

二階堂副包

『価格・循環・成長』

Hukukane Nikaido *Prices, Cycles, and Growth*
The MIT Press, 1996, pp. 285

Professor Nikaido's eminent influence over vast areas of economic theory has been wide and deep. To count a few, Existence and Stability of General Equilibrium, Uniqueness of Solution, Growth Theory, Multi-Sectoral Analysis, Monopolistic Competition, Marxian Economic Theory and the like. The recent book is a systematic collection of his contributions to economic theory with emphatic attention to dynamics. The book consists of four Parts in fourteen Chapters: Part I deals with the tâtonnement processes of the general equilibrium analysis. Part II discusses adjustment processes within the framework of monopolistic competition. Part III goes into macro-growth-cycle dynamics with attention to equilibrium and/or disequilibrium analyses. Part IV clarifies the Marxian theme of equalization of profit rates through capital movements.

Overview

In Part I, the author develops tâtonnement processes which make a strong contrast with the Arrow-Negishi type in that the latter tends to prove the global asymptotic stability of critical points even under strong assumptions, while the author proves the property by proposing different tâtonnement procedures of the Brown von Neumann type with the one-sided flexibility of price change. The existence of solution to the adjustment processes is carefully examined with the view to the boundary of the price domain and to the question of the adjustment of speed, the global stability of critical points is established.

In Part II, the main theme is examination of adjustment processes outside of the competitive pricing structure. The author's long-standing view of the noncompetitive analysis has been that "the economy is in equilibrium if, and only if, monopolists' maximizations of their profits are realized consistently and

simultaneously" (Nikaido, *Monopolistic Competition and Effective Demand*, Princeton University Press, 1975, p. 9). Along such a spirit, Chapter 3 offers dynamic adjustment processes of output and prices with the full cost principle, in Say's as well as in Keynesian cases. The analysis involves output adjustments where demand and supply may not be equal and where application of the short side principle is not easily made, so no actual contract and trading may be made in the dynamic adjustment. The author offers also an adjustment process of the profit rates ((31), p. 51), where outputs and prices take the objective demand values, so that they can be interpreted as giving trade time paths along the labor supply curve. Chapter 4 offers a wage-price spiral dynamics in which the rate of change in the wage is made related to that of the commodity price, while labor and the circulating capital metamorphose into those of the next period. The author concludes that the spiral process either converges to the Sraffa type state or approaches a persistent state of stagflation (p. 60) within the framework of the input-output structure. Chapter 5 develops a wage-price disequilibrium spiral dynamics in a macro one-sector context. Two versions in the full cost pricing set-up as well as in the perceived profit maximization set-up are developed. An output adjustment process is discussed with the interpretation that an inventory activity may function for performing an actual trade while producers stick to the objective demand price. Chapter 6 shifts attention to the linkage among wage, commodity prices, labor income, and sector profits, when average propensities to spend are assumed to be linear in purchasing powers. $2(n+1)$ variables are involved, where any $(n+1)$ variables are chosen as parameters among them, while the other $(n+1)$ variables are determined uniquely. The comparative statics laws are established, together with a dynamic adjustment process that is proved to be stable.

Part III deals with growth and cycles. Chapter 7 discusses the strong turnpike theory in which planned growth paths stay continually within a neighboring cone of the efficient balanced growth path. The subject has its own claim in its original context of the

growth planning theory, but it is reasonably expected to revive in a multi-sectoral version of the currently prevalent endogenous growth theories. Chapter 8 deals with the macro growth theory of Solow type with the view to labor monopoly and income distribution. The typical neoclassical stability theory is discussed with the extension of the labor monopoly element. Chapter 8 is a prelude to the author's claim that Solow type dynamics and Harrodian dynamics are methodologically different. The former is a miniature version of the Hicksian *Value and Capital* dynamics of the temporary equilibrium. The latter deals with a disequilibrium analysis in which notional demand and supply may not match, but a realization mechanism of actual demand and supply is installed. In Chapter 9 the author introduces such a mechanism according to the short side principle, and proves that the downward instability in the Harrodian analysis originates in the realization process of the disequilibrium state in the *ex ante* demand for and *ex ante* supply of commodities, even when there is a smooth factor substitutability. Chapter 10 extends the same line of argument incorporating even the case of the fixed factor substitutability, but together with a more general type of an intended investment function. In Chapter 11 the author introduces an investment function (with variables being capital labor ratio, the rate of profit, the rate of interest, and the rate of inflation) and a "money" to be issued at a constant rate of increase, and concludes that the capital labor ratio must fluctuate cyclically. The point in Chapter 12 is an alternative disequilibrium structure where the national income is determined through the short side principle pertaining to the supply capacity and sales expectation, with the conclusion that a limit cycle is unavoidable.

Part IV deals with the Marxian theme of equalization of profit rates among industries. In Chapter 13, using the two sector type input-output structure with the dynamic context in which differentials in profit rates stimulate capital movements, the author establishes that the theme is dynamically valid (invalid) when the organic composition of the consumption sector is higher (lower) than that of the investment sector. Chapter 14

develops the same theme where an investment structure is explicitly introduced.

Discussion

The book is a product of supreme quality by the eminent leader in the field of economic theory. It abounds in treasure of research themes as well as in educational materials. When we use the book as a basic course material, students are naturally led to learn the methodology in how one establishes existence of dynamic paths, boundedness, and their dynamic properties, together with the economic themes that are still growing in width and depth. Research workers will find in the book many breakthroughs for their own themes in the form of author's models.

Generally speaking, literature in the field of disequilibrium theory has been piling up, but most of them assume relations that are *ad hoc* in nature and model buildings in them remain often problematical, whereas the structures the author develops in Part III are well balanced and this makes a striking contrast. We learn that the future growth-cycle dynamic theory should develop in the direction thus exploited.

Most models of the author's are set up in terms of real entities without involving financial ones, but the one in Chapter 11 contains "money." Its issuer obtains purchasing powers in exchange so that there should arise demands that are generated therefrom and will express themselves in the form of real commodities while forced savings will have to take place to make up for. When financial transactions are involved, Saving for an economic agent (either individual or corporate) is a planned net increment of wealth in forms either of financial or real entities, while Investment (in the sense of economic theory) is a planned net increment of wealth in the form of real commodities. These definitions are rather non-Keynesian (see Hicks, *Value and Capital*, Note to Chapter 15), and the difference in the way of defining them itself is an interesting subject, but let us forget about it. All agents (individuals or corporates) are subject to "budget constraints" as well as to "relations of sales—purchase—input—output—accumulation of commodities (financial or

real)" and these are reduced to Savings in the above sense + Consumption = Received National Income," or "Savings in the above sense - Investment = Value of Excess Demand for Financial Assets." When these are taken into consideration, the relation of Savings to the national incomes (received, produced, expenditure sides in the notional sense) may require elaboration than relying on the exhaustion of the ordinary multiplier process when we deal with the disequilibrium short side principle.

The conclusions obtained in Part IV depends crucially on the organic compositions of the two sectors. These values are to be calculated in terms of the labor values, so it is in principle difficult to estimate them from the market price based actual input-output tables. But it would not be much off the mark to point out that the capital labor ratios in various times and countries are higher in the consumption goods sector than in the capital goods sector (Kuga, *Economic Studies Quarterly*, 1967). This is the case, mainly because the construction industry is low in the intensity and the electric industry is high in it. Then the author's conclusion obtained there may lead to supporting the view that profits are equalized through capital movements.

The question of ownership is essentially a dynamic one, let alone the problem of philosophical inquiries. Debreu's *Theory of Value* helped amplify a theoretical image of a society in which there is no trade of shares and firms do not own assets. On the contrary, firms as legal entities borrow, own real and financial assets, issue new shares, and they do not necessarily sell all of their outputs. The author's dynamics may be classified into a temporary equilibrium and/or disequilibrium, so there is a good chance for the readers to materialize these questions into the author's dynamic edifices. Chapter 12 is already a prelude to such a venture.

A dream of theorists would be to construct a mathematical growth-cycle disequilibrium dynamics after which classic works in the trade cycle theory can be traced, wherein the two sector setting (the consumption goods

industry and the capital goods industry) functions together with a set of financial mediations, and turning points of trade cycles can be explained not only by the imbalances in the real magnitudes but also by the discrepancies in the financial environments. The author has certainly opened a doorway toward such a dream and we are ready to follow his navigation map for embarking upon the voyage to the promised land.

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