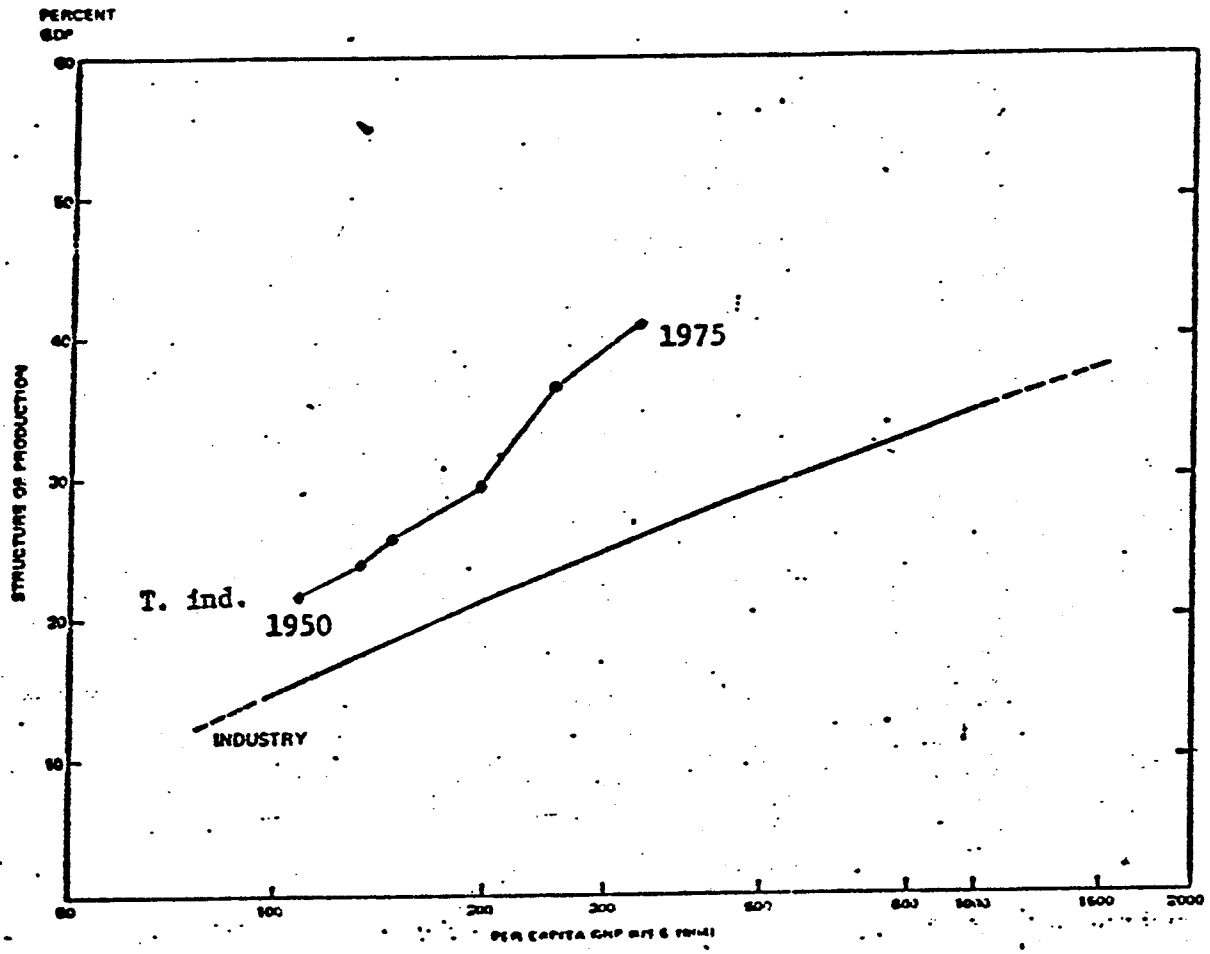
	KENYA	MEXICO	TAIWAN
1) Colonial or Pretransition			
	Colonial structure	Colonial structure	Colonial structure
2) Initial transition subphase			
	PIS growth (1963-present)	PIS growth (1880-1930-1950)	PIS growth (1953-63)
3) Second transition subphase			
	SIS growth (1950-70)	PES growth (1963-72)	
4) Third transition subphase			
	SIS/EP growth (1970-present)	SIS/SES growth (1973-present)	

Figure 2

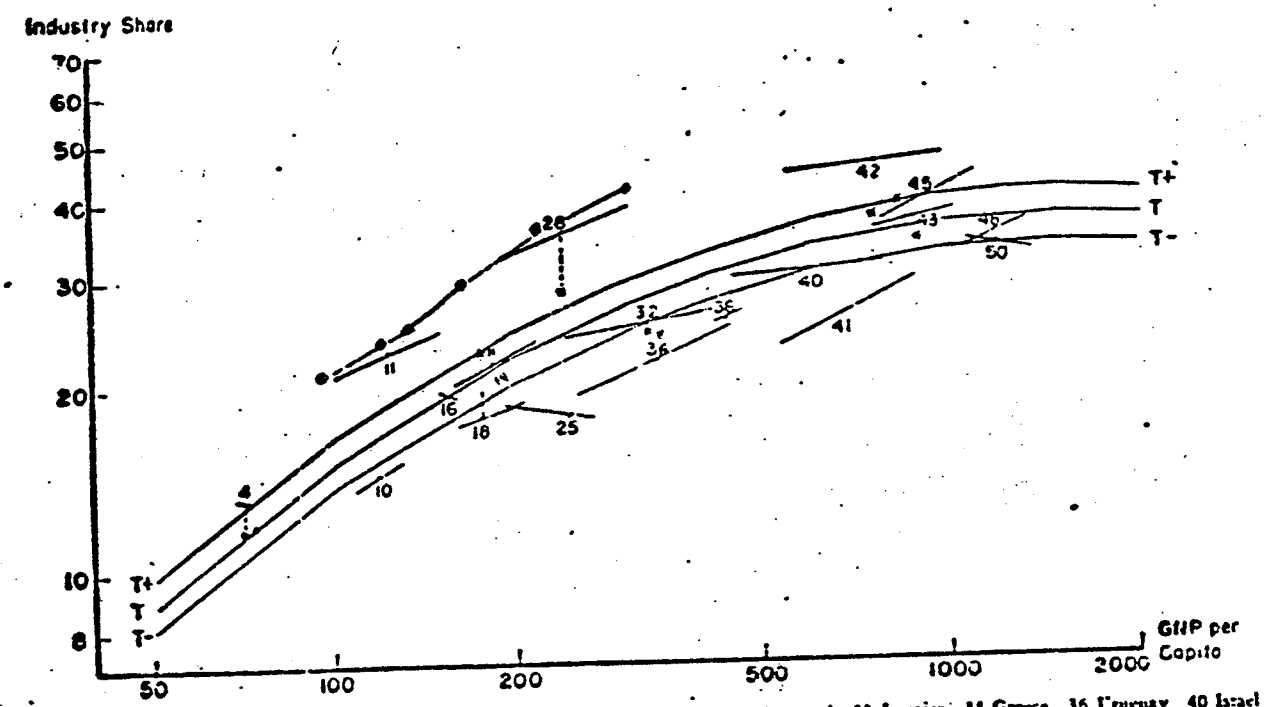
Structure of Production (Value Added)



Sources: Chenery, H. and M. Syrquin (1975), Patterns of Development, 1950-1970, London: Oxford University Press, p. 36.
Taiwan Statistical Digest

Figure 3

Small Industry-Oriented Patterns



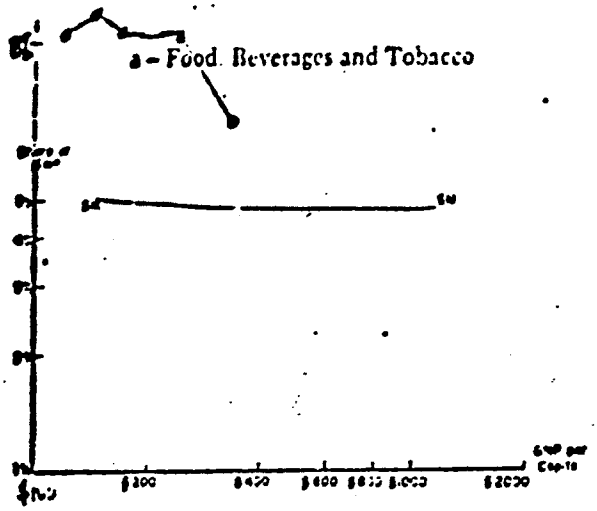
4 Haiti 10 Bolivia 11 Taiwan 16 Paraguay 18 Tunisia 19 Peru 25 Algeria 26 Portugal 32 Jamaica 34 Greece 36 Uruguay 40 Israel 41 Puerto Rico 42 Austria 43 Netherlands 45 Finland 46 Belgium 50 Norway

Source: Chenery and Taylor, "Development Patterns Among Countries and Over Time" (1968). Review of Economics and Statistics. Taiwan Statistical Yearbook, 1979

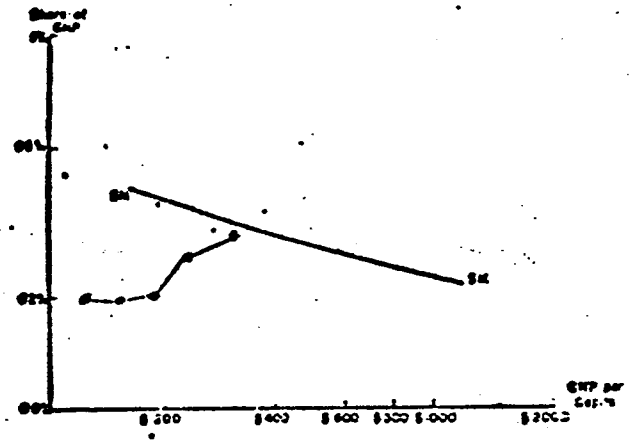
Figure 4

Sector Growth Patterns

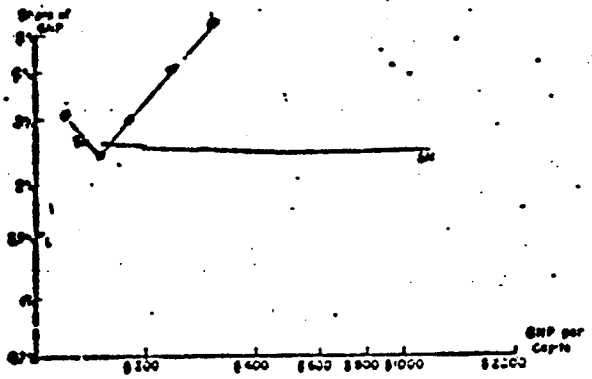
a – Food, Beverages and Tobacco



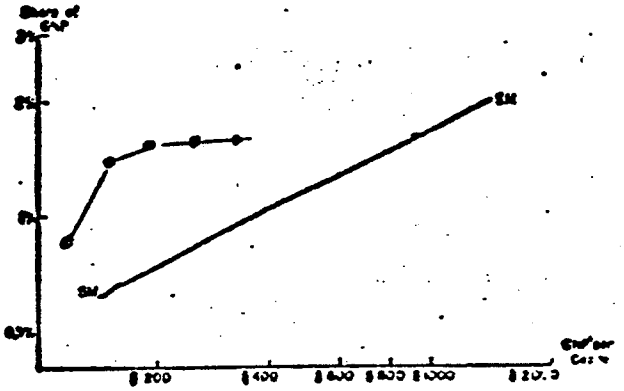
b – Leather Products



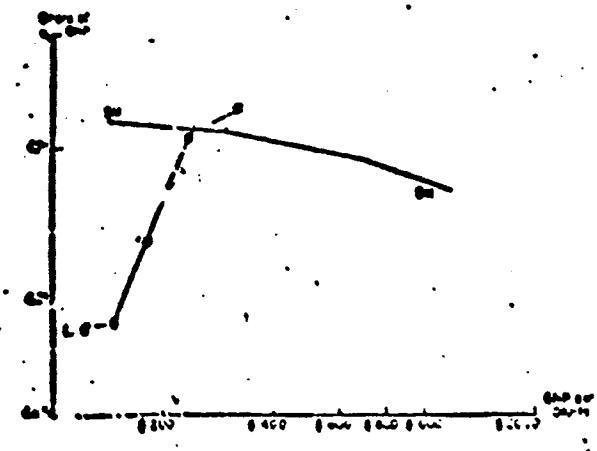
c – Textiles



d – Non-metallic Mineral Products



e – Rubber Products



f – Wood Products

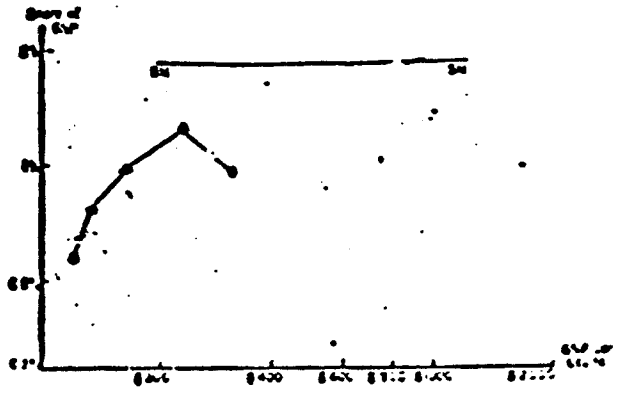
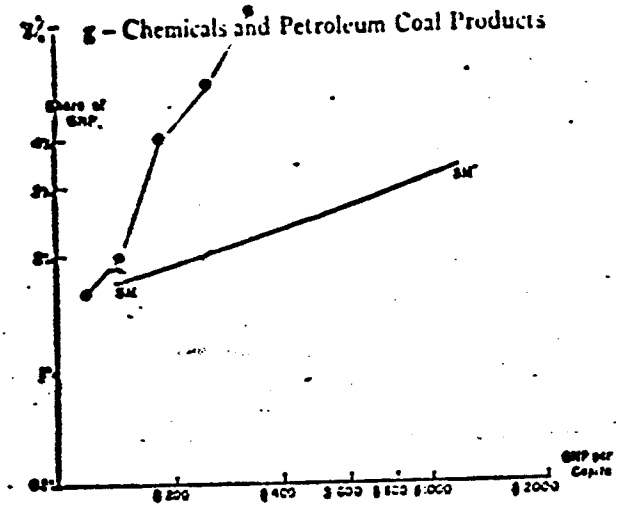
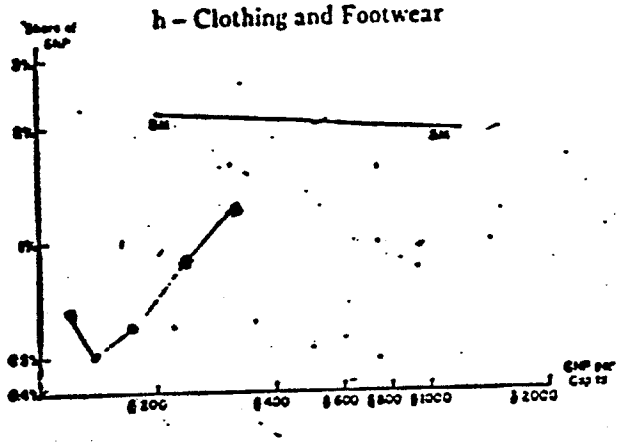


Figure 4, continued.

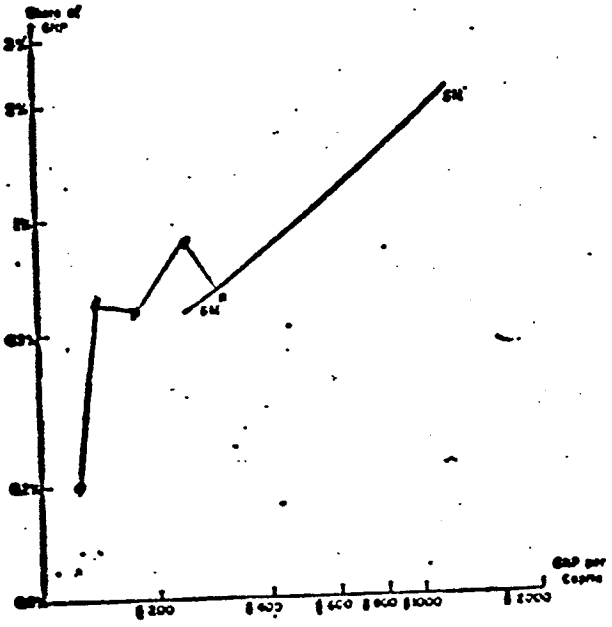
g – Chemicals and Petroleum Coal Products



h – Clothing and Footwear



j – Basic Metals



l – Metal Products

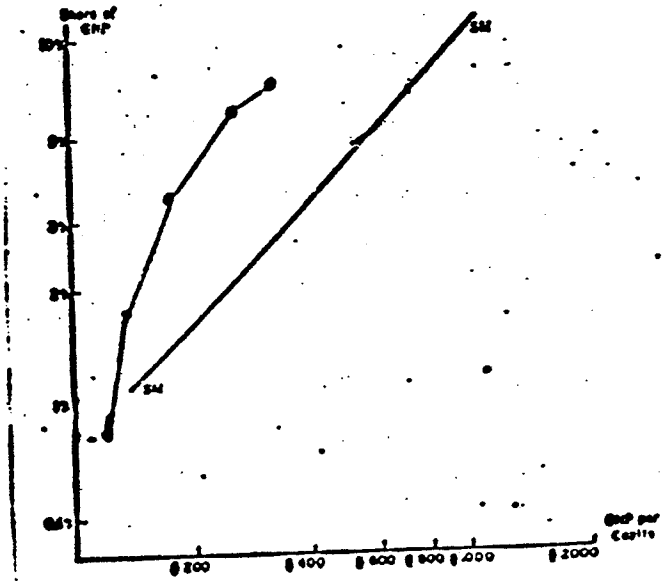


Table 1

Initial Conditions

	Size (population in thousands)	Labor Surplus (man/arable land ratio in hectares)	Human capital resources (literacy rate)	Mineral/fuel/other natural resources
Kenya	8,017 (1960)	3.9 (1960)	20% (1962)	moderate (no coal or oil) but good in cash crops)
Mexico	16,589 (1930)	0.7 (1930)	30% (1930)	rich (zinc, lead, copper, silver, iron ore, mercury, sulphur/oil reserves among largest in world)
Taiwan	7,981 (1950)	9.2 (1950)	50% (1950)	poor (good coal, some natural gas, little oil)

Sources: UN Demographic Yearbook (size), FAO Production Yearbook (arable land), UNESCO Statistical Yearbook (literacy), US AID Data book (mineral/fuel resources).

Table 2

Primary Import Substitution (M_{CN}/M)[a]

	1950	1962	1970	1977
Kenya	—	16.4	14.3	6.9
Mexico	5.8	4.3	5.7	4.6
Taiwan	17.2 (53)[b]	8.1 (60)[b]	5.8	2.9

Sources: UN Yearbook of International Trade Statistics

[a]Consumer nondurable industries = 61 leather, etc. 64 paper, paper board, etc., 65 textiles, 84 clothing, 851 footwear, 892 printed matter.

[b]Computation not completely comparable to others due to lack of SIC data.

Table 3

Kenya: Statistical Indicators

	1950	1960	1965	1970	1973	1974	1975	1976	1977
(1) Annual Real Per Capita GNP Growth Rate (%)	0.7	-1.2	4.9	1.7	1.7	-2.3	1.2	3.6	
(2) 0--% Non-agricultural Labor			16.0	17.9			20.1	20.5	21.0
(3) Savings/GNP		14.3	12.8	18.3	15.3	23.4	12.8	19.1	23.4
(4) Investment/GNP		20.4	14.8	25.3	21.2	29.7	20.3	21.7	22.0
(5) Gini Coefficient				.64 (69)					
(6) Income % of Bottom 20%				3.9 (69)					
(7) Agricultural Exports as % of Total Exports		86.6 (61)	77.2	74.8	75.9	66.8	63.1	61.4	71.6
(8) Mineral Exports as % of Total Exports		1.4 (61)	13.0	12.4	11.1	20.3	23.4	23.4	18.5
(9) Manufactured Exports as % of Total Exports		11.7 (61)	9.7	12.4	12.6	12.8	13.1	15.0	9.7
(10) Annual Total Export Growth Rate (%)	9.2	5.2	7.6	4.4	18.3	-13.0	5.4	-0.7	
(11) Total Exports/GNP	28.3	32.2	32.2	31.0	30.6	36.6	31.7	34.8	36.9

Table 4

Mexico: Statistical Indicators

	1950	1960	1965	1970	1973	1974	1975	1976	1977
(1) Annual Real Per Capita GNP Growth Rate (%)		6.2	3.5	3.4	2.5	2.1	1.0	-1.0	—
(2) θ —% Non-agricultural Labor	42.2	45.6	49.7	54.8	—	—	59.5	60.4	61.3
(3) Savings/ GDP	—	10.0	6.4	7.0	7.2	12.5	11.6	13.1	19.4
(4) Investment/ GDP	15.7	18.3	18.9	21.3	22.4	23.4	24.7	24.6	23.0
(5) Gini Coefficient	—	.54 (63)	—	.58 (69)	—	—	—	—	—
(6) Income % of Bottom 20%	—	3.7 (63)	—	4.2 (69)	—	—	—	—	—
(7) Agricultural Exports as % of Total Exports	53.5	64.1	64.7	48.8	42.6	40.8	38.1	42.1	—
(8) Mineral Exports as % of Total Exports	38.6	24.0	22.3	21.2	16.5	23.1	32.4	30.3	—
(9) Manufactured Exports as % of Total Exports	7.9	11.9	13.0	30.0	40.8	36.0	29.5	27.5	—
(10) Annual Total Export Growth Rate (%)		0.9	5.9	1.7	9.3	7.9	-12.0	20.5	24.6
(11) Total Exports/GDP	17.0	10.6	9.7	8.2	9.4	9.3	7.6	8.5	10.2

Table 5

Taiwan: Statistical Indicators

	1950	1960	1965	1970	1973	1974	1975	1976	1977
(1) Annual Real Per Capita GNP Growth Rate (%)		3.6 (51-60)	5.1	6.2	9.6	-1.1	0.9	9.8	6.8
(2) θ --% Non-agricultural Labor	37.3	43.9	46.3	55.6	62.8	63.1	63.4	65.4	66.2
(3) Savings/GNP	10.3	12.0	14.9	20.7	27.4	24.8	19.8	24.3	24.1
(4) Investment/GNP	12.2	17.6	18.0	23.5	28.3	31.1	32.7	30.7	29.1
(5) Gini Coefficient	.56	.44 (59)			.29 (72)				
(6) Income % of Bottom 20%	2.9 (53)	5.6	7.8 (64)		8.8 (72)				
(7) Agricultural Exports as % of Total Exports	—	51.7 (62)	57.9	22.5	15.8	15.5	17.5	13.6	13.4
(8) Mineral Exports as % of Total Exports	—	2.1 (62)	0.4	0.7	0.3	0.3	1.1	1.3	1.6
(9) Manufactured Exports as % of Total Exports	—	46.2 (62)	41.7	76.8	83.9	84.2	81.4	85.0	84.9
(10) Annual Total Export Growth Rate (%)		9.5	22.2	23.7	31.6	-10.9	1.2	49.6	11.6
(11) Total Exports/GNP	10.1 (51)	11.1	18.4	29.6	49.0	45.4	41.2	52.3	53.8

Country Statistical Indicators

General Sources

1) Calculated from indices in UN, Statistical Yearbook, 1978, (United Nations Publication Sales No. E/F.79.XV11.1) pp.698-702. Refers to compound annual growth of real GNP.

2) Calculated from population estimates in FAO, Production Yearbooks, 1966, 1970, and 1977 (Rome, Italy: Statistics Division, FAO) Table 3.

3) Savings from UN National Accounts Yearbook, 1978, (United Nations Publication Sales No. E.79.XVII.8,Vol. I); GDP from IMF Yearbook of International Financial Statistics.

4) UN Yearbook of National Accounts Statistics, 1978.

5) Jain, Shail, Size Distribution of Income, (Washington, D.C.: The World Bank, 1975). All data are for total population.

6) Ibid.

7)-9) 1970-77 statistics are from UNCTAD, Yearbook of Trade and Development Statistics, 1979 (United Nations Publication Sales No. E/F.79.II.D.2). Agricultural exports are defined as SITC 0+1+2-27-28+4; mineral exports are defined as SITC 27+28+3+67+68; and manufactured exports are defined as SITC 5+6-67-68+7+8. 1950-65 data are calculated from UN Yearbook of International Trade Statistics for the appropriate year.

10) Calculated from IMF, Yearbook, converted to real values using wholesale price indices.

11) Calculated from IMF, Yearbook. Export values are from the national accounts and include goods as well as non-factor services.

Additional Country Sources

TAIWAN

1) Calculated from IMF Yearbook.

2) Calculated from, Statistical Yearbook of the Republic of China, (Taipei: Directorate General of Budget, Accounting and Statistics, 1978).

3) National Income of the Republic of China (Taipei: Directorate General of Budget, Accounting and Statistics, 1977).

7) Statistical Yearbook of the Republic of China, 1978, SITC 0+1+2+4, pp. 252-3.

8) Ibid., SITC 3.

9) Ibid., SITC 5+6+7+8+9.

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1), 3), 4) 10), 11) Calculated from World Bank, World Tables, 1980.