The Theory of Economic Growth: From Steady States to Uneven Development

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Introduction

In considering the general character of the process of capitalist development as it has appeared historically across many different countries over a long period of time, one of its most striking characteristics is the phenomenon of uneven development. By this I mean specifically that the process is marked by persistent differences in levels and rates of economic development between different sectors of the economy.

This differentiation appears at many levels and in terms of a multiplicity of quantitative and qualitative indices. Relevant measures which sharply identify the pattern of differentiation would include, for instance, the level of labor productivity in different sectors, the level of wages, occupational and skill composition of the labor force, the degree of mechanization of production techniques, the level of profitability as measured by sectoral rates of profit, the size structure of firms, and rates of growth at the sectoral level. This phenomenon appears regardless of the level of aggregation/disaggregation of the economy, except for the extreme case of complete aggregation - in which case, of course, one cannot say anything about the structural properties of the economy. For example, it appears at the level of comparing the broad aggregates of manufacturing industry and agriculture. It appears also at the level of individual industries within the manufacturing sector. It appears on a regional level as well as on

a global scale within the international economy. In this latter context, one form that it takes is the continued differentiation between underdeveloped and advanced economies, usually identified as the problem of underdevelopment.

These disparities appear from observing the economy as a whole at any given moment and over long periods of time. And while the relative position of particular sectors may change from one period to another, nevertheless, there is always a definite pattern of such differentiation. We might say, therefore, and certainly it is an implication of these observations, that these disparities are continually reproduced by the process of development of the economy. Uneven development, in this sense, is an intrinsic or inherent property of the economic process. Far from being merely transitory, it seems to be a pervasive and permanent condition.

Now, it is an equally striking fact that, when we come to examine the theoretical literature on economic growth, we find the completely opposite picture. In particular, the dominant conception of the growth process that has motivated the post-World-War II literature is one that is constructed in terms of uniform rates of expansion in output, productivity and employment in all sectors of the economy. It is largely a literature of steady-state growth.[1] Furthermore, much of existing economic theory predicts that, given enough time, many of the features of differentiation which we observe empirically would tend to wash out as a result of the operation of competitive market forces. Such differentiation should therefore be viewed only as a transitory feature of the economic process. But, in fact, we observe the opposite.

Thus, on the one side, we find a historical picture of uneven development as a persistent phenomenon. On the other side, we find a theory which essentially negates and denies this fact. It is as if the theory existed on one side and the historical reality on the other, and never the twain shall meet.

There is an obvious problematic here, which requires deep investigation. It is also necessary to try to bridge the gap. Within the brief confines of this paper, I seek only to present an overview of some of the theoretical issues involved and, in addition, to propose an alternative path for dealing with analysis of the problem.

Steady-State Growth

It is useful to consider, first of all, what if any is the real achievement of the work that has been done on steady-state growth. I wish to propose that there is a real analytical significance to be attached to that series of exercises despite the fact that they may seem, on the face of it, to negate interesting and important historical questions, and despite the fact that it now appears fashionable to dismiss that work. In seeking to go beyond that work it is important to be able to recognize its achievement and its failures in order the better to negotiate the transition to a more adequate analysis.

The significance of the work on models of steady-state growth is that it was a necessary first step in developing a full-fledged theoretical analysis of the process of economic growth. It provides a logical starting point by considering, as a first approximation, so to speak, the simplest possible case of growth, that is, a case of simple

quantitative expansion with all proportions remaining the same or expansion by quantitative replication. The analysis then examines the consistency conditions that are required, under this simplifying assumption, for the sustaining of the expansionary process.

Evidently, this analysis focuses upon the idea of aggregate expansion or of growth as a process pertaining to the economy as a whole, where the individual component parts are, for the purpose of simplification, assumed to grow in proportion to each other. In this respect the analysis abstracts from the process of uneven growth. It simplifies or abstracts in order to deal with certain elementary interrelationships and essential properties of an expanding economy which have to be understood for adequately characterizing the process of expansion in its full complexity. This in itself is a defensible methodological procedure. It conforms to a process of scientific analysis through successive approximation, by which one starts off with simple cases, examines them in depth, and then, through a subsequent development, incorporates the complexities that need to be understood in moving to a more concrete level.

Moreover, there are genuine theoretical insights that were gained from this analysis. The chief such insight was the identification of the necessary macroeconomic balancing conditions that must hold in an expanding economy if the economy is to sustain its overall rate of expansion. By considering the simple models, it was possible to isolate and identify exactly the quantitative form of those balancing conditions and to analyze their implications for the concrete workings of the economy.

In general it was shown that there is a definite condition of macroeconomic balance in the economy which derives from the requirement of balance in the flow of investment and saving (or of total expenditure and income). It is a condition which, furthermore, may be considered to impose itself on the workings of the economy independently of the underlying microeconomic structure. This idea was central to the argument developed by both Keynes (1936) and Kalecki (1971) concerning the forces which govern the operation of the capitalist economy. A similar idea is also to be found in Marx's analysis. The work on models of steady-state growth extended and generalized this idea to the context of growth and through disaggregation of the economic structure. It is useful to examine in some detail the main line of development of the idea in order to specify more sharply its theoretical content.

In its most elementary form, the macroeconomic balancing condition is simply that

$$I = S \tag{1}$$

or the total value of planned spending on investment I is equal to the value of planned saving S. Now, assume that there is a constant average propensity to save out of income, $S = sY$, and that the level of aggregate investment is given at I^*. Then it follows immediately that

$$Y = \frac{1}{s} I^*. \tag{2}$$

Thus, there is a necessary level of income that will ensure that enough saving is forthcoming out of that income to match the investment that is taking place. That level of income is given by the size of the multiplier 1/s and by the level of investment. The actual level of income must adjust to that level for balance in the flow of income and expenditure to be achieved. This is so, no matter what the intentions of the individual agents in the economy might be. If, for instance, they sought by individual action to increase their wealth and income by increasing their rate of saving, the overall effect would be to reduce aggregate income. This is to say that there is an aggregate condition which dictates the possible outcomes in the economy at any given moment and to which the economy will adjust, given certain underlying behavioral properties. That condition would be enforced by the movement in employment and income which would come about if it were not satisfied. It is therefore a condition which dominates, or even contradicts, the intentions of the individual actors. In this respect it is a macroeconomic condition which itself exerts a powerful influence on the microeconomic actions taking place in the economy and is not merely an aggregation of those microeconomic actions. This argument presupposes a necessary role for the relations of money and credit in the economy which, for completeness, would need to be made explicit but is left aside here.

This is a result which comes from the simplest Keynesian model. It is this insight, stated starkly and simply here, which became incorporated into the literature on steady-state growth.

Consider the extension of this idea in the form of the argument developed by Harrod (1948) and Domar (1957). In particular assume as before a uniform saving rate and, in addition, that there is a given ratio of capital to income $K/Y = v$. Then, from equation (1), it follows that

$$g = \frac{I}{K} = \frac{s}{v}. \tag{3}$$

Here it is recognized that investment both adds to productive capacity in the amount specified by the proportion v and generates the effective demand (through the multiplier) which allows utilization of that productive capacity. In this context, the requirement of balance between investment and saving now entails that there is a necessary rate of growth (of both capital and income) at which the economy must expand if the capitalists' expectations about profitabilty of their investment are to be justifed through generation of demand sufficient to ensure that productive capacity is fully utilized. This is to say that, under the given conditions, there is one and only one growth rate at which the economy could settle if effective demand is to be forthcoming to match the growing productive capacity and if, consequently, capitalists' investment plans are to be justified. Harrod called this the "warranted rate of growth."

This is a statement of a macroeconomic balancing condition which must hold, in this case, if the economy is to undergo a smooth process of sustained expansion. It is a result which gives rise to a definite understanding of the dynamic motion of the economy. The argument is

that, if this condition is not satisfied, then there are certain necessary adjustments, given the underlying behavioral properties of the economy, which the economy must undergo. In particular, it was Harrod's view that the economy would tend to diverge from this path and to undergo various forms of crises as it fluctuates through booms and recessions.

A large part of the subsequent development of growth theory centered around the further analysis of this basic point. In this process, modifications, qualifications and extensions were made to the specific results of the Harrod-Domar analysis. Still, the basic thrust of the analysis remained the same. The macroeconomic balancing condition continued to serve as the basis from which was derived the form of motion of the economy and the associated adjustments that the economy undergoes in the course of its expansion. Two such modifications are worth considering here, both of which involve a degree of disaggregation of the economic structure.

One modification was made by some of the Post-Keynesian authors, following earlier contributions by Kalecki.[2] It was argued that the aggregate saving in the economy is actually a composite of the saving out of profits and the saving out of wages. Thus instead of the idea of a uniform average propensity to save, one must recognize that it is the distribution of income that governs saving, given the different saving propensities of wage earners and profit recipients. In that case it follows that the appropriate macro-economic condition is now

$$(4) \qquad g = \frac{s_r R + s_w W}{K} = (s_r - s_w)r + \frac{s_w}{v}, \quad s_r > s_w,$$

where total income is divided into profits R and wages W, the overall rate of profit is r, and the capital-income ratio v is assumed to be given. Here the warranted growth rate is uniquely related to the rate of profit, given the saving propensities out of profits and wages and the capital-income ratio.

Thus, a new implication of the macroeconomic balancing condition emerges when saving is disaggregated into its major components, recognizing that there is a difference in economic behavior governing each of the components. A different requirement must now be satisfied in order for the economy to sustain its overall rate of expansion. In particular, the overall profit rate, as an average of the rate that individual firms earn through their markups, must be at a certain level, given the other magnitudes in equation (4), in order that the balancing condition can be satisfied. A necessary structural connection is thereby established between the overall rate of expansion of the economy and the average profitability of firms. This connection must hold because it is the condition which ensures that there is just enough saving forthcoming out of the total pool of profits and wages, given the saving rates out of profits and wages respectively, to match the investment that is occurring when the economy as a whole is expanding at a certain rate. This condition is independent of the underlying microeconomic relationships. Specifically, it is independent of the individual pattern of pricing by firms, hence of their respective market positions. But those

microeconomic relationships must be consistent with it in order for the process of expanded reproduction to be smoothly carried out. If they are not consistent, complex adjustments would have to take place in order to bring them into line. The literature is, however, seriously deficient in its analysis of the process by which these adjustments are supposed to occur.

So, here again we have a rather striking result, a result which says that macroeconomic forces, associated with the balancing condition for investment and saving, exert a powerful influence on the underlying microeconomic relationships to bring them into line with requirements of the accumulation process as a whole: That is a result which comes, in this case, from disaggregation of saving into its components. It is reinforced when a second modification is introduced so as to take explicit account of the structure of the economy through disaggregation by individual commodity-producing sectors. To illustrate the argument, let production activities be represented in terms of the familiar linear model of production.[3] Competitive conditions are assumed so that the rate of profit is uniform and the wage rate is the same for homogeneous labor. The prices of production which would prevail under those conditions are given by the vector P, where

$$P = a_0' \, w(1+r) + (w+rI) \, A'P. \tag{5}$$

These prices cover costs of production consisting of wages, plus depreciation, plus profits calculated on the total capital advanced in the form of wages and capital-good inputs. This condition entails a defi-

nite set of prices consistent with the going rate of profit and technical conditions of production. Accordingly, we can derive a functional relationship such that

$$(6) \qquad \frac{P}{w} = [I - A'(w+rI)]^{-1} a_0'(1+r) = A_0(r).$$

In such an economy, output is disaggregated into a vector X of specified commodities and the capital stock is disaggregated into the component elements required to produce those commodities, AX. The output-capital ratio for the economy as a whole can be found by aggregating those outputs and capital stocks evaluated at the prevailing prices to get $Y/K = P'X/P'AX$. With this specification of the economic structure, the macroeconomic balancing condition now becomes:

$$(7) \qquad g = (s_r - s_w)r + s_w \frac{A_0'(r)\ X}{A_0'(r)\ AX}.$$

Evidently, a further requirement is established by this new condition. Not only must there be a definite level of the rate of profit (here, the uniform rate which is earned in the individual sectors and enforced by competition) but in addition, there must be simultaneously a definite pattern of prices at that rate of profit so as to ensure that the associated capital-output ratio is exactly such as to be consistent with macroeconomic balance. A direct connection is thereby established between the overall rate of expansion of the economy and the underlying microeconomic relationships through the price system necessary to support the balancing condition.[4]

This connection was, in a sense, disguised in the previous analysis because of the aggregation which that analysis entailed. Once the microeconomic relationships out of which those aggregates emerge is specified then that connection appears with full force. The fact is, also, that the macroeconomic condition continues to hold even after all the relevant microeconomic relationships are introduced. It would continue to hold no matter what the degree of disaggregation of such relationships. In this respect, the macroeconomic condition is independent of the degree of disaggregation of the economic structure. It is a condition that the microeconomic relationships themselves must satisfy. This necessity, in turn, derives from the requirement of balance in the accumulation process as a whole. Thus, the original insight that macroeconomic forces influence the microeconomic relationships in the economy continues to be preserved.

These relations emerge most clearly in the context of steady state growth because it is in that context that they can be most readily defined and quantitatively specified. By virtue of the conditions assumed to characterize the steady state, concepts like the rate of growth, the rate of profit, the value of capital and of income, net saving and net investment, have a clear and unambiguous meaning. Outside of the steady state they are more difficult to grasp. It is therefore a matter of great analytical convenience to be able to work out the analysis in this context.

However, this advantage is gained at considerable cost. The cost is that, for the purpose of constructing the simplified conception of a steady state, the analysis takes as given much that is of crucial interest from the standpoint of a theory of economic growth. Most striking

in this regard is the assumption that the overall growth rate itself is given by factors that are themselves exogenous to the growth process, in particular by the exogenous growth rates of labor supply and of productivity due to technical change. Even the form of technical change, in the particular sense of its factor saving bias, is arbitrarily specified to fit the preconceived requirements of steady state growth. Similarly, saving rates, though recognized to be dependent on behavioral factors associated with the distribution of income, are taken as given for each category of distribution. The sectoral composition of output is also given and unchanging, both because of a fixed and uniform growth rate and because implicitly or explicitly income elasticities of demand are fixed and equal to unity. Furthermore, since the rate of technical change is uniform across all sectors, the relative conditions of productivity as between different sectors remain the same. Consequently, the whole structure of the economy remains fixed. Steady state growth is, thus, growth within a fixed economic structure. It is growth without structural change. The deficiency of this analysis is,therefore, that it ignores altogether the necessity of structural change and hence fails to give an account for the process which generates the observed and continuing pattern of uneven development.

As a qualification to these remarks, it must be added that the existing literature is not lacking in exceptions to the general rule, at least with respect to treatment of one or another component of the analysis. One such exception, for instance, to the general idea of an exogenous growth rate directly limited by labor supply, is the well known model of von Neumann (1945). In this model the overall growth rate is endogenously determined as a matter of a maximization decision

subject to a given real wage and the available methods of production. But, even here, once the maximal path has been chosen, the economy grows along it within a fixed structure. Moreover, the condition of a fixed wage, insofar as it is taken to represent the requirements of a labor-feeding process with labor as its output, may be considered tantamount to labor-supply limited growth.

Another exception is the recent work of Pasinetti (1981) which makes a significant advance in the direction of formalizing a conception of uneven growth. This is achieved through adaptation of the linear model of production so as to allow for unequal rates of growth in the production coefficients of different sectors and in the coefficients of final demand. It is shown that the growth process under these conditions systematically generates a chronic tendency to disproportionality among sectors and generalized unemployment. In many ways the analysis successfully reproduces observable features of the historical process of growth and provides an interesting taxonomic scheme for representing patterns of uneven growth. But it does not give an account of what internal mechanism drives the process and makes it intrinsically a process of uneven growth. Though recognized to be uneven at the sectoral level, growth is again a matter of the exogenous growth of demand, productivity and labor supply.[5]

If we consider for a moment the recurrent idea that the growth rate of labor supply is exogenously given, this idea evidently does violence to historically observed experience. As shown for instance in the study by Kindleberger (1967) of post-World-War-II growth in Western

Europe, there is no strict sense in which the labor supply is exogenously fixed or bounded even for the most rapidly expanding advanced capitalist economies.[6] This is because they are able to draw upon a large inflow of labor from other capitalist economies, and in particular from the relatively underdeveloped economies. One might say, then, that the process of uneven development generates its own labor supply. This is so insofar as the rapidly growing sectors are able to draw upon the labor supply available in the backward sectors. The process of displacement of labor in those sectors may itself be a consequence of the expansion of capital into the backward sectors. There is, then, one may hypothesize, a two-sided process by which uneven development allows expansion to feed on itself. This alternative conception makes it possible to free the growth rate from its moorings in the exogenous growth of labor supply and, instead, to root it in the accumulation process itself conceived as being intrinsically a process of uneven development.

The Analysis of Uneven Development

In order to go beyond the analysis of steady-state growth, it is necessary to start by recognizing the intrinsic character of the individual firm as an expansionary unit of capital.[7] Growth is the strategic objective on the part of the firm. This urge to expand is not a matter of choice. Rather, it is a necessity enforced upon the firm by its market position and by its existence within a world of firms where each must grow in order to survive. It is reinforced also by sociological factors, such as the social status and power associated with being the

owner, director, or manager of an expanding enterprise. It is this character of the firm which constitutes the driving force behind the process of expansion of the economy.[8]

This is a crucial starting point because it establishes the idea of growth as the outcome of a process which is driven by active agents and not by exogenous factors. In particular, in the context of the capitalist economy, growth is the outcome of the self-directed and self-organizing activity of firms, each seeking to expand and to improve its competitive position in relation to the rest. Once this principle is recognized it becomes possible to move towards an understanding of the problem of uneven development.

The imperative of growth impels the firm constantly to seek out new investment opportunities wherever they are to be found. Such investment may occur in existing product lines, in new products and processes, or in the takeover of existing firms. The emergence of growth centers or leading sectors is a reflection of this underlying process. It is a consequence of the effort on the part of many firms to rush into those spheres in which a margin of profitability in excess of the average exists in order to capture new investment opportunities.[9] Such new spheres are always being opened up as a consequence of the ongoing innovative activity of firms and the competitive interactions among them. It is this constant flux, consisting of the emergence of new growth centers, their rapid expansion relative to existing sectors, and the relative decline of other sectors, which shows up in the economy as a whole as uneven development.

The form that this process takes, as it appears at the level of particular industries and product lines, has been well documented through empirical research. These studies show that the growth of many new industries and products follows a life-cycle pattern which may be represented by an S-shaped curve as in Figure 1. There are correspondingly three phases of expansion. In the initial phase, total output of the new industry is a minute share of the overall aggregate output in the economy and the rate of growth of output is low. This is followed by a phase of rapid growth in which this sector's output expands rapidly relative to overall output and its share of aggregate output grows. Then there is a third phase in which the sector reaches a threshold beyond which the growth rate tends to level off and perhaps to decline.

Of course the process does not come to an end at that point. We must understand this sequence, schematically described here, as but a small segment of the time sequence characterizing the historical evolution of the economy. Given that firms are growing, making profits, and seeking to continue to grow, it would be necessary for them, having entered into phase III, to launch out into new sectors. They will therefore actively seek to find new products that will initiate a corresponding new sequence.

It follows that we can map out the dynamic evolution of the economy in terms of a sequential process, where the overall growth is accountable for on the basis of (1) the individual growth of particular new sectors, (2) the growth of pre-existing sectors each of which is growing at a different rate depending on the particular phase reached in

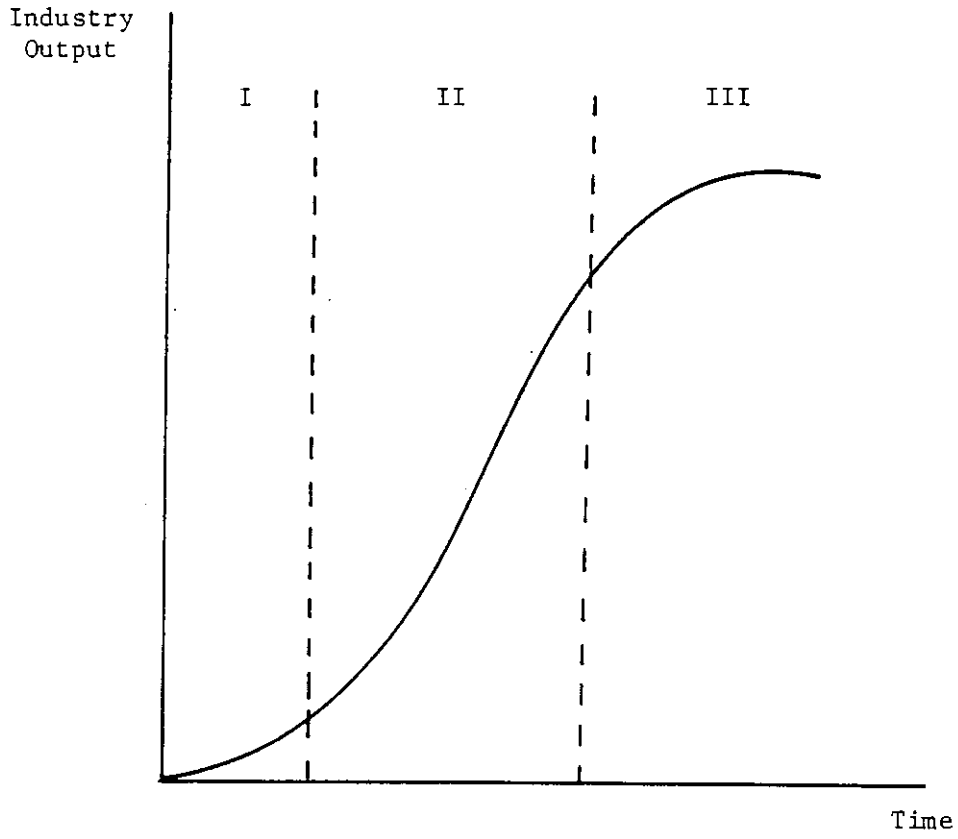

Figure 1. Life-cycle of an industry

its life-cycle, and (3) the constant accretion of new sectors into the economy owing to the introduction of new products.

The existence of a life-cycle pattern of industrial growth is a significant stylized fact for the purpose of constructing a theory of uneven development. But the question remains as to how this particular pattern is itself to be explained.

We can go part of the way to understanding the anatomy of the process if we take account of the technological innovation process tied up with it. In this connection it is helpful to draw upon Kuznets' suggestive characterization of general features of the innovation process for "major" innovations. Specifically, Kuznets (1979) identifies a sequence of four distinct phases as constituting the life cycle of an innovation. It begins with a pre-conception phase in which necessary scientific and technological preconditions are laid. This is followed by a phase of initial application involving the first successful commercial application of the innovation. Then comes the diffusion phase marked by spread in adoption and use of the innovation throughout the economy along with continued improvements in quality and cost. Finally, there is a phase of slowdown and obsolescence in which further potential of the innovation is more or less exhausted and even some contraction may occur. This taxonomy is restricted by Kuznets to the case of "major" innovations. For our purposes, that restriction could be regarded as appropriate from the standpoint of relevance of an innovation to the overall process of growth. The taxonomy itself is useful and suggestive in pointing to a certain internal logic of the innovation

process related to "the purely technological problems in breaking through to an effective invention and resolving the difficulties in development, prototype production, etc,...[and]...the complementary and other organizational and social adjustments that would assure adequate diffusion and economic success" (pp. 64-65). These factors determine the time duration of the process and the magnitude of its impact, especially in the second and third phase, through the evolution of costs and profitability of the innovation.

The anatomy of this process can be further understood by taking account of its connection with the changing firm-structure of the industry. In particular, it has been observed that, for many industries, there is a proliferation of small firms in phase I of the industry's life cycle. But as the diffusion of the product occurs and growth speeds up, there is a "shaking out" process by which many of the smaller firms disappear and the available market is concentrated in the remaining firms. When the industry reaches "maturity", in phase III, there is a high degree of concentration.

This association between industry life cycle and firm-structure of the industry suggests that the dynamic of expansion through innovation is simultaneously a process of the concentration of capital. Further investigation of this link may provide a key to understanding the internal mechanisms and forces which feed the expansion process and account for its character as a process of uneven development. Without going into these in depth, it may be suggested here that there are a number of factors at work.

One is the phenomenon of economies of scale in production and marketing. Such economies give to the larger firms a decisive advantage in exploiting an innovation. Small firms may well have unique advantages in the research and development phase of innovation and, in many cases, are observed to lead the process in that phase. But they often lose out to the larger firms at the stage of standardization, mass production and mass marketing of the product. The larger firms, on their part, may gain from foregoing the risks associated with the first phase and choosing to enter at a later stage through adoption of a proven innovation or takeover of a successful firm.

Another factor is the power of finance. The capacity to command finance is a powerful lever in the expansion process, deriving its significance from the substantial financial outlays involved in product development, production, and marketing, that have to be made well in advance of sales. This capacity depends both on the generation of internal funds and on access to external funds. Large firms have an advantage here because of their larger profits, to begin with, and because of their superior ability to borrow.

Because of these complementary relationships one might say that it is the large firms which drive the process, at least within certain phases of it. It is still a process which is driven by the expansion of firms, but it turns out that some firms are more equal than others in this process.

What role is to be assigned to demand as a factor in this process? At the level of individual consumer products or industries, a common conception is that demand acts as an autonomous factor with a

definite influence on the life cycle pattern of evolution of the product. That influence is exerted in the early phase of introduction of a new product because of an element of resistance due to "habit" formed in a customary pattern of consumption. It is exerted also in the maturity phase because of the operation of "saturation effects" in consumption. But there are reasons to doubt the strength and effectiveness of such factors, as well as their supposed autonomy.

First of all, in an economy undergoing regular and rapid change, it is not evident what role there is for habit except for the habit of change itself. The experience of and adaptation to change may create a high degree of receptivity to change. What then becomes decisive in the evolution of demand for consumer goods is the growth of income, and the changing relative prices and quality of products.

Second, insofar as these latter factors are crucial to the formation of demand, it may be argued that there is a certain self-fulfilling aspect of the expansionary process at the level of industry demand. In particular, investment generates the demand that provides the market for the new products which the investment itself creates. This occurs in two ways. First, investment generates income both directly in the sector undergoing rapid expansion and indirectly, via backward and forward linkages, through the stimulation of demand and investment in other sectors. In this respect, structural interdependence in the economy at the level of both production and expenditure patterns, allows for the possibility of a certain mutual provisioning of markets when expansion takes place on a broad front. Second, as a new

product unfolds through the stages of the innovation process, it undergoes both improvements in quality and a decline in price relative to other products. This development provides a substantive basis for making inroads into the market for existing closely related products and hence promotes demand through a shift from "old" to "new" products. It is perhaps this shift effect which is mistakenly identified as a saturation effect by adopting a one-sided and static view of a dynamic and interdependent process. Of course, though investment generates demand in these two ways, there is no guarantee here that in the aggregate there is always sufficient demand for all products. In determining the overall expansion, the macroeconomic balancing condition would continue to play a definite role, albeit in a modified form.

All of the preceding argument concerns the pattern of sectoral growth viewed at the level of individual industries, products, and firms. There is nothing in that argument to indicate how the pattern of sectoral growth translates into aggregate expansion at the level of the economy as a whole, or how the various sectoral patterns fit together to form a complete whole. This is a substantive problem requiring further analytical treatment on its own terms. Its significance derives from the recognition that the economy as a whole is not just the sum of its parts. Hence, the motion of the economy cannot simply be deduced from the movement of its parts.

One aspect of this problem is associated with the macroeconomic balancing condition. It is here that the argument comes full circle, so to speak, back to the problem of macroeconomic balance. This problem,

as we have seen, was a central focus of the analysis of steady state growth. It appears, now, that it cannot be escaped in making the transition to the analysis of uneven development. This must be so insofar as this problem has the significance which was claimed for it in the previous discussion. Of course, the particular form and meaning of the macroeconomic balancing condition now has to be made specific to the changed context of the analysis.

Another aspect of the problem is associated with the manifold and complex ways in which growth in one sector mutually conditions and is conditioned by growth in all other sectors. Such mutual interaction is a necessary consequence of economic interdependence. The existence of such interaction implies that there is a certain cumulative effect intrinsic in the growth process. Understanding the exact mechanisms through which this effect operates is one of the central analytical problems for the analysis of uneven development.

Conclusion

The preceding discussion seeks to propose the analysis of uneven development as an alternative path that offers a significant potential for breaking through the narrow limits of the existing theory of steady-state growth and advancing towards a historically and empirically relevant theory. Various components of the analysis have been identified which point the directions for further work. Much remains to be done in fleshing out the general conception and setting it on a firmer theoretical and empirical footing. Some results of this effort by the present author are to be reported in a forthcoming volume.

Footnotes

1. A detailed review and critique of the analytic foundations of this work is presented in Harris (1978), the general thrust of which is to point to the need for a theory of uneven development in order to transcend the conception of steady-state growth.
2. On this see, in particular, Kaldor (1960), Pasinetti (1974), and Robinson (1962).
3. Production is represented by the (n x n) matrix A of capital good requirements, the vector a_0 of direct labor requirements, and the diagonal matrix w of depreciation rates. The details of the analysis are worked out in Harris (1978).
4. Allowance may be made for a "choice of technique" if it is assumed that there are alternative methods of production. In that case, the choice of technique would also have to be consistent with the macroeconomic balancing conditions. This feature of the problem is the primary focus of neoclassical growth theory. But uniqueness and stability of the neoclassical solution are not guaranteed, once heterogeneity of the production structure is recognized.
5. For a further elaboration of these remarks, see Harris (1982).
6. On this, see also Cornwall (1977).
7. Various efforts have been made to develop a theory of the firm on this basis. See, for instance, Penrose (1959), Baumol (1959), and Marris (1967).

8. This is a fundamental insight expressed in Marx's conception of the general circuit of capital, as is also the idea that there are contradictory relations entailed in the reproduction process of the system of individual circuits. For an elaboration of these ideas, see Harris (1979).

9. This idea is an essential feature of the Schumpeterian conception of the development process. See Schumpeter (1934) and the important new contribution of Nelson and Winter (1982).

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