Classical Political Economy
and Rise to Dominance of
Supply and Demand Theories

KRISHNA BHARADWAJ

UNIVERSITIES PRESS
Second Revised Edition 1986
Third Edition 1994
ISBN 81 7371 006 6

Distributed by
ORIENT LONGMAN LTD
3-6-272 Himayatnagar, Hyderabad, 500029 (A.P.), India

Branches at
BOMBAY, CALCUTTA, MADRAS, NEW DELHI
BANGALORE, BHUBANESHWAR, GUWAHATI
HYDERABAD, LUCKNOW, PATNA

Printed in India by
Satyajug Employees Co-operative Industrial Society Limited. 13 & 13 / A Prafulla
Sarkar Street, Calcutta 700072

Published by
Universities Press (India) Ltd.
3-5-820 Hyderguda, Hyderabad 500 029
To
My Mother
Preface

The three lectures which I delivered as Romesh Chunder Dutt Lectures on Political Economy on the invitation of the Centre for Studies in Social Sciences, Calcutta, in 1976 are here published with some not very substantive modifications. These were delivered to a large and rather mixed audience composed of social scientists from different disciplines. The general theme of the Great Divide in Economic Theory, marking the transition from classical political economy to the supply-and-demand based theories of economic equilibrium, was treated from the point of view of comparing the differences in theoretical structures of the two approaches and indicating implications they have for the internal logical coherence of the equilibrium theory and its power to interpret and explain historical experience of economies.


In preparing these lectures, especially the first two, I have drawn liberally upon the writings of Piero Sraffia and on the innumerable discussions we had had over a long period. To be so indebted has been a unique privilege. I must add, however, that we did not have an occasion to discuss the text of this
monograph specifically. Much that I say here bears the im-
print of his influence and the many discussions we had.
To my many friends and colleagues who have constantly
criticized and encouraged me, I offer my grateful thanks for
kindling and sustaining the spirit of inquiry.

Krishna Bharadwaj
LECTURE ONE

On the Great Divide in Economic Theory

It was with some hesitation that I agreed to deliver the Romesh Chunder Dutt Lectures on Political Economy: I have no claims to being an economic historian and it would appear to be the height of pretentious audacity for me, having worked all along in the field of economics, to have delivered lectures commemorating one of our most illustrious economic historians. The prospect seemed less disturbing, however, when it struck me that, indeed, the oddity of this situation would never have occurred to the generation to which Romesh Chunder Dutt addressed his remarkable researches. The sharp divisions among research areas in the social sciences familiar to us today and professionalized as distinct disciplines under history, economics, politics, sociology and the like, were much less markedly drawn then. And yet, there was a sufficiently identifiable and cogently formulated body of economic theory, classical political economy, entering implicitly or explicitly in a significant manner into the analysis of social problems. I may also add here a fairly general observation: the dominant viewpoint of economic theory and its associated propositions have more often than not influenced, overtly or surreptitiously, the contemporaneous view of social change, whatever may be the particular discipline of social science in terms of which one is looking at the phenomenon. This is as much true today as it was in Dutt’s times. An illustration that immediately comes to my mind is the hold which a particular formulation dominant in present-day economic theory, namely the supply-and-demand-based explanations of prices and distribution, exercises over the majority of researches pertaining to problems of development. One has to be all the more wary of this fact precisely because, quite often, the theory is unconsciously ac-
cepted in such analyses as indisputably established or even as a self-evident, universally valid premise. Caution is, therefore, necessary; for there is nothing more intellectually stultifying than uncritical and sometimes unconscious acquisition of habitual moulds of thought.

Despite this seminal influence of economic theory, one may wonder why an economic theorist of today feels somewhat out of place among historians or sociologists, and vice versa. One reason could be the character of the currently dominant economic theory itself.

It was these reflections which suggested to me possible themes for these lectures: first, the intellectual passage from classical political economy to the supply-and-demand-based equilibrium theories, bringing with it a significant methodological and structural shift, and secondly, a revival (and an advance) of classical political economy, challenging the dominance of these equilibrium theories, in the more recent period. I shall be concerned, in the following pages, with briefly sketching the origin of the theories explaining value and distribution in terms of an equilibrium between forces of demand and supply which arose basically as a challenge and an alternative to classical political economy and their gradual rise to a position of dominance. Classical political economy, for my purposes, spans the theoretical developments which begin from William Petty in England and the Physiocrats in France and which acquired, through successive reformulations, criticisms and extensions in many original directions, the form of a comprehensive theoretical system in Marx. Of course, let me hasten to add, it is not intended to suggest that there are no differences (and even dissensions) amongst the various 'supply and demand' schools or among the varied writings on classical political economy. Nevertheless, if I have drawn a broad dichotomy, it is because there are some basic unifying elements within each stream and sufficiently distinct and contrasting features demarcating the two systems of theorizing to suggest that the great divide in economic theory occurred around the 1870s. It marked the rise of supply and demand theories with a clearly formulated distinct structure, characterized by the determination of relative prices and of distribution by means of the price-dependent demand-and-supply functional relations. With dis-
distribution viewed merely as 'pricing of factors of production' and a shift to a new structure of theory, the primacy of production in classical political economy came to be replaced by a central focus on exchange relations.

In the first lecture, I shall attempt to sketch briefly the theoretical developments with a view to tracing the historical roots of this shift to new tools and new formulations and to a correspondingly different perception of the economic system. In the second lecture, I shall talk about some methodological consequences of this shift to the supply and demand approach. There I shall present a viewpoint that the supply and demand theories suffer from certain inherent constraints which operate against an effective handling of problems of change. In the third lecture, I shall briefly sketch some of the reactions that set in in economic theorizing prompted by the awareness of certain types of limitations. Modifications in theory—some looked upon as 'revolutionary'—were introduced when, for example, the limitations of the framework of competitive markets in the orthodox formulation became much too obvious to be ignored or when the historical experience of the Great Depression effectively challenged the complacent view that full employment in capitalist economies would be attained through equilibrating market processes. After considering some of these reformulations, I shall turn briefly to the recent revival of political economy; as illustrative of its analytical strength, I shall refer, in particular, to its potentiality to interpret and analyse historical change—an issue that may be of interest to many concerned with developmental experience.

To begin then with the first theme: namely, the development of classical political economy into a system of economic analysis, and the rise of the supply and demand theories as a challenge both to its approach and to its vision.

The historical context of theories

The standpoint that classical political economy and the subsequent supply and demand theories are alternative, contending systems of analysis may be unacceptable to some; let alone the view that the latter set of theories were developed and gained acceptance mainly—though not exclusively—in ideological opposition to the former. If theory is looked upon as a purely
logical construction, a "box of tools"—as some historians of economic thought and theorists often do—the history of economic ideas would seem merely to illustrate a process by which theoretical constructions pass through successive rectifications and refinements on to more advanced formulations. If this view were true, the now dominant neoclassical theory would seem to be a higher stage in a sequential development of theory; and classical political economy, correspondingly, only a primitive effort at theorizing, interesting only to the historian of ideas. However, with the help of Marx's writings, especially his extensive critique of the Theories of Surplus Value, and Piero Sraffa's excellent edition of Ricardo's Works as well as his later return to the classical approach, it is possible to see more clearly the structure of the theoretical system in classical political economy which is used in their analysis of value, distribution and accumulation and which stands out as distinctly different from that of the supply and demand theories. This earlier mode of analysis, it would seem, was prematurely eclipsed and supplanted by the latter, acquiring eventually a dominance in professional circles.

The view of the formation of theories as a unilinear development ignores an important dimension which may be crucial for the acceptance or rejection of ideas and hence for their eventual survival or advance. Economic theories, in most cases, have not merely been products of intellectual speculation alone but were born as the more prominent of the responses to problems concretely confronted by the society. Involved inextricably with the problems and the manner of their resolution are the conflicting interests of classes. Theoretical arguments would generally be adduced to the particular solutions advanced. Such was overtly the nature of economic discussions

1 See, for example, J. M. Keynes's editorial introduction to the Cambridge Handbook Series: 'The theory of economies ... is a method rather than a doctrine, an apparatus of mind, a technique of thinking which helps its possessor to draw correct conclusions.'

2 For relevant discussions on the social and historical context of economic theorizing, refer to Wesley Mitchell, Types of Economic Theory: From Mercantilism to Institutionalism, ed. Joseph Dorfman (Clifton, N.J., 1967); M. H. Dobb, Studies in the Development of Capitalism (London, 1937) and Theories of Value and Distribution Since Adam Smith (Cambridge, 1973); Karl Marx, Theories of Surplus Value (Moscow, 1969), and Grundrisse (Harmondsworth, 1973).
in the early phase of pamphleteering in England, when vigorous public debates were conducted on specific issues, with supportive allusions to wider principles of ethics, religion, law, philosophy, etc. Such initial frameworks of reasoning continue, however, even while the particular issues which spurred the debates recede and thereby take on the form of abstract, theoretical construction.

When the specific issues are seen as closely interrelated and as emanating from the more general social conditions, comprehensive theoretical systems incorporating a certain vision regarding the functioning of the society emerge. Attempts at such macroconstructions are seen first in the Physiocrats and in Adam Smith. Until Marx, however, such attempts at analytical constructions in classical political economy predominantly remained more of an immediate response to the extant, historically specific situation, although, as Marx was never tired of pointing out, their expression often conveyed the impression that they considered their particular theoretical constructions to be 'eternal truths', universally applicable to all times. It is in Marx that one obtains a clearer and more explicit recognition that the concepts and categories in terms of which the analyst builds up a theoretical system are specific to the historically developed mode of production itself. A connotation of this view is that the process of theoretical abstraction must be founded on historical observations and must find its justification in terms of its power to understand and interpret historical experience. Also, the domain of theory, as for Marx, comprehends not only the analysis of the logical relations within any particular mode of production but also the questions of transition from one mode to the other. Thus, Marx extends critically the concerns of his predecessors in many original directions, his central theme being the historical emergence of the capitalist mode of production, its 'laws of motion' and its eventual collapse or overthrow.

The supply and demand theories, also focusing on the capitalist economies, yielded a generalized theoretical system very different from that of classical political economy. It is, therefore, instructive to look into some of the factors that inspired these analytical constructions; we shall do so here, with some illustrations.
The rise of classical political economy: major problems and conceptualization

The rise of the classical political economy synchronizes with the emergence of the capitalist order out of a feudal and mercantilist past. The many specific problems that had occasioned stray pamphlets had now shaped up as more persistent themes calling for a system of analysis. With feudalism in its declining phase and the restrictive mercantilist policies proving counter-productive and unable to contain or meet the requirements of the growing forces of production, certain basic questions emerged. These questions were to engage the subsequent development of classical political economy. The central question that challenged most speculative minds was: On what does the general progress and wealth of a nation depend? The generally acceptable answer was: the 'surplus' that is available to it. The notion of surplus thus constituted the basic idea around which theorizing set about. The major questions were: (a) What does this surplus consist of and what determines its size? (b) Where does it originate? (c) Among whom is it distributed? (d) What determines its growth over time? (e) What happens to the relative shares of surplus accruing to the different classes of revenue appropriators as the size of the surplus increases? How, in turn, do these distributive relations affect the process of accumulation?

Different classical political economists analysed these questions in terms of conceptual schemes and categories corresponding to the particular historical conditions they confronted and the specific character of the issues they were faced with. However, given the basically common elements in the questions, they adopted certain notions which, despite the differences in their individual views, unify them into a common approach. An important unifying link in the early discussions is their recognition of the distinction between processes of production and those of circulation from the point of view of the generation of surplus. The mercantilist-inspired view that the surplus of a nation is generated in circulation, as 'profit upon alienation' as Stewart called it, or through 'buying cheap and selling dear', and through monopolistic restrictions and restrictive policies in trade and production, was consciously being
challenged. One of the important aspects of Adam Smith’s *Wealth of Nations* (published in 1776) was its focus on problems of the material or real basis of production and on conditions under which surplus is generated and accumulated through production rather than through trade. A major point of difference and controversy between Ricardo and Malthus arose (around 1815) with the former arguing that the origin of surplus and the limits to its magnitude were to be found in production.³ ‘Surplus originates in production in a competitive capitalist system’ remained the persistent and recurrent—although sometimes implicit—theme of ‘scientific political economy’. It was left to Marx to put it succinctly and pointedly that while originating in production, surplus is realized in circulation, and to trace out the fuller implications of this for the process of capitalist accumulation.

This emphasis on the sphere of production led to a closer analysis of many aspects of the productive process (or of ‘the

³ Replying to Malthus’s objection to Ricardo’s theory of profits, already raised in March 1814, Ricardo writes in his *Essay on Profits*: ‘This principle that “in every society advancing in wealth and population, independently of the effect produced by liberal or scanty wagers, general profits must fall, unless there be improvements in agriculture or corn be imported at a cheaper price”] will, however, not be readily admitted by those who ascribe to the extension of commerce, and discovery of new markets, where our commodities can be sold dearer, and foreign commodities can be bought cheaper, the progress of profits, without any reference whatever to the state of land, and the rate of profit obtained on the last portions of capital employed upon it. Nothing is more common than to hear it asserted, that profits on agriculture no more regulate the profits of commerce, than the profits of commerce regulate the profits on agriculture. It is contended that they alternately take the lead; and, if the profits of commerce rise, which it is said they do, when new markets are discovered, the profits of agriculture will also rise; for it is admitted, that if they did not do so, capital would be withdrawn from the land to be employed in the more profitable trade. But if the principles respecting the progress of rent be correct, it is evident, that with the same population and capital, whilst none of the agricultural capital is withdrawn from the cultivation of land, agricultural profits cannot rise, nor can rent fall; either then it must be contended, which is at variance with the principles of political economy, that the profits on commercial capital will rise considerably, whilst the profits on agricultural capital suffer no alteration, or, that under such circumstances, the profits on commerce will not rise.’ *Works and Correspondence*, ed. P. Sraffa, Vol. 4 (Cambridge, 1951), pp. 23–4. Ricardo, in the *Essay*, argued that the general rate of profits is determined in agriculture, a theory he was to abandon for the more general principle that the rate of profit is constrained by the prevailing conditions of production, being inversely related to wages.
labour process' as Marx was to call it) such as the various component elements of that process constituting 'costs' and the factors that increased the productiveness of the process; in short, of the determinants of the size of surplus. This led to an analysis of the role played by land, labour and capital as material requisites of production and the diverse nature of rents, wages and profits as distributive categories. The theme 'who are the surplus appropriators' and the question as to what determines the rate of growth of surplus and how the growing surplus is relatively distributed amongst the classes naturally raised the issue of class relations—whether they could at all be conceived as being harmonious, or inevitably involved conflicts. Other questions frequently discussed were: which of the surplus-sharing classes during any particular historical phase were 'progressive' in the sense of furthering the process of accumulation and how the emerging and accentuating conflict of classes determined the dynamics of the system.

Influence of contemporaneous production relations

As mentioned already, the particular features of the framework in terms of which these questions were posed were influenced by the historical conditions of the time. Also, the contemporary debate demanded special focus on particular aspects of the problem so that the analyses of particular aspects were carried to various degrees of refinement. Thus, as Marx remarks, the Physiocrats were the first of the system-builders to analyse the emerging capitalist production. They depicted interdependence in the economy as a reproductory and exchange system, located surplus in production, described the role of capital as 'advances', and, distinguishing clearly the component of productive consumption, defined the 'net product'. They recognized the importance of classifying society into classes relative to the process of generation and accrual of surplus, the surplus-producing class alone being called 'productive'. These were indeed remarkable theoretical achievements. However, the 'feudal shell' within which their analysis was conducted was reflected in the dominant position ascribed to landed property. The industrial sphere was described in their system as more of an appendage to agriculture; surplus originated only in agriculture and was attributed to the bene-

volence of nature (‘a gift of nature’). The landlords, being vested with inalienable divine rights to property, were given the venerable ‘proprietary’ status, while the industrial classes were designated ‘sterile’ as, in their view, they produced no surplus. The internal contradictions in their analysis, arising inevitably from the superimposition of nascent capitalist relations on a feudal basis, were reflected in their advocacy of paradoxical policies. It gained them unpopularity in diverse quarters and invited the devastating humour of Voltaire. As Marx puts it, in their system ‘the ostensible veneration of landed property becomes transformed into the economic negation of it and the affirmation of capitalist production’. The Physiocratic system thus fully reflected the sharp conflicts that were developing between the decadent feudal order and the emerging capitalist one. The nascent stage of capitalist relations in France in their period was also reflected in their conceptual confusions. Profits as a category distinct from wages or rent had not yet been clearly identified, and while the importance of labour was acknowledged, it appeared in its concrete rather than in its abstract form. Surplus too was associated with its material, tangible form as ‘net product’ in agriculture.

Adam Smith’s invoking of ‘natural law’ to advocate a laissez-faire economy is to be similarly understood against the background of the over-maturing of the mercantilist system. That system had played out its progressive role and became an effective barrier against the productive power of industrial capital. It was in the unfettered expansion of industry, of industrial skills, of division of labour and free trade that Adam Smith recognized the source of augmented accumulation. Laissez-faire was a radical call in favour of the upcoming bourgeoisie. Responding to the rapid on-going changes, Smith emphasized that the permanent source of surplus was in production and not in commerce. Unlike the Physiocrats, he recognized profit as a distinct category of surplus, apart from

---

4 Ibid., p. 52. Thus, the argument that agriculture alone was productive of surplus impelled the Physiocrats to advocate a single tax on rents while they remained staunch adherents of private proprietorship in land; on the other hand, the manufactures, declared ‘sterile’ by them, were to be freed of the heavy imposts.

5 For a discussion of the historical conditions in which Smith wrote, see Bharadwaj, ‘The Historical Conditioning of Theory: A Study of Adam Smith’s Political Economy’, Studies in History, January-June 1979, pp. 45-73.
rent; interest being only a derivative revenue from profit. The
dynamic role in accumulation is attributed by him to the pro-
ductivity of labour, along with capital which provides the
fund out of which wages are advanced. The landlords as rent-
receivers are sneered at: 'As soon as the land of any country
has become all property, the landlords, like all other men,
love to reap where they never sowed and demand a rent even
for its natural produce.' To the Physiocrats, the class of pro-
noprietors or surplus appropriators is just one—the landed prop-
erty owners. Hence, the question of conflicting class interests
does not receive their primary attention. Adam Smith's main
target of attack were the mercantilists and profiteering mono-
nopolist-traders. While he does indicate in places, in simple but
forthright and effective passages, the immanent conflicts be-
tween 'manufacturers and labour',
between landlords and
tenants, the question of the relative distribution among classes
does not hold back Adam Smith too long. In fact, having even
fumbled at times in stating rents, profits and wages to be
'original sources of value' after having identified them as con-
stituting 'the three components of price', he leaves scope for
certain ambiguities—well exploited by later interpreters—as
to the view he takes of the relations between these distributive
classes. The ambiguity has led some to describe him essentially
as a 'harmony' economist. The fact that at times he simultane-
ously followed a number of different lines of argument perhaps
explains why his paternity in economics is acknowledged by
economists owing allegiance to different schools of economic
theory and holding disparate views on the working of the
economic system.\footnote{Adam Smith, \textit{The Wealth of Nations}, ed. E. Cannan (Clifton, N.J., 1967), p. 56.}{\footnote{Ibid., pp. 74-6. 'Masters are always and everywhere in a sort of tacit, but
constant and uniform, combination not to raise the wages of labour above their
actual rate.'}{\footnote{Marx in his incisive fashion spots the error: 'Just as it is true that there are
the three original sources of all revenue, so it is false that there also are the three
original sources of all exchangeable value, since the value of a commodity is exclus-
vously determined by the labour time contained in it. After just presenting rent
and profit as mere deductions from the value ... how can Adam Smith call them
original sources of exchangeable value?' \textit{(Theories of Surplus Value}, Vol. 1, p. 94).}{\footnote{Smith appears to have held at times conflicting views, working simultane-
ously on the basis of a system of social moralism as well as on a materialistic
interpretation of the working of the economy.}}}
It was left to Ricardo, however, to raise a number of key questions concerning the distribution of surplus, especially the relation between different distributive revenues. Again, the peculiar emphasis Ricardo lays upon the landlord-versus-the-rest conflict has to be understood mainly in the light of the contemporary conditions and, in particular, the specific historical debate that stimulated considerable economic theorizing in his time. This debate concerns the Corn Laws. Around 1815, a most lively controversy captured the English scene—whether England should obtain cheaper corn through imports or encourage cultivation at home at increasing cost. The conditions ('facility or difficulty') of producing corn and hence its price affected in opposite ways the fortunes of the landlord class and the upcoming manufacturing classes, and the then British Parliament, dominated by the landed interest, argued vociferously against the free imports of corn. As Cannan puts it: 'The divergence of interests with regard to the Corn Laws was really a divergence of the interests of the classes, and not of individuals. It was not a question of the classes against the masses, or, in other words, of the rich against the poor, but of the land-owning class against the commercial and manufacturing class.'\(^{11}\) It was this debate that reflected Ricardo's views on the problems of value, distribution and accumulation. The proposition he puts forth with great vigour, that rent does not enter into price but that it is price that determines rent, was a plank from which to argue that taxing rents would hardly affect production. Again, in his Essay on Profits, he advocated the view that the interest of the landlord class was opposed to the interest of every other.\(^{12}\) At this historical juncture, Ricardo was not very much concerned with focusing his attention on the conflict between capital and labour: if he did nevertheless emphasize in an analytical context the inverse relation between the rates of profit and wages, it was to bring out the fact that the rising cost of producing corn (in terms of labour) would imply rising cost of labour (value of wages) even when the real wage was held constant, and a rising proportion of a unit of surplus going to pay for wages (after paying


for heightened rent(s) would necessarily imply a falling rate of profit. A rising price of corn, in Ricardo's scheme, therefore, necessarily implied that the landlords gained in terms of a rising share of rents; the capitalists would lose with a falling rate of profit, and the labourers, even when their real wage was unchanged, would very likely suffer because of lower growth of employment consequent upon the adverse effects on accumulation.

The conflict between labour and capital was soon to be the centre of attention when class struggles sharpened and the Ricardian socialists, resorting to Ricardo's labour theory of value, were to argue for the rightful reward of labour. We must await Marx, however, for the fuller implications of the confrontation between capital and labour to be drawn and for the mode of capitalist production to be subjected to a trenchant, analytical critique.

*The role of value theory in classical political economy*

Looking from the point of view of modern economic theory, it would appear striking that in the above rapid review I have only barely mentioned the question of value in classical political economy. It is time I introduced it here. The question of what determines relative prices, or exchangeable value, came to the forefront in relation to the questions concerning surplus that I have referred to above, which preoccupied classical political economy. Its first appearance in Smith was in relation to the quantification of surplus and the comparison of the magnitudes of surplus over different periods and countries, originating from his emphasis on real accumulation processes as determinants of the relative power of nations. With the Physiocratic notion that all surplus is constituted of agricultural produce, the problem of the appropriate measure suitable for such quantification and comparisons was not all that bothersome and did not formulate itself in clear terms. But with Adam Smith, surplus had acquired a more heterogeneous content—activities producing diverse products were acknowledged as being capable of generating surplus. Smith considered money ('market') prices as too fickle and momentary to give a stable measure of value in terms of which the 'real' content of surplus could be assessed and compared over time and
between different nations. This led him to suggest labour as the 'real money', the invariant standard, though he suggested two different ways of reckoning, one in terms of labour embodied, another in terms of labour commanded.

Moreover, the question of 'measure' and the 'cause' of exchange value were interlinked to the extent that a theoretically perfect measure which would accurately quantify changes in the level of surplus would have to bear a strict relation to the exchange value of commodities. For Smith, such an ideal measure would have had to satisfy the property of invariance (i.e. the unit should not itself change in value) and also bear a strict relation to exchange value. He found the labour embodied measure satisfactory in the 'elementary and rude state of society' when exchange is between simple commodity producers and commodities exchange at their labour values. He had, however, abandoned the measure as inconsistent when the net product is no more exhausted by wages but is shared by capitalists and landlords as well and natural prices deviate from labour values. In such 'civilized' societies, he had favoured the use of the labour-commanded measure as a more consistent one, a view which was rightly challenged by Ricardo subsequently. Ricardo was to forcefully argue in his Principles that the labour-commanded measure suffered from the same shortcomings which Smith himself had pointed out in the case of corn or gold, since it involved using wage or 'value of labour' as the unit, itself a variable standard. The question of labour measure thus not settled, Smith had moved on to discuss 'natural prices' as formed of the three components —wages, profits and rents. His analysis of the three components of price was not so much a theory of price determination as a definition in terms of the constituent parts of price. Smith's attempt, however, to explain the determination of the three components independently of each other landed him in a number of inconsistencies and ambiguities.

It was Ricardo who delved much more deeply into the

---

18 'Labour was the first price, the original purchase money that was paid for all things' (p. 35), and 'Labour ... therefore ... is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared: It is their real price; money is their nominal price only'. (Wealth of Nations, p. 37).
question of determination of exchange value, although, again, his interest in the question was also of a derivative nature. It was distribution of surplus among classes and the determination of the rate of profit that had held his attention. His frequently quoted letter to Malthus puts his position most cogently: 'Political economy you think is an enquiry into the nature and causes of wealth. I think it should rather be called an enquiry into the laws which determine the division of the product of industry amongst the classes who concur to its formation.' In the Essay on Profits, his reasoning suggests that he worked out the distributive relation in terms of a simplified corn system wherein he could, with considerable ease, deduce unambiguously the rate of profit as a ratio between the same quantities, total profits and total capital all being expressed there in terms of corn. Also, the inverse relation between rents and profits, given the wage, and between profits and wages, followed easily without the relations being obscured by the intervention of prices, as all distributive shares were in terms of 'corn'. Commenting on his analytical derivations, Malthus had rightly pointed out their limitations: that the determination of the general rate of profit in a multi-commodity system would necessarily involve heterogeneous commodity aggregates like output, wages and capital, not allowing such simple straightforward deductions. Thence, Malthus had proceeded to challenge the generality and analytical force of Ricardo's conclusions regarding the inverse relations among distributive shares pointing to the inevitable conflict of class-interests: that rising rents are necessarily at the expense of profits (given the wage) or that rising money wages are also similarly inversely related to the rate of profits. Malthus' argument was that prices may rise sufficiently to allow both or all distributive shares to rise simultaneously, even when methods of production remained the same. Malthus referred to the possibility that profits could be made in circulation sufficient to compensate for a rise in wages. In order to demonstrate unambiguously that the rate of profit is determined uniquely once wages are given, and that there is necessarily an inverse relation between wages and the rate of profit, Ricardo sought

to measure the heterogeneous aggregates (output, wages and capital) entering as determinants of his rate of profit in terms of an 'invariant' standard, i.e. a commodity or a composite of commodities possessing the property that its own exchange value would remain invariant when distribution (i.e. wages/the rate of profit) changes. This, in turn, led him to investigate the problem of what governs the changes in relative prices when wages change.\footnote{Such an 'invariant standard', which Ricardo failed to discover, has been constructed by Piero Sraffa in his \textit{Production of Commodities by Means of Commodities} (Cambridge, 1960). The ingenious construction of the 'standard commodity' has the requisite properties, and serves the analytical purpose of locating the determination of profits in production and in unambiguously demonstrating the inverse relation between profits and wages without foreknowledge of prices.} It was in this context, then, that Ricardo found it necessary to go into the question of value, particularly of what determines \textit{changes} in relative prices so as to unambiguously relate the rate of profit to wages; he developed his labour-embodied theory of value in relation to his theory of distribution. Further, while introducing successive modifications to allow for the 'element of time' which occasioned deviations of labour value from prices, he nevertheless held on steadfastly to the view that the labour theory of value was only modified but not superseded in the process.\footnote{Ricardo's letter to Mill, 28 December 1818, in \textit{Works}, Vol. 7, p. 377.} Thus, his main analytical interest in the theory of value continued to be spurred on by his more basic theme—to show, in contrast to his friend and inveterate critic, Malthus, that surplus in a competitive capitalist scheme, where the tendency towards equality of the rate of profit and wages prevailed, was located in production and not in circulation, and, secondly, that the interests of the various classes were in unavoidable conflict. \textit{Given the methods}
of production, rents could advance only at the cost of profits, given the wage; and profits could advance only at the cost of wages.

Marx carried forward Smith and Ricardo’s analyses of value and distribution, based on the surplus approach, in many new directions, uncovering implications that they themselves had not perceived or focused upon. To Marx, too, the important questions in political economy were the particular form of and the manner in which surplus is generated, appropriated and distributed among the surplus-sharing classes specific to the different modes of production.\(^{17}\) In particular, he was to analyse these processes as operative in a competitive capitalist mode, where the central class-conflict is between capital and labour and the exchange value takes the form of prices of production (implying a tendency towards a uniform rate of profit and a uniform wage).\(^{18}\) His analysis of the ‘inner relations’ of the capitalist system and its ‘laws of motion’ brought out the crisis-ridden nature of the capitalist accumulation process which pointed to its ultimate breakdown.

To conclude our remarks, what is important to note is that in classical political economy, the laws of distribution were not being sought to be found in the microcosmic determination of values of individual commodities. Rather, the exchangeable values of individual commodities were conceived to be such as to be consistent with the particular way in which surplus was being distributed among the surplus-sharers within the mode of production under study: for classical political economy, the mode of production was that of competitive capitalism where wages were taken as determined by wider historical and social forces and surplus (after deducting rents) distributed among the capitalists so as to yield the same rate of profit for all ‘capitals’, in all occupations. That is, the movement of market prices was such as to conform to the principle of a uniform rate of profit defining the ‘natural prices’ or ‘prices of production’.

\(^{17}\) For example: ‘The specific economic form in which unpaid surplus labour is pumped out of the direct producers determines the relation of domination and servitude, as it emerged directly out of production itself and in its turn reacts upon production. Upon this basis, however, is founded the entire structure of the economic community, which grows up out of conditions of production itself and consequently its specific political form.’ *Capital*, Vol. 3 (London, 1965), Chapter 47.

We shall have more to say about the value problem in the second lecture.

Opposition to classical political economy and the rise of new schools

It was, however, Ricardo's labour theory of value that had already set opposing theoretical forces in combat. After Ricardo's death, with the advance of machinery and manufacture, the conflict between capital and labour sharpened. A group of Utopian Socialists, sometimes called 'Ricardian Socialists', the major names among whom are Bray, Hodgskin, Thompson and Gray, argued on the basis of the labour theory of value that labour was being cheated of its legitimate claim on produce, and proceeded to suggest radical organizational reforms. The labour theory of value, developed until then over a long period (the beginnings can be traced even before Adam Smith) and accepted as a reasonable basis, was soon looked upon with grave suspicion. Some of the 'orthodox Ricardians' like Torrens and McCulloch were already troubled by the technical difficulties faced by the theory, and while retaining the labour theory of value, they attempted to modify it so as to rid it of its obviously ideological flavour. The inverse wage-profit relation, an important result of Ricardo's theory, was restated in such a tautological and empty form as to amount essentially to its abandonment. Simultaneously,

19 I have drawn heavily upon my discussions with Piero Sraffa in writing this and subsequent sections; particularly on the attempts at placing wages and profits symmetrically as constituent parts of cost of production and, in the process, moving away from explanations of value based on material conditions of production to utility.


22 McCulloch in his Lectures in Honour of Ricardo and in Principles of Political Economy (Edinburgh, 1825).

new schools were emerging and opposition gathered momentum. The extent of the opposition, and generally, the hostile mood, is reflected in Carey’s passionate denunciation: ‘Mr. Ricardo’s system is one of discords... its whole tends to the production of hostility among classes and nations... His book is the true manual of the demagogue, who seeks power by means of agrarianism, war, and plunder...’

The main question that troubled at least some of the opponents was how to explain profits accruing to the capitalists and how to overcome the ‘system of discords’ and re-establish competitive capitalism as a system with natural harmony of interests and built-in justice. It was then that Senior’s idea of abstinence—the sacrifice contributed by the capitalist as a counterpart of the sacrifice of the worker—was found eminently suitable. Senior, however, introduced abstinence as only a moral ground for the capitalists’ revenue, but did not try to prove that it enters into the cost of production on coordinate basis with wages, i.e. he did not attempt to analytically incorporate it systematically within the cost of production theory of value. This was to be a later development. In fact, Senior’s notion of abstinence had a peculiar consequence: while maintaining that the person who through his abstinence creates the capital good deserves profits as a reward for his abstinence, he argued that the heir of a capitalist who inherits the property could not be morally entitled to it. Thus, Senior’s formulation did not leave much scope for distinguishing between rents and profits. This was not, however, in consonance with the traditionally developed and accepted distinction. In any case, the idea of abstinence was born, later on to flourish in a different form and become a part of the analytical corpus, with profits as much as wages appearing as compensation for efforts and sacrifices.

The seventies: the divide in economic theory.

The early seventies mark the turning point in economic theory. On the one hand, Marx published his Capital, in which the issues discussed in the earlier writings in political

---

economy were critically sifted, interpreted in a different and richer theoretical context, and the critique of capitalist production developed in an impressively comprehensive framework. On the other hand, an entirely new theory of value, based on the 'novel' idea of marginal utility, was discovered—almost simultaneously and independently by Jevons in England, Menger in Austria and Walras in France. The extent of the break and the novelty of structure may not always be realized—thanks to the efforts of economists like Marshall to smooth over the transition and to attribute a continuity—but at least some of the innovators were certainly aware of the shift. To quote Jevons: 'The conclusion to which I am ever more clearly coming is that the only hope of obtaining a true system of economics is to fling aside once and for ever the mazy and preposterous assumptions of the Ricardian School.'

What is worth noting, moreover, is the ready acceptance the new theory received. In fact, the historical coincidence of its independent appearance in three countries is sometimes put forward as sufficient proof of its objective scientific status. However, the theory of marginal utility was not all that novel, having already been sponsored by Cournot, Dupuit and Gossen in earlier years. In fact, Gossen was so impressed by his own discovery as to rank it as equal to that of Copernicus, but it is known that, frustrated by the response it received, he was forced to withdraw his book. Why, then, did similar ideas, rejected so summarily earlier, gain such ready and wide acceptance shortly after, in the seventies? It is highly probable that an explanation is to be found, at least partly, in the historical conditions of the period. By the seventies, capitalist relations in Europe had become pervasive and well-entrenched, and the major arena of conflict shifted to relations between capitalists and workers. Moreover, the conflict was not merely a matter of a theoretical possibility; it had already assumed overt and militant forms. It appears that the intellectual confrontation with the theoretical system of political economy and the view of social relations it propounded had become immanent, and the new theoretical system was now more congenially received. While in England the confrontation was

openly with Ricardian theory, on the Continent the Austrian school took explicit cognizance of Marx and challenged his system of political economy.

The major theoretical ground chosen for attack was the labour theory, namely that exchangeable values of products are proportional to the labour contained in them. As we have noted above, this theory had already been deemed to require modifications and re-interpretation, even by the prominent authors of political economy. While in England Ricardo's labour-embodied explanation of value came under frontal attack as being 'one-sided', on the Continent the transformation problem in Marx (namely of transforming labour values into prices of production) was chosen by the Austrians as their battleground.26

A new basis for explaining prices

The attempt at constructing an alternative, therefore, first appeared in the form of a new, more cogent explanation of exchangeable value (or relative prices). However, no such explanation can exclude the question of distribution. In fact,

26 In the 'generous' reading of Marshall, Ricardo was supposed to have advanced 'a cost of production' theory of prices, abandoning the labour theory as inadequate. So interpreted, the cost of production appeared as one part of the equilibrium system of Marshall. Marx did not stumble on the problem while writing the third volume of Capital, as alleged by his critics, but was aware of it much earlier even while working on his Theories of Surplus Value. While Marx's solution of the problem offered in Capital was inadequate and had not fully satisfied him, he appears not to have attached as great a significance to this question as to reject his substantive propositions derived on the basis of labour values. While recognizing that the form in which the exchange value takes under competitive capitalism is that of the prices of production, he believed that the essential propositions concerning the operation of this mode of production would be more easily perceived by working with labour values, and these would not be fundamentally challenged in the process of translating values into prices of production. His opponents, however, chose the transformation problem as their battleground, contending that the unsolvability of this problem called for the rejection of Marxian Political Economy and for the construction of an alternative theoretical scheme. The transformation problem thus acquired an importance which has continued up to recent times. However, many solutions, satisfactory in various degrees, have been offered by a number of authors, from Dmitriev's Economic Essay of 1904 (translated into English, Cambridge, 1974) and Bortkiewicz's articles in the International Economic Papers, to Morishima's Marx's Capital (Cambridge, 1976). A slightly different approach towards the problem is adopted by P. Sraffa in his
the primary aim appears to have been a radical alteration of the view concerning distribution, and this, in turn, was to correspond to a new vision regarding the functioning of the economic system. Various formulations and analytical schemes came up, due mainly to Marshall, the Austrian school (among whom the most prominent was Böhm-Bawerk), and Walras. While there are differences between them, and it may not be possible here to treat each in its individual aspects exhaustively, certain common implications of their basically similar approaches may be noted. First, a symmetry was introduced among the different distributive classes, particularly labour and capital. This resulted from various analytical conceptualizations rendering the roles of capitalists and wage-earners symmetrical in production, by depicting the services of both as being essential prerequisites for production to materialize and thence considering their revenue as payments for their respective productive contribution. Secondly, with distribution as much as relative commodity prices determined by the forces of supply and demand and these forces themselves resting on the economic decisions of individual consumers and producers, the free decision-making individual emerged as the basic unit of analysis, replacing the centrality of economic ‘classes’ in political economy. Thirdly, recourse thus being taken to the Benthamite world of rational pursuit of self-interest, all individuals in the society were analytically placed on an ‘equal’ footing. Analysis was now focused upon the sphere of circulation: under competitive exchange, an appearance is maintained of an intrinsic justice in the operation of the impersonal and ‘self-propelling’ market forces of supply and demand, especially when distribution is also explained on the same ground.

*Production of Commodity by Means of Commodity* (Cambridge, 1966), where he has offered an analytical solution to the problem of constructing an invariant standard in terms of which the distributive relations can be directly perceived, without bringing in the complications of variations in prices, thus bypassing the difficulties which Ricardo and Marx faced in translating propositions stated in terms of labour values to those couched in prices of production.

*77 See Marx, *Capital*, Vol. 1: “This sphere [of circulation of commodities or exchange] that we are deserting, within whose boundaries the sale and purchase goes on, is in fact a very Eden of the innate rights of man. There alone rule Freedom, Equality, Property and Bentham. Freedom, because both buyer and seller of a commodity, say of labour power, are constrained only by their free will...
The new theoretical structure that the supply and demand theories erected was thus not a mere reconstruction but constituted a radical departure from classical political economy. The centrality of the notion of surplus and the particular characterization of value and distributive relations was replaced by the focal significance of pricing, or the explanation of relative prices. Such questions as a satisfactory measure of surplus disappeared as a major concern, only to be revived indirectly in the branch of theory concerned with ‘welfare economics’; while the concept of absolute value, considered important by the classical writers, particularly to discuss questions such as technical change, was consigned to oblivion. What followed as a consequence of the new theoretical structure was a symmetry among distributive classes, distributive shares appearing now as returns to ‘factors of production’ (land, labour and capital). Also, a symmetry was introduced between production (supply) and consumption (demand), both appearing as independent and balancing forces bearing equally upon the determination of value. I shall say more about the structure of the new theory in the next lecture, and about the overriding importance that market relations consequently acquired in equilibrium theories in the last lecture. For the present, I shall discuss at some length the symmetry which came to be established among revenue categories, particularly wages and profits, and conceptual tools that paved the way towards it. In the context of this question, if one were to pinpoint specifically the distinctive features of the classical theory of value and distribution which strike a contrast, these would be: first, the ‘objective’ basis of their explanation of value, and, secondly, the essentially different status of the revenue sharers in relation to the process of production that they envisaged. I shall elucidate these in sequence.

The ‘objective’ basis of the classical theory of value

The classical theorists had sought the determinants of value in the material conditions of production, later termed as ‘costs.
of production'. While the notion of 'costs' itself gradually changed from the Physiocrats to Mill, and the various components of costs were variously analysed, still one may say that it was the 'objective' material basis of production that determined the value of products. The labour theory of value was initially constructed on the implicit premise that all means of production were reducible to labour directly or indirectly. Ricardo was soon to recognize that the proportionality of labour values to exchangeable value (or prices of production) could not be maintained and allowance had to be made for the 'time periods' over which labour remained 'dormant'. Marx explicitly recognized that the form exchange value takes under capitalist production is 'prices of production' and that these deviate systematically from labour values.

In the very early discussions of the 'just price' there appears to have been no distinction made between cost of production and price. With the rise of the putting-out system and a separation between the direct producers and traders, costs of production attained a distinctiveness from market price. However, with the development of capitalist relations, 'cost of production' (with profit being included in this term) was treated as synonymous with natural price or 'prices of production' by Ricardo and Marx. Thus, there could be no cost of production theory of price. It was only when cost of production came to be viewed as one part of the supply and demand theory of price determination that such a cost of production explanation comes to be attributed to Ricardo. Marshall's 'supply schedule'—the one blade of the pair of scissors—rests on the cost of production, measuring all 'efforts and sacrifices'.

Strictly speaking, then, the relative quantities of labour bestowed on commodities regulates their relative value, when nothing but labour is bestowed on them. When the times are unequal, the relative quantity of labour bestowed on them is still the main ingredient which regulates their relative value, but it is not the only ingredient; for besides compensating for the labour, the price of the commodity must also compensate for the length of time that must elapse before it can be brought to market. All exceptions to the general rule come under this one of 'time...'. (Ricardo's letter to McCulloch, dated 15 June 1820, Works, Vol. B, p. 193). Ricardo's time period for which labour remains dormant must, however, be distinguished from the Austrian conception of period of production. The latter was interpreted, in their theory of profit, as a measure of capital conceived as the 'loss of immediate utility, or as a sacrifice sustained due to locking up resources in intermediate use instead of devoting them to final consumption'.

In Capital, Vol. I, Marx already talks of prices differing from values. 'If prices actually differ from values, we must, first of all, reduce the former to the latter; in other words, treat the difference as accidental in order that the phenomena may be observed in their purity, and our observations not interfered with by disturbing circumstances that have nothing to do with the process in question' (p. 166, fn. 1). Also see note 26 above.
shall not enter into the question of the relation between labour values and prices, nor into the highly controversial question of the interpretation and significance of this ‘transformation’ problem. I would rather confine myself to the observation that under whatever specific form values were discussed—whether as labour values or prices of production—the basis of value was located firmly in the sphere of production and costs reckoned in terms of ‘productive consumption’ (material inputs, plus wage goods) essential to support the productive process. This implied, as a method, a reliance on objective conditions. We may quote Petty, to whom Marx ascribes the beginning of ‘scientific political economy’: ‘The method is not very usual for instead of using only Comparative and Superlative Words and Intellectual Arguments, I have taken the course to express myself in terms of Number, Weight or Measure, to use only Arguments of Sense and to consider only such causes as have Visible Foundations in Nature; leaving those that depend upon the mutable Minds, Opinions and Appetites, Passions, of particular Men to the consideration of others.’\textsuperscript{31} The supply-and-demand-based equilibrium theories of value shifted the basis of determination of value from such exclusively objective consideration to those involving utility as well, to ‘Minds, Opinions and Appetites, Passions of particular Men’.

*Placement of wages and profits in the productive process in classical theory*

In classical political economy, the determinants of distributive shares—wages, profits and rents, mainly—are not uniform, nor are the status and placement of labour, capital and land in the productive process similar. Wages are essential to the carrying on of productive operations. It is a part of ‘productive consumption’ on a par with the material means of production. Wages have to be paid in order that labour power is produced to carry out the activities, and hence are a material requirement, ‘an essential cost’ for the existence of productive activity itself.\textsuperscript{32} Profits, on the other hand, are the results of productive


\textsuperscript{32} ‘The elementary factors of the labour process are: 1, the personal activity of man, i.e. work itself, 2, the subject of work, and 3, its instrumen... The
operations, arising *post factum*, as a share of product and appropriated by the capitalist. Profits are a share in surplus accruing to the capitalist in his capacity as a legal possessor of the means of production. The means of production are, but not their legal possession, a material and ineliminable requisite of production (or, of the 'labour process', as Marx would call it). Profits as a distributive category resulted from a certain state of the economy wherein the labourer had come historically to be divorced from the means of sustaining himself and his productive activities. Rents, viewed in their 'differential' form, are the consequence of the 'niggardliness' of nature, arising out of the insufficiency of equally productive lands; and in their 'absolute' form they are treated as 'ground rents', a consequence of monopoly proprietary rights enjoyed by the landlords. Such theories in classical political economy brought into sharp focus the disparate status of the different distributive classes in relation to the productive process; and their conflicting interests suggested 'a system of discords'. This the new theories replaced with a system of harmonious cooperation among distributive classes, who were placed in a coordinate status in productive activities.

*The subjective basis of the new theories*

Pioneers of the new theory like Jevons or Wicksteed saw their ideas as totally opposed to the 'cost of production' viewpoint. Jevons wrote: 'Repeated reflection and inquiry have led me to the somewhat novel opinion that value depends entirely upon utility. Prevailing opinion makes labour rather than utility the origin of value. Labour is found often to determine value but only in an indirect manner, by varying the degree...'

labour process resolved as above into its simplest elementary factors, is human action with a view to the production of use values, appropriation of natural substances to human requirements; it is the necessary condition for effecting exchange of matter between Man and Nature; it is the everlasting Nature-imposed condition of human existence and therefore is independent of every social phase of that existence...* (Capital, Vol. 1, pp. 178-84). It is in this sense that labour is a primary requisite of all activity and so is its productive consumption in the form of wages. Profits arise only when production relations take the capitalist form within which the capitalists acquire a right to appropriate surplus value because of their possession of the means of production.
of utility of the commodity through an increase in supply. They attempted to construct a theoretical apparatus to explain value entirely on the basis of utility. Wickssteed challenged the existence of the 'supply curve' itself, holding the view that 'supply' cannot be defined independently from 'demand'; in exchange, the supply of products is induced by the supplier's demand, or the desire to obtain in exchange other products which he does not directly possess.

A more comprehensive utility-based system was, however, constructed by the Austrians, among whom Böhm-Bawerk was one of the important theoreticians. The end purpose of all productive activities, in this system, was consumption or enjoyment of utilities. All commodities could be ordered in hierarchical stages according to their remoteness from the 'final commodity' directly serving consumption. The 'lower order' goods consisted of all sorts of intermediate or capital goods, as well as labour, the most versatile of them all. While the final goods were valued on the marginal utility principle, all the lower order goods derived their value indirectly, from their ultimate contribution to producing these final utilities. The Austrians thus derived the value of the means of production from that of the product. In so doing, they inverted the entire process of reasoning of the classical school wherein the value of the product was attempted to be explained in terms of the material requisites of production. The values of intermediate goods were derived on the following basis: using the means of production to produce an intermediate good implied essentially a 'loss of utility' or 'opportunity cost', and it was this loss by which the means of production were evaluated. It is evident that from such a view, a symmetrical treatment of all agents of production followed logically, each being rewarded according to the uniform principle of its ultimate contribution to utility. Labour and capital were means of production, differing only in their position in this hierarchical order of commodities with respect to the production of final utilities.

35 Among the better known works of E. Böhm-Bawerk are The Positive Theory of Capital (London, 1891), and Capital and Interest (London, 1894).
Marshall's attempted compromise

Marshall did not approve of such a complete volte face, nor of the acclaimed exclusive reliance on the 'demand' side. His was a terse attempt to weave together the basically irreconcilable views of Ricardo and Jevons by positing opposite but independent forces of supply and demand acting symmetrically to determine value in equilibrium. "The normal value of everything, whether it be a particular kind of labour or capital or anything else", he explained with his characteristic use of beguilingly simple analogies, 'rests like the keystone of an arch, balanced in equilibrium between the contending pressures of its two opposing sides; the forces of demand press on the one side, and those of supply on another...'' Further, 'Neither has a claim to predominance; any more than has either blade of a pair of scissors, or either pier of an arch.'

I shall discuss the question of the symmetry between 'production' (supply) and 'consumption' (demand) at greater length in the second lecture. Here, however, I shall indicate how Marshall was equally concerned with establishing the symmetry between wages and profits on the 'supply side'. In the process, he too shifted the focus to individual subjectivity. Unlike Petty, Marshall's concern was to look into the 'motives' of the individual. In fact, he described the subject matter of economics thus: "The outward form of economic theory has been shaped by its connection with material wealth. But it is becoming clear that the true philosophical raison d'être of the theory is that it supplies a machinery to aid us in reasoning about the motives of human actions which are measurable."

The 'motives' were reckoned by the measuring rod of money—the market being the judicious dispenser of rewards and penalties.

Indeed, Marshall first attempted to establish the symmetry between wages and profits on a purely subjective basis, through advocating a concept called by that misleading phrase 'real costs'. The real costs were to be reckoned in terms of 'efforts and sacrifices of all sorts' on the part of the agents of pro-

---

37 Ibid., p. 532.
duction. Symmetrical to the 'efforts and exertions' of labour was to be counted the sacrifice involved in the capitalist's 'waiting'. (Marshall did not approve of 'abstinence' because of its moral overtones.) However, there were enormous and unavoidable difficulties in so aggregating sacrifices and efforts of heterogeneous sorts incurred by different individuals. Apart from involving interpersonal comparisons, there was also the irresolvable problem of how to measure 'waiting'. If measured in terms of the time period over which capital is locked up, the question still remained as to how the magnitude of the capital as an aggregate, independent of distribution, was to be accounted for. If, instead, the sacrifice in waiting were counted as the value of consumption goods so foregone, this procedure presumed that this value is already known, which, however, was yet to be determined and could not be independent of distribution, i.e. of the rate of wages or profit. Moreover, this solution would have dissolved the distinction between his 'real costs' and the 'opportunity cost' in terms of 'loss of utility' of the Austrians, which he was explicitly not in favour of. The various contradictions in which Marshall found himself in trying to give a content to 'real costs' (as underlying 'the supply prices') independent of 'utility' (underlying the 'demand price') is a theme which I shall not explore in detail here. Without entering into technicalities, I may remark that the difficulties reflected the basic irreconcilability of the material costs of production view of Ricardo and the utility-based approach of Jevons.39

39 When I was working on the Marshall Papers, Piero Sraffa drew my attention to these contradictions; for example, Marshall appears to have treated wages, at times in the classical tradition as material sustenance of labour, and at others as a compensation or an inducement for 'efforts and sacrifices'. The two interpretations imply very different viewpoints. Yet another logical trap into which Marshall was led is the treatment of rents. Marshall adhered to the Ricardian view of differential rents and supported the contention that rent does not enter price. However, the theory of rent in Ricardo had arisen in the context of explaining distribution, where land was taken to be scarce for the community as a whole. In Marshall's partial equilibrium frame, land could not be scarce (in the economic sense) to an individual producer who could, by paying the requisite price, acquire land for his use. Thus, the 'supply price' of the individual producer could not have excluded rent payments. Moreover, Marshall's attempt to rationalize profits, by looking upon them as necessary compensation for the capitalist's 'waiting', on a par with wages for the efforts and sacrifices of the worker, had the natural consequence that, on similar grounds, rents would also have to be sym-
THE EQUILIBRIUM THEORY

Recognizing the difficulties in the direct estimation of ‘real costs’, Marshall suggested a circuitous route. He proposed that the real costs to each individual could be measured by means of the monetary inducement required to call forth the exertions. Wages, so interpreted, were placed in the production process altogether differently from what the classical authors had envisaged. In this Marshallian version, wages, as much as profits, were ‘inducements’—both paid out of product as rewards. Both capitalists and labour were thus induced to contribute to the productive process in the hope of being rewarded, and thus the anticipation of payment to capitalists is as much an essential requisite for initiating productive activity as are the payments of wages to workers. What is more important, the necessary inducements are to be measured and aggregated in terms of the money value of the ‘inducement’ actually paid out. Such a measure of ‘real costs’ in terms of actual money payments (like measurement of utility in terms of the prices an individual is willing to pay) would have been tautological, the argument being: what is actually paid out is what is necessary to be paid in order to induce the sacrifices, or else, the services would not be forthcoming.

With all these vexing problems, and many more, Marshall finally, without explicitly discussing the difficulties encountered, steered towards the ‘money expenses of production’ facing the individual producer as the basis of his ‘supply price’. The many logical traps into which Marshall’s formulation of the supply curve fell have been rigorously and thoroughly exposed by Piero Sraffa in his well-known paper ‘The Laws of Returns under Competitive Conditions’, and I need not repeat those arguments here.

The equilibrium theory: technology-based production and preference-based consumption

In these attempts at reconstruction of theory, particularly those of Jevons and the Austrians, the opposition to classical theory was transparent and explicitly stated. So were their

metrically treated as essential payments or a component of costs of production. The Austrians, adhering to the more general principle of opportunity costs applied to all resources, were more consistent in this regard.

radical departures in conceptualization. The form in which the alternative theoretical system has finally consolidated its ground and produced, as indeed it is still doing, a number of highly sophisticated developments, is the general equilibrium school of theories, notably of Walras and Wicksell.\footnote{Among the progenitors of the general equilibrium models, two names stand out: Leon Walras, Elements of Pure Theory, translated by W. Jaffe (Clifton, N.J., 1925); and Knut Wicksell, Value, Capital and Rent (1893) and Lectures on Political Economy (1911). Wicksell drew much inspiration from Böhm-Bawerk's works, although in trying to work out many of the propositions in a general equilibrium framework, he made original contributions.} In these, on the production side are presented technological possibilities in the form of a set of feasible technological transformations between given supplies of 'factors of production' (including labour and capital) and products. Counterpoised on the demand side are the feasible consumption choices of individuals based on their autonomously given 'scale of preferences'. Under a number of stipulations on the production and consumption sets and no externalities, the existence of an equilibrium price system is established.\footnote{See, for a lucid presentation, T. C. Koopmans, Three Essays on the State of Economic Science (New York, 1957).} A symmetry thus obtains among all factors of production and their rewards are uniformly determined as a part of the general pricing process—each factor being paid in accordance with its exclusive contribution to the product. In Wicksell's general equilibrium formulations, the allegiance to the Austrian school is closer and explicit. Even in the general equilibrium system of Walras, the idea of 'imputation', that the valuation of the producer's goods is to be derived from that of the consumer's goods, remains implicitly, though not in the obvious form which Menger and the Austrians gave it. Walras himself stressed this presumption when he wrote: 'Though it is true that productive services are bought and sold in their own special markets, nevertheless the prices of their services are determined in the market for products.'\footnote{Leon Walras, op. cit., p. 422.} The symmetry among the factors of production and the determination of distribution as well as prices of products on the uniform principle of supply and demand equilibrium characterizes the general equilibrium system.
CONCLUSIONS

In the next lecture I shall have more to say about some of the methodological implications arising from the framework of the supply and demand theories, especially in their traditional formulations, which were concerned explicitly with problems of distribution as well as pricing.\footnote{In some recent developments of equilibrium theories, the claim to explain distribution has been given up, the theory being avowedly designed only to explain price formation. In some models, the notion of long-run equilibrium has been displaced by short-term equilibrium, explicitly in order to get away from certain difficulties in establishing the uniformity of the rate of profit in a multi-capital-goods system. Recently, in some models, attempts have been made to abandon the approach of demand and supply \textit{schedule} altogether, which signifies a new definition of equilibrium. In all these, much sophisticated mathematical artillery is being brought into play. However, there are grounds to believe that the level of sophistication and abstraction may have been accompanied simultaneously with a shrinkage of the area of meaningful problems.}

To conclude

In this lecture I have attempted to trace the beginnings of the supply and demand theories, focusing on some of their distinctive features which stand out in contrast to the viewpoint of classical political economy. Briefly, the following emerge as salient points:

(a) The new theories introduced through their characterization of the productive process and their concept of ‘costs’ a symmetry among all the revenue categories and offered a uniform explanation of ‘factor-rewards’.

(b) The theory of price itself subsumed the theory of distribution in the sense that both product and factor prices were explained by the same processes, equilibrating demand and supply.

(c) The ‘individual’ making optimizing decisions in response to prices emerged as the basic unit of analysis.

(d) A formal and apparent symmetry was introduced in the roles that production and consumption play in determining prices. This introduced, prominently, considerations of individual subjectivity; for ultimately consumption provided not only the \textit{raison d’être} for production but also the basis for determining factor-rewards; while consumption was itself explained on the basis of utility maximization by individuals, guided essentially by relative prices, the system of preferences of the individual was taken as foreknown.
(e) Analysis shifted prominently to the sphere of circulation, or exchange; both, the determination of all the quantities and of distribution, being subsumed under the general theory of relative prices, the latter came to acquire analytically the key role as a driving force behind change.

The last two points will appear in greater detail in the subsequent discussion.
LECTURE TWO

The Shift to Supply and Demand Theories:
Some Methodological Implications

In the previous lecture I presented a synoptic account of
the analytico-historical background of the rise of the supply
and demand theories and the shift they brought about to
a different set of conceptual categories, introducing a symmetry
in the treatment of distributive revenues, particularly of wages
and profits. Now I shall draw out some analytical and methodo-
dological implications of the new theory. The general line of
argument I shall aim to develop is, first, that the supply and
demand theories adopted a theoretical approach which is
restrictive in its ability to incorporate the complex nature and
variety of forces that act on the determination of distribution,
of methods of production (feasible and in-use), of the level and
composition of output and consumption. The limitations arise
from the very structure of the theory and hence are internal to
its construction. These limitations are reflected in the require-
ment of the theory that the relevant ‘demand’ and ‘supply’
functions are ‘well-behaved’ in order to ensure the existence
and stability of the equilibrium they determine. Secondly, in
meeting this requirement (of ‘well-behavedness’) a number of
logical difficulties arise, jeopardizing the internal consistency
of the theory, as will be evident from some of the instances.

As a contrast, I shall argue that the classical theory of value
and distribution is so structured as to permit the considera-
tion of a wider variety of conditions under which changes in dis-
tribution, methods of production and output are observed to
take place. It is not bound by the need to stipulate, in the
interest of internal consistency, restrictively specific ‘well-
behavedness’ of the relations between quantities and prices
as in the case of the demand and supply functions. The classical
structure, therefore, allows greater possibilities of taking theoretical cognizance of historico-specific conditions within which such changes occur.

Here let me clarify the particular context in which I treat the question of change. I have concentrated mainly on the analysis of value and distribution and the generality of the theory that I speak of in this context is indicative of the potentialities of that theory to analyse the historical processes of accumulation, as evidenced in Marx. If I have focused on the value-distribution questions, it is primarily due to two reasons: first, the analysis of distribution, and hence of value, is the foundation on which the theories of accumulation and related problems rest. This is so in classical political economy as well as in supply and demand theories. The crucial differences in the structures of the two theories are best revealed at their bases. Secondly, the supplantation of classical theory, as noted in the last lecture, began, not surprisingly, from the challenge thrown to the classical theory of value and distribution. The kingpin of the supply and demand theories is the explanation of relative price; distribution, considered as ‘pricing of the factors of production’, is subsumed therein. As such, the value question provides the common ground for comparison, as well as a point of departure, for the two approaches.

Salient features of the classical theory of value

The classical analysis of value was carried out in terms of certain conditions adopted as data for the problem at hand. It was assumed, though not always explicitly, that social output levels and the methods of production in use are ‘given’. A

---

1 If one may, at the cost of some simplification, distinguish between the qualitative and quantitative aspects of change, it may be said that the changes in inputs, outputs, consumption, etc. that the supply and demand theories primarily deal with are of a quantitative nature; it is the absolute magnitudes and the rates of growth of these that the theory mainly occupies itself with. Marxian political economy, in particular, addressed itself also to problems of historical transitions in production relations, which may be characterized as ‘qualitative’ changes. In fact, the analysis of the accumulation process therein comprehends not only a theory of quantitative changes that would occur within a mode of production, but also indicates the forces in operation that would point to the quantitative changes being transformed into qualitative ones. Here the focus of my discussion is on the quantitative aspects of change which are immediately relevant to the value determination question.
certain tendency towards a uniformity of the wage rate and the rate of profit was stipulated as a characteristic of competition. The real wage rate was taken in most cases as given although there was no consensus among them as to its determinants. In Adam Smith, wages were influenced importantly by the relative bargaining strength of 'masters' and workers. What are common wages of labour depends everywhere upon the contract usually made between these two parties whose interests are by no means the same. The workmen desire to get as much, the masters to give as little as possible. The former are disposed to combine in order to raise, the latter in order to lower, the wages of labour. It is not, however, difficult to foresee which of the two parties must, upon all ordinary occasions, have the advantage in the dispute and force the other into compliance with their terms. Hence, wages, he maintained, may usually settle down at the subsistence level. For Malthus, the wages were determined by the physiological minimum for survival, the 'population dynamics' working to hold them down at that level; in Ricardo they were determined 'essentially' by the 'habits and custom' of the people; for Marx they were determined by historically given circumstances, including the changes in the 'reserve army of labour' brought about in part by the capitalists' policies designed to keep wages low.

The exchangeable value or 'prices of production' are such as to be consistent with the postulate of the uniformity of the rate of profit. The rate of profit and prices are determined uniquely once the real wage is specified. It must be noted here that social output and methods of production were provi-

---

8 'His [the labourer's] means of subsistence must therefore be sufficient to maintain him in his normal state as a labouring individual. His natural wants, such as food, clothing, fuel and housing, vary according to the climatic and other physical conditions of his country. On the other hand, the number and extent of his so-called necessary wants as also the modes of satisfying them, are themselves the product of historical development, and depend therefore to a greater extent on the degree of civilization of a country, more particularly on the conditions under which the class of labourers has been formed.' Marx, *Capital*, Vol. 1, p. 171.
essionally taken as data for the value problem in classical political economy in recognition of the fact that the determinants of these were diverse and not explained exclusively on the basis of relative prices or within the scheme of abstraction adopted to work out the value question. Hence, the phrase 'given' must not be read as 'fixed' or 'invariant'. This caution is necessary since such an interpretation is not uncommon. At a later stage I shall discuss the way in which general interdependence among consumption, production and distribution was visualized in the classical scheme.

An important distinction was drawn by classical theory between 'natural prices' (or 'prices of production') and 'market prices', on the basis of the qualitatively different forces acting on their determination. The former were considered to be long-term positions, determined, as stated above, on the basis of the persistent forces characterizing the competitive capitalist mode. Market prices or actual prices were, on the other hand, susceptible to be influenced by temporary causes and effects which were to be accounted as changes in demand and supply conditions. Natural prices were thus viewed as centres of gravitation around which market prices would fluctuate. As such, in the study of problems of distribution and accumulation, market prices received less prominence. It was natural prices, or prices of production and variations in them that were the centre of classical analysis.

Another distinction that emerges prominently in the classical analysis is between absolute value and relative (or 'exchangeable') value; the former indicates, as evident from the term, the absolute level of the value of a commodity, while the latter represents the value of one commodity in terms of another. The supply and demand theory was to limit the purview of its price theory entirely to the latter concept. The labour theory

9 'Having fully acknowledged the temporary effects which, in particular employments of capital, may be produced on the prices of commodities, as well as on the wages of labour, and profits of stock, by accidental causes, without influencing the general price of commodities, wages or profits, since these effects are equally operative in all stages of society, we will leave them entirely out of consideration, whilst we are treating of the laws which regulate natural prices, natural wages and natural profits.' (David Ricardo, *Principles of Political Economy and Taxation*, pp. 91–9). See also Adam Smith's discussion of 'Real and Nominal Price' in *The Wealth of Nations*, Vol. 1, Chapter 5.
of value afforded a quantification of the 'absolute value' of a commodity as well as of relative values. To Ricardo, the natural price of a commodity measured in terms of an invariant standard defined its absolute value. With the disappearance of the concept of absolute value in the later supply and demand theories, a question that occupied the classical authors, namely, how do we know, when two commodities change in value, which has so changed and to what extent, was eliminated altogether. This question was particularly important in the context of their distribution theory as well as in the analysis of technical change and of monetary issues.

Shift to supply and demand theories

The supply and demand theories erected a new structure for the explanation of value and distribution. With 'given' quantities of 'factors of production', feasible ways of transforming these into products, and given individuals' tastes and preferences, a set of equilibrium prices for factors and products resulted from the interplay of forces of demand and supply. (Certain conditions are stipulated to guarantee the existence and stability of the solution to the simultaneous mathematical system yielding relative prices.)

The shift to supply and demand theories yet retained the significance of 'long period' positions as distinct from the 'short period'; the tendency towards a uniform rate of profit and wage was retained. However, market prices became synonymous with 'short period' prices and 'natural prices' with 'long period' prices; the main theoretical shift being that both were now represented as values attained in equilibrium through the balancing of symmetrical but opposite forces of supply and demand, only under different conditions. Further,

7 See, for example, Marshall's statement: 'The actual value at any time, the market value as it is often called, is often more influenced by passing events, and by causes whose action is fitful and shortlived, than by those which work persistently. But in long periods those fitful and irregular causes in large measure efface one another's influence so that in the long run persistent causes dominate value completely.' Principles of Economics (1920), Vol. 3, p. 291.

8 Marshall, Principles of Economics (1920), pp. 378-9, where Marshall distinguished four classes of conditions, in each of which price is governed by supply and demand. The publication of the early writings of Marshall reveals that he had devised this scheme of periods as early as in 1870 or thereabouts, mainly in
the rates of both wages and profits were determined, like the prices of products, by the equilibrating forces of demand and supply for labour and capital respectively. Here I shall concern myself with only the ‘long period’ positions. Let me also reiterate that the discussion that follows would be understood best in the immediate context of neoclassical theory in its conventional or traditional form given it by Marshall, Wickel and Walras rather than in the more recent versions that are under construction.9

Potential change—a requisite of equilibrium theories

We may begin with the observation that the definition of equilibrium (or ‘normal’) value as attained by the mutually interacting, opposite and equal forces of demand and supply rests on a certain notion of change as an essential prerequisite. This is pointedly expressed by Piero Sraffa in his preface to Production of Commodities by Means of Commodities, which he wrote both as a prelude to a critique of the marginalist (supply and demand) theory and as a return to classical theory. “The marginal approach requires attention to be focused on change for without change either in the scale of an industry or in the proportions of factors of production there can neither be marginal product nor marginal cost. In a system in which, day after day, production continued without change the marginal product of a factor (alternatively the marginal cost of a product) would not merely be hard to find, it just would not be there to be found.”10

To elucidate: the ‘long period normal’ prices (like prices of production in classical theory) refer to a single position of the economic system that is being ‘observed’. In trying to ‘explain’ price in terms of equilibrium of supply and demand, the equilibrium theories describe the properties of the system as observed (or as ideally observable) at that position in terms of theoretical stipulations on the ‘marginal magnitudes’, relating to ‘potential’ or hypothetical changes in the system, albeit

---

9 See note 44 to Lecture One.

defined 'in its neighbourhood'. Thus, a statement about one position (at equilibrium) is tied up with a theory specifying in exact terms the behaviour of the system under 'change' away from that position, even though these variations may be considered 'hypothetical' or theoretically confined to the infinitesimally small (or to points 'in the neighbourhood'). It is in this sense that for the equilibrium theories change becomes an essential requisite. The prices of production in the classical theory, in contrast, do not posit and therefore do not depend for their stipulation upon the postulate of actual or 'potential' change. If I may draw upon a somewhat rough analogy to illustrate the difference between a description of relations within a given system that do not depend upon change and a description of those that so depend, I may refer to the difference between propositions in geometry and those in mechanics: the former are statements concerning given positions in space, the latter postulate movement, whether actual or potential. The equilibrium theories follow the latter method. (Incidentally, it may be noted that the methodological resemblance between equilibrium theories and the science of mechanics is not at all accidental. Even the terms 'equilibrium', 'statics' and 'dynamics' were used consciously as suggesting analogies with particle mechanics.\textsuperscript{11})

What is of further consequence to my discussion here is that despite the emphasis that was placed, particularly by Marshall,\textsuperscript{12} on the validity of the economic propositions used in defining the equilibrium position, strictly within the neighbourhood of the equilibrium, economists, including Marshall himself, used stretches of the supply and demand curves, moving freely up and down the curves. To give but one

\textsuperscript{11} One has only to look through the prefaces of Jevons's Theory of Political Economy, and Cournot's Mathematical Principles of the Theory of Wealth to appreciate the influence of mechanics as a method. Marshall's rather repetitive disclaimers concerning the mechanical approach and preference for 'biological methods' remain rather ineffective, since his main propositions continued to be derived from mechanistic premises and his discussions of the evolutionary aspects of economic dynamics were peripheral and not integrated within his more rigorous theoretical framework.

\textsuperscript{12} See, for example: 'Our list of demand prices is therefore highly conjectural except in the neighbourhood of the customary price' (Principles of Economics, p. 133): Also, cf. Pure Theory of Domestic Values (London, 1939) by the same author.
example: Marshall suggested the concept of consumers' surplus and, symmetrically, producers' surplus—which required integrating over whole stretches of the demand and supply functions, respectively. Thus the 'potential' changes acquired a predictive content which was stretched beyond the legitimate frame of reference.

Furthermore, to describe the equilibrium position and to guarantee its existence, uniqueness and stability, certain conditions on the supply and demand functions became necessary as to their mutual independence and their slopes and curvatures. And this is the point I wish to emphasize here—that all these functional relations and the restrictive conditions imposed upon them as being necessary for validating the theory implied that only certain types of changes in the economic system were permissible as being consistent within the purview of equilibrium theory. That is to say, the theory could retain its validity and internal consistency when the actual changes would conform to such changes as characterized a priori by the theory.

Now I shall first illustrate, by an example from economic theory, the distinction between propositions about an observed state depending on change and those which do not. Next, I shall discuss some of the logical difficulties that arise in ensuring that the demand and supply relations obey the rules of 'normal behaviour' that internal consistency of the theory demands. I shall then go on to present the framework in which the classical theory of value is cast and argue that its openness permits it to handle a wide variety of changes. I hope the arguments made here in a rather abstract fashion will emerge more clearly as I elaborate them with the help of specific examples.

An example: 'extensive' and 'intensive' margins

An example that illustrates the difference between economic relations within a system that do not depend upon change and those that do, is the celebrated one of the distinction between 'extensive' and 'intensive' margins in cultivation. This example is also of particular significance as it indicates the course by which the fundamental methodological shift from classical theory to equilibrium theory took place and how the case of
the diminishing marginal returns on land provided the junction at the cross-roads of the two theoretical systems. In fact, it was used as the connecting link by those like Marshall who hoped to smooth out the transition and present the new theory as essentially maintaining a continuity with, while making definite advances over, the old. The classical theory of differential rents was mainly proposed as a part of the theory of distribution, to explain 'rents', and not in the context of the discussion of value. It rested predominantly on the idea of simultaneous cultivation of lands of different fertilities or qualities. No doubt the 'intensive' case—namely, the application of successive doses of capital and labour to the same piece of land—was also referred to, but it was referred to with some hesitation. When lands of different quality are cultivated side by side so that, say, in a photographic view, all the lands are observed to be simultaneously in cultivation, the differential productivities of land and the rents arising therefrom can be directly worked out on the basis of the single observed situation. The 'no rent' (later named 'marginal') land is identifiable in that situation as distinct from those producing surplus. (The question whether classical theory required a priori ranking of fertilities of land, independently of distribution, is not raised here. Sraffa's treatment of land shows that no such presupposition is called for.) The case of the 'intensive' margin is different; the marginal...


14 See Sraffa, Production of Commodities by Means of Commodities, Chapter 11, pp. 74-81. Sraffa considers lands of different qualities; the 'scarcity' of land is evident only through the simultaneous existence under competitive conditions of different processes of production, with different cost conditions. No a priori ranking of 'productivity' of lands is presumed. The only assumption that is made is that there exists no-rent land. Which of the lands would emerge as no-rent land, as also the relative ranking of lands according to rent, is dependent upon distribution, i.e. the rate of profit. The merit of Sraffa's treatment of rents in the classical scheme lies in the fact that many of the criticisms of the classical theory based on the presumption that it requires a priori ranking of lands, as well as the well-entrenched notion that the 'law of diminishing returns on land' is crucial for the classical theory, are demonstrated to be erroneous. The importance of the demonstration, particularly in rejecting the latter notion, can be appreciated when it is realized that the law of diminishing returns was the thin end of the wedge by which marginal analysis was introduced and generalized.
product here refers to the incremental return to an additional dose of ‘labour and capital’, applied to a given area of land. In order to be identified, the ‘marginal output’ requires a quantitative change in the situation. In a still photograph, for example, no specific dose of ‘labour and capital’ can be identified as a marginal one for the simple reason, as Wicksteed pointed out, that it is not the quality or the nature of the incremental dose—in fact, all ‘doses’ are taken to be homogeneously constituted—that explains the difference in additional output but its ordered position in successive applications, and there can be no succession without movement (increase or decrease). At any moment of observation, no dose is distinguishable from any other. No ‘marginal product’ can, therefore, exist in this case without introducing potential change. Wicksteed, in fact, distinguished between the two differential rents under these two situations and condemned the use of the term ‘margin’ in the case of qualitative differences in lands as ‘dire confusion’ and as ‘spurious’. His contention was that the concept of margin appropriate to the equilibrium theories was one where output was functionally related to the number of doses of investment. His objection to the ‘extensive’ cultivation case was that the ‘diminishing returns’ there was an outcome of arranging lands according to declining fertility and hence amounted to a ‘descriptive’ account rather than a ‘functional relation’. The ‘intensive’ case, he believed (although erroneously), characterized such a functional relation. I shall return to this question later.

Generalized notion of the margin

In the accepted theory, however, the already familiar notions of ‘extensive’ margin and the ‘differential products’ on different lands under simultaneous cultivation were extended to the case of ‘intensive’ margins. This in turn provided the ground for the more general theory relating, functionally, the factor proportions to relative factor prices. This was extended to all

18 ‘The Ricardian law of rent is the first great example of the marginal method later to become the keystone of the entire Austrian system of economic theory’,
branches of production including manufacturing and to all factors of production including capital. Thus, for example, as a general proposition, 'capital intensity' in production came to be considered as inversely related to the rate of profit. Thus the theory concerning changing factor-proportions greatly facilitated the building up of a symmetry among the factors of production. It also helped to build up a symmetry between production (or supply) and consumption (or demand), as we shall indicate in what follows.

**Symmetry between production and consumption**

The symmetry between production and consumption emerged in the form of functional relations between quantity consumed and utility on the demand side and quantity produced and cost on the supply side. Classical economists did not, and did not need to, conceive of such strict functional relations. In their view, while utility was considered a necessary attribute for a commodity to possess exchange value, the 'cause' and the 'measure' of value were sought to be explained in terms of the conditions of production alone; they did not conceive of the utility-based demand function. As to their treatment of consumption, we shall have occasion to make a few observations later. The demand function in the equilibrium theories rested on almost a 'self-evident', 'fundamental and universal' principle, as Marshall called it, formalized as the law of diminishing marginal utility. Assuming that the individual, seeking maximum utility, arranges all the possible uses of a commodity in the descending order of their utility to him (the world of commodities and their possible uses being finite and fully known to the individual), and further assuming that the consumption of successive units of the commodity in the same use give him diminishing utility, it was simple to deduce that the individual will allocate his limited resources among commodities and their uses, moving down the utility

---

18 Marx comments: 'In bourgeois societies the economic *fictio juris* prevails, that every one as a buyer possesses an encyclopaedic knowledge of commodities' (*Capital*, Vol. 1, p. 36).
curve in each use so as to equate marginal utilities obtainable per unit of his resource all along the line. In equilibrium the relative prices would thus stand in proportion to the relative marginal utilities of the goods he purchases. Given all the behaviouristic premises of rationality and the fact that the utility of a good to a consumer could only be expressed in terms of the price he was prepared to pay for it, the theory provided very little scope for being challenged on grounds of internal inconsistency.

The generalized law of diminishing returns

A symmetrical functional relation between output and costs was attempted to be constructed on the supply side. That the case of intensive margins on land and the formalization of it in terms of diminishing marginal returns on land provided the ground for its extension to all other ‘factors of production’ is evident from some of the citations I furnish here. Jevons, who was so critical of Ricardo’s system and announced its foreclosure once and for all, had only this commendatory epitaph: ‘There are many portions in economical doctrines which appear to me as scientific in form as they are inson consonant with facts. I would especially mention the theories of population and of rent, the latter a theory of distinctly mathematical character which seems to give a clue to the correct mode of treating a whole science.’\textsuperscript{110} Marshall was even more explicit. While discussing the law of satiable wants or of diminishing utility, he comments: ‘This law holds a priority of position to the law of diminishing returns from land, which, however, has the priority in time: since it was the first to be subjected to a rigid analysis of semi-mathematical character. And if by anticipation we may borrow some of the forms, we may say that the return of pleasure which a person gets from each additional dose of a commodity diminishes till at last a margin is reached at which it is no longer worth his while to acquire any more of it.’\textsuperscript{120} The intensive margin case, formulated as the law of diminishing marginal returns, was extended to all cases of production, the supply function being now enunciated in the general form as


a functional relation between output and cost. However, while on the demand side the functional relation appeared to be ‘elementary and natural’, the supply function on the production side was based on a much more complicated system of hypotheses. The successive logical difficulties that challenged the internal consistency of such a construction have ultimately compelled the theory to treat certain (convexity) properties of the function as minimum assumptions for validating existing economic theory.

Construction of the supply relations: some logical problems

In production, the relation between quantity produced and cost could be seen to be much more complicated. First of all, it was obvious that in many branches of the industry, with increasing output, the cost per unit was noticed to decrease. This was the case of increasing returns to scale which created a whole host of difficulties for the equilibrium theory. One reason for such decreasing unit cost could be the indivisibility of fixed equipment, etc. (i.e. economies internal to the production unit), so that with increasing output the overhead fixed costs get more thinly spread over output. The persistence of such decreasing costs could jeopardize the existence of ‘competitive equilibrium’ for it is obvious that in a situation where the producer can sell output at a constant market-determined price (i.e. the demand curve for him is infinitely elastic), very soon the entire market would be monopolized by such a firm. Therefore, no firm could have a supply curve that was persistently downward sloping all through. Barring such persistent internal economies, there could still be economies arising from the general technical advances that affect a number of industries. In fact, classical economists always associated advances in industrial technology and cheapening of products with accelerated accumulation and the general ‘progress of the economy’. This meant, however, that the causes of in-

---

22 Adam Smith looked upon specialization and division of labour as an important source of technical improvements as well as a necessary condition for continued accumulation. Marshall devoted much space in his early work, *Pure Theory of*
creasing returns (decreasing costs) were not to be restricted to the technical conditions of any individual industry but would be connected with a whole group of interrelated ones and that the unit cost in an individual industry could not, therefore, be treated as dependent upon its level of output alone. The presence of such interconnectedness, or what was called 'externalities' (mark the term), created certain logical difficulties. For ensuring the equilibrium of the firm and generating a supply curve for the industry, only such externalities as were 'external to the firm' but 'internal to the industry' could be accommodated. But these were precisely the type that would have been difficult to find. The assumptions that there are economies external to the firm but internal to the industry solved the problem in the same sense as the slum problem is supposedly solved by redefining the boundaries of a city or by compelling the slums to be relocated outside the boundaries of decent localities.

Furthermore, there were problems connected with the irreversible character of such changes. The economies once achieved through such general economic progress could hardly recede even if the output of the individual industry were to decline. This implied, as Marshall noted, that one could not move forwards and backwards on the same supply curve which the determination of equilibrium required: '...if the process by which a ware is manufactured be of such a nature that an increase in the scale of production within certain limits causes great additional increased economies to be introduced into the manufacture, then the supply curve for the wares between these limits will require some special treatment.

Domestic Values (London, 1930), to the causes of increasing returns; he viewed localization and geographical conglomeration of industries as an important cause.

See Marshall, Pure Theory of Domestic Values, pp. 7-8. Also Appendix H to his Principles of Economics (1900).

The controversy on the laws of returns was initiated by J. H. Clapham, 'On Empty Economic Boxes', and A. G. Figou's reply in Economic Journal, 1922 (reproduced in Readings in Price Theory, A.E.A. Series, 1953). The thorny problem of increasing returns and whether Marshall's construction of the 'representative firm' could be a way out was taken up by L. Robbins, D. H. Robertson, G. K. Shove and P. Sraffa in a Symposium in the Economic Journal, 1937. The discussions made it evident that the case of increasing returns was generally incompatible with the logic of the Marshallian system.
DIMINISHING RETURNS

After the occurrence of such an event, the curve must be, partially at least, drawn again. Following such advice would, however, have turned the supply curve into a 'historical' curve; what is required for equilibrium analysis, however, is not a historical curve which describes the events \textit{ex post facto} but a predictive relation between supply and price which, together with the demand curve, will determine prices in equilibrium. The serious difficulties the construction of the supply curve got into can be gathered from Marshall's manuscript notes on Pigou's book, \textit{Wealth and Welfare}, expressing grave misgivings about the use of the long-period supply curve made by Pigou to deduce certain welfare propositions in that work.

Thus, the possibility of increasing returns created a number of logical problems for equilibrium analysis, by jeopardizing the assumption of competition, by challenging the meaningfulness of industry (or a firm) as a unit of analysis and by endangering the mechanistic premises of 'reversibility' on which the propositions concerning 'equilibrium' and its stability rested. There is ample evidence that for some time the phenomenon of 'increasing returns' created considerable unrest in the world of economic theory. In the micro-theory of the firm a workable solution was attempted via the theory of 'monopolistic competition'. However, an easier way out was adopted, especially in economy-wide models, by assuming away increasing returns altogether, postulating 'convexity' conditions on technology.

\textit{Diminishing returns: a 'technical relation'}

An impression gathered over time, possibly suggested \textit{by} the commonsense case of diminishing returns on land (that is, by the fact that if more and more inputs are applied to the same piece of land the average yield is bound to diminish sooner or later, or else the whole world's population could be fed on a single plot of land), that increasing costs are a tech-


$^{27}$ See the discussions 'On Empty Economic Boxes' and the 'Representative Firm' in the \textit{Economic Journal}, and Piero Sraffa's seminal paper on the laws of returns, cited earlier.
nical phenomenon, and hence are based on sound, objective grounds. However, in the case of ‘increasing costs’ or ‘diminishing returns’ too, there are considerable difficulties. Talking of the symmetry between diminishing marginal utility and decreasing returns Marshall states: ‘The tendencies of diminishing utility and of diminishing return have their roots, the one in qualities of human nature, the other in the technical conditions of industry.’ Sraffa questions that apparent dichotomy: ‘Is it not very strange that two such heterogeneous elements as human nature and industrial technology should bring about results so similar? And, it is not just a question of comparing two single cases: it is even more improbable that these “technical conditions” causing decreasing productivity of the successive doses of a factor applied to a constant factor should be alike in a large number of very different industries and even in the “production” of utility through the consumption of goods.’ Sraffa’s answer to this is that the resemblance arises from their reliance on a certain underlying behavioural premise rather than from any ‘technical condition’ common to all. Both diminishing utility and diminishing returns to a variable factor presuppose the operation of the principle of substitution when the individual, optimizing his returns, chooses among the variety of independently defined alternative uses to which resources can be put. The consumer, given his budget resources, ranks the alternative consumption possibilities according to their yield of utility. So does a producer analogously rank the alternative possibilities in which the variable resources can be utilized according to their return. This ranking of the alternative uses does not arise from material or technical necessities owing to which the uses must necessarily follow in that sequence. It is an arrangement resulting from the producer seeking maximum return. To take an example, suppose doses of ‘capital and labour’ worth a certain amount are being applied to land and can have feasible uses A, B, C, and that the producer ranks the alternative uses according to a descending order of the return they yield. Then the producer would first exhaust the choice that gives him the highest return.

and then move down the scale of uses; the operation of the principle of diminishing marginal returns would show clearly in his actions. Now such ranking, if possible, is not far different from ranking lands of different qualities, where the diminishing returns on separate plots of land emerges as a consequence of arranging the lands on the basis of their fertility ranking. In this sense diminishing returns is as much attributable to the human factor as diminishing utility, both involving an arrangement of ranking the alternatives according to their return. From this point of view, Wicksteed's distinction between 'extensive' and 'intensive' cases of cultivation (the former being a descriptive curve and the latter 'functional') which I mentioned earlier is not accurate, although the distinction is valid on other grounds, namely, that the extensive case does not depend upon change while the intensive case does.

The valuation problem

A logical difficulty arises once it is accepted that the ordering or ranking of production alternatives is not technically predetermined but is an outcome of the profit-maximizing postulate. For the calculation of return or profit involves valuation and, therefore, the ranking of the production alternatives cannot be independent of prices. One may construct examples of situations, as is done in textbooks, where diminishing returns is attributed a physical and tangible meaning. The ideal case is when a variable input (or an assortment of inputs of fixed composition) is applied (in a single use) in successive uniform 'doses' to a fixed factor (or factors) held at a constant level, producing a homogeneous product, and it is found that the successive 'doses' so applied have a diminishing productivity. A rise in the level of output, a homogeneous single product in this case, is accompanied by 'increasing costs' per unit. This depiction of the way methods of production and hence cost per unit vary with changes in the scale of output, generalized obviously from the case of the diminishing returns on land where land is taken as 'fixed', is too narrow a conception to warrant an extension to all forms of production where methods of production are complex and output is heterogeneous. It was against such a simplistic view that D. H. Robertson objected, illustrating his argument with that all too familiar example of
men digging with spades where the spades were taken as the fixed 'capital' factor, presumably to be held constant in order to arrive at the marginal product of an additional digger. The example was intended to illustrate how it may not be possible to hold the 'fixed' factor constant in physical terms so as to define the marginal product even if the 'product' were to be homogeneous. And if it was in a value sense that it was to be held constant then it would call for a change of 'form' of the capital good while maintaining its value, which naturally raises the question of valuation of capital goods. Moreover, the 'variable' factor that one talks of, like the dose of investment, itself often constitutes heterogeneous components and can take various physical forms. Hence, except under highly hypothetical experimental situations, 'increasing costs' following upon the increase in scale of output cannot be established on the analogy of a simple declining physical marginal product of the variable input but has necessarily to bring in the problem of valuation.

A logical difficulty within the partial equilibrium framework

In his 1926 article Piero Sraffa forcefully contested the logical basis of 'increasing costs' for an individual industry arising from the presence of a fixed factor, within the framework of Marshall's 'particular (or partial) equilibrium'. He concluded: 'The imposing structure of diminishing returns is available only for the study of the minute class of commodities in the production of which the whole of a factor of production is employed.' The source of the logical difficulty lay in the assumption that 'the conditions of production and the demand for a commodity can be considered, in respect to small variations, as being practically independent, both in regard to each other and in relation to the supply and demand of all other commodities.' However, in the great majority of cases this assumption becomes untenable. If the production of a particular commodity utilizes a significant part of a factor which is either available in a fixed quantity or whose availability can be increased only at a more than proportional cost, a small increase in the production of the commodity will increase both its own unit cost as well as the cost of other commodities which require the particular factor in their production. The conse-
sequent variations in their prices cannot but affect the demand in the industry concerned. On the other hand, were the commodity's use of the 'constant factor' to constitute only a small part of its availability, an increase in the commodity's output would have negligible effects on its costs, ruling out 'increasing costs'. Thus, 'increasing costs' could be logically consistent with the particular equilibrium of this industry only in the rare case where the industry is the sole user of a factor.

A logical problem in the general equilibrium framework

In the case of general equilibrium too, certain difficulties of a different kind could arise in presuming 'increasing costs'. With increasing output of any single industry and fixed supplies of factors in the economy, increasing costs would presumably arise via the change in the demand for factors and the consequent variations in their prices. This would be so, even when, technologically speaking, each industry may work under linear homogeneity or 'constant returns to scale' conditions. To illustrate in simple intuitive terms: suppose we begin initially with a situation where industry A has excess demand (reflected in a higher rate of profit) and its output consequently expands; while the reverse is the situation for industry B whose output shrinks. Under linear homogeneity conditions, with an increase in the output of A, demand for its inputs increases proportionately, while industry B releases likewise its inputs following the fall in its production level. So long as A and B have different methods of production (i.e. involving different combinations of factors), the factor which A uses relatively more intensively as compared to B would experience a relatively larger demand (not altogether offset by the release from industry B) and, given the supplies of the factors, a rise in its price follows. The converse would be the case of a factor which B uses relatively more intensively. This suggests that industry A's cost per unit would tend to increase with the rise in its output level. This, in fact, partly provides the intuitive basis to argue that the rates of profits in both industries would reach a uniform level in equilibrium.60 However, such a result may not necessarily

follow when the factors or means of production are themselves produced. For it is not only the direct means of production of industry $A$ and $B$ that are involved but the direct and indirect demands generated through the entire interdependent system of production so that the net effects on factor demands and prices could be contrary to what one would presume merely from looking at the direct means of production of the two industries experiencing change in demand.

*Productivity of resources dependent upon the sequence of uses*

Moreover, there are multiple uses to which ‘doses of variable inputs’ can be put, and here, as Sraffa points out, there is a difference between diminishing returns in extensive cultivation due to qualitative differences of lands and diminishing returns due to intensive cultivation. The productivity of investment on one piece of land would not generally depend upon the productivity of investment on another piece of land cultivated synchronously. However, in the case of intensive margin, the assumption of independence among productivities of different doses of investment applied to the same land (say, in ploughing, weeding, irrigating, etc.) may not be easily corroborated by experience. The ordering of different uses according to productivity would again be ambiguous (and not invariant) if the utilization of a dose of investment in one particular use affects the return to the ‘dose’ in the successive use. That is, if the return on any particular dose is affected by the past history of specific uses made of the preceding doses, then there would be no unique ordering possible on the basis of purely the number of doses. Or, in other words, the return in any particular use of a dose may not be determined irrespective of the past history of the utilization of other doses. For example, one could not presume what the productivity of the fourth dose could be without knowing how the previous three were utilized.

Thus, if indeed there is no material necessity for decreasing returns to occur as a ‘technical fact’, the supposition that the goods model of Walras it is not possible to ensure the uniformity of the rate of profit, starting with any arbitrary composition of capital goods.

---

PRODUC TIV ITY OF RESOURCES

producer's technical choices would be ranked, independently of distribution, according to an a priori descending order in terms of returns and that he would resort to these choices sequentially with an increasing scale of output, raises some thorny problems because of the difficulties of valuation when heterogeneous inputs, themselves produced, are involved and because of the technological interdependence of the effectiveness of the uses. The former difficulty is of economic logic while the latter involves technological facts.

In recent writings, in fact, the basis for the usual 'convexity assumption' has not been sought in empirical experience. Instead, it has been relegated to the status of an axiom. To quote Koopmans, 'Such [convexity] assumptions can lay no general claim to realism... Convexity can be used with some degree of approximation only in problems where the granularity arising from indivisibility of resources is unimportant. The case for strict convexity of production sets is in general very weak indeed. But in any case the principal reason for making a convexity assumption lies not in its degree of realism but in the present state of our knowledge... [It] enables us to state minimum assumptions for the validity of important parts of existing economic theory, thus helping to reduce this part of our knowledge of its logical and mathematical essentials.'

Very much in the same spirit of validating existing theory, certain other assumptions have also been incorporated to set aside irksome and difficult issues that the equilibrium method could not easily handle. Thus, for example, the assumption concerning 'absence of externalities' eliminates such influences as cannot be comprehended within the particular unit of analysis chosen or as cannot be internalized by the pricing process. Also, the assumption of the absence of direct interaction among the participants in the production and exchange processes except through the medium of prices implies that producers do not directly intervene in each other's decisions, nor do consumers interact in their choices. Each participant in the economic process makes choices entirely to optimize his 'objective function' on the basis of his initial resource position, the field of feasible choices defined autonomously for him, and prices given parametrically.

Logical difficulties in the explanation of distribution

In the equilibrium theory the same mechanism of supply and demand which determines relative prices is also used for explaining distribution. Thus the rate of profit and the wage rate are both determined by the supply of and demand for capital and labour respectively. In the case of capital, in particular, the construction of a 'demand function for capital', consistent with the requirements of the theory, has met with severe difficulties. In the economy-wide models, the usual data of the system are taken to be: the available quantities of primary resources (usually land, labour and capital), a given preference system defined over the final goods and the technology in the form of production possibilities relating inputs to outputs.\(^3\) A quantitative notion of capital enters both at the stage of defining availability of capital and in defining the production possibilities. In the aggregative versions of the model, capital in its aggregative form is denoted as a value-sum.\(^4\) However, capital goods are, themselves produced goods and as such it is not possible to talk about 'quantity' of capital independently of prices. To generate the demand function for

\(^3\) For a thorough treatment of the problem of capital in theories of distribution, classical and neo-classical, see P. Garegnani, *Capital in the Theories of Distribution*.

\(^4\) In Wicksell, while capital in the aggregate production function was represented initially by the 'average period of production' in his *Value, Capital and Rent*, and later by the absolute periods of production in his *Lectures on Political Economy*, Vol. 1, capital availability was specified alternatively as the sum of stored-up land and labour (over suitable periods) or as a value-sum expressed in terms of product. There are well-known difficulties in defining an average period of production independent of distribution (as pointed out by P. Sraffa in *Production of Commodities by Means of Commodities* and by P. Garegnani in *Capital in the Theories of Distribution*), when compound rate of interest and/or fixed capital are involved. While Wicksell partially solved the problem of giving a consistent measure of capital in the specification of the production function by resorting to absolute periods of production, the other difficulty remained, namely, with regard to defining the availability of capital which he did as a value-sum expressed in terms of the product. As Garegnani argues, this led to a circularity in his argument as the measure was no longer independent of distribution. In the neoclassical aggregate models of the later variety, capital is entered into the production function as well as in the resource constraint as a value-sum. This was the form in which it came under severe attack from Joan Robinson ("The Production Function and the Theory of Capital", *Review of Economic Studies*, 21 (1953–54), pp. 81–106), and opened up a controversy which has continued to date.
capital with the 'well behaved' properties, it is essential that the various methods of production (depicted by their capital-intensity, capital however measured) which would emerge as optimum at respective rates of profit maintain a monotonic inverse ordering with the variations in the rate of profit. By now, theoretical discussions have established that such a proposition cannot be maintained except under extremely restrictive conditions without violating the internal consistency of the theory. In the disaggregative version, à la Walras, capital appears in its physically heterogeneous forms as machines of different types, both in the specification of primary resource availability and in the depiction of production possibilities. However, in this case difficulties have arisen in ensuring the uniformity of the rate of profit, which is a requisite of long-run competitive equilibrium. Efforts to cope with the non-uniformity of rates of profit have meant replacing the 'long-run equilibrium' positions which distribution theory was mainly concerned with by short-period equilibria.

Here I will not pursue this theme in greater depth and in all its ramifications. The above rather quick review of the problems concerning the construction of the 'supply function' in general and the demand function for capital was intended to illustrate my basic theme that the essential requirements of the equilibrium theories with regard to the appropriate forms of the demand and supply functional relations have recurrently landed the theory in logical problems. Attempts to preserve the theory and its internal consistency have progressively led to adoption of an axiomatic approach and recourse to restrictive assumptions farther removed from observed facts. Assumptions such as a 'one-commodity world' or 'a community of identical individuals' have gained respectability through repeated usage. The problem areas that theory was supposed to cover have also been narrowly and progressively circumscribed.

---

37 See J. Kornai, *Anti-Equilibrium* (Amsterdam, 1971). One can also note the conspicuously increasing use of subjective notions like 'impatience', 'risk', 'time-preference', defined for individual participants in the economic process.
'Interdependence' in the classical analysis

How did classical political economy envisage interdependencies in the economic system? The brief sketch of value determination I presented at the outset may convey an impression that they operated within a narrow, restricted domain where a number of economic variables (methods of production, output) are taken as 'given'. In fact, later equilibrium theorists have attempted to present the classical prices of production as a particular and hence a special case of the general equilibrium under conditions where the 'non-substitution' theorem applies, namely under conditions of no joint production, a single primary factor and a constant returns-to-scale technology. This presentation, however, misses the fact that the classical value problem was worked out in a framework of economic interdependence between production, consumption, distribution and exchange very different from the quantity-price relation basic to the equilibrium framework. It is in Marx that we find the most explicit statement concerning the interrelation, and in what follows I shall draw mainly upon his ideas.

Relation between consumption and production

First, let us view the relation between consumption and production. As already noted, in the equilibrium theories, in order to explain price as determined by the balancing of opposite and symmetrical forces of demand and supply it was essential to treat them as independent of each other. This was achieved by seeking the foundation of demand in individual preferences and that of supply in independently stipulated technology. The final goal of production activities is consumption and hence consumption guides production. However, while the individual consumer, optimizing his satisfaction, is guided by his autonomously given scale of preferences, his

---


budgetary resources and the prevalent relative prices, the individual producer is similarly guided by the independently defined technological alternatives and the vector of relative prices. No such independence of supply and demand relations was called for in classical theory. Marx clearly saw the relation between production and consumption to be two-way: 'There can be no consumption without the prior availability of objects of consumption, while at the same time, without the existence of the consumers of the product there can be no production.'

Marx explicitly recognizes that the 'need' which the consumers feel for the object is quite often induced by its perception and hence production, by making products available, creates the demand for them. This is quite evident in the advertisement-ridden world in which we live, where 'new' products are introduced daily to the consumers and the 'hidden persuaders' are ever active.

In the classical theory the links between production and consumption are analysed in a wider scheme than the one for the explanation of relative prices. Within the surplus analysis, the categories of consumption and production themselves acquire a different connotation: a part of production, namely, the means of production and the wage goods, constitutes 'productive consumption', while the worker's consumption is sometimes treated as an activity producing labour-power. What is important, especially in Marx, is the dominant role played by the historically evolved conditions of production in determining the level and character of consumption—the objects of consumption, the manner of consumption and the consumer himself. 'Whether production and consumption are viewed as the activity of one or many individuals, they appear in any case as moments of one process, in which production is the real point of departure and hence also the predominant moment.'

Production not only furnishes the objects of consumption, but, in addition, it also gives consumption a specific character, by developing a mode of consumption. 'Hunger is hunger; but the hunger that is satisfied by the cooked meat eaten with knife and fork differs from hunger that devours raw meat with the help of hands, nails and teeth.' The level and composition

---

40 Ibid., p. 92.
41 Ibid., p. 94.
of consumption, therefore, is determined by a wider set of historical and social forces, closely connected with the development of forces of production.

The basically 'social' nature of consumption is reflected in the fact that classical writers hardly discussed an isolated individual's demand or consumption. The introduction of 'new commodities' arising as the effects of rapid accumulation and trade, the influence of customs, habits, new 'fashions' and such others were the important elements in their analysis of consumption. Moreover, it was 'wage goods', 'landlords' consumption', 'capitalists' consumption' that they focused on, taking explicit account of the socially prevalent norms of consumption among social classes and the important influence distribution and accumulation had upon the relative fortunes of these classes. The shift to an analysis of consumption choices of isolated individuals in equilibrium theories is but one example of the centrality of the individual rather than class as an analytical category.

Absence of the 'demand function'

As in other issues, Marshall was aware of the shift of emphasis away from production and of the new view involved in introducing demand (or consumption) on a basis of symmetry with supply (or production). 'Until recently the subject of demand or consumption has been neglected', he wrote in the eighth edition of his Principles of Economics.42 In the first edition, he had explained clearly what this 'neglect' was: he states there that classical theorists did indeed discuss consumption but only in the context of particular problems like taxation and that they had no general theory of demand. By theory, Marshall was implying the functional connection between utility and demand. He attributed the 'neglect' to the following: 'For important as the inquiry how to turn our resources to the best account is, it (the subject of consumption) is not one which lends itself, so far as the expenditure of the private individual is concerned, to the method of economics.'43 The 'several causes' which he notes for giving the subject 'a greater prominence in recent times' have very little to do with the removal of this

42 Marshall, Principles of Economics (1920), pp. 84-5.
43 Ibid., p. 84.
basic difficulty. The first cause he mentions is 'the growing belief that harm was done by Ricardo's habit of laying disproportionate stress on the side of cost of production, when analysing the causes that determine exchange value.' Marshall presents Ricardo as grossly misunderstood by even the most careful readers, for he himself believes that Ricardo and his chief followers were aware that 'conditions of demand played as important a part as those of supply in determining value' and yet they had failed to express their meaning with 'sufficient clearness'. The second cause Marshall attributes to the growth of mathematical habits of thought, and the third to the growing concern regarding general well-being. None of these 'causes' seem to be relevant to removing the difficulties of treating demand referred to by Marshall. Given that determinants of social consumption were complex, largely governed by historical and social factors, classical economists considered social consumption as provisionally given for the analysis of the value question and did not build into the value theory any individualist, behaviourist premises regarding consumption. This did not, however, mean that they were not interested in determinants of consumption or the consequences of changes in them. Such discussions, however, were to be dealt with on separate bases than those immediately relevant to the value question.

Premise of 'observed' methods of production

A similar reasoning applies to the premise of the 'given' methods of production (or those 'observed to be in use') for working out the prices of production. Of the known methods of production, the least-cost (i.e. the profit-maximizing) method would be the one ordinarily dominant at the 'given' wage.44

44 No doubt, the cost-minimizing postulate underlying the producer's choice of the method is a behavioural premise concerning the producer. No symmetrical optimizing behaviour was attributed to the consumers. This is significant since the postulate concerning producer's behaviour had an objective basis which the latter lacked. Production is for exchange and the producer is not interested in the use-value of his products but in the surplus he can appropriate in production and realize in exchange. The producer is motivated by maximizing the surplus that accrues to him as profit. Moreover, whether or not the producer adopted a minimum cost method may be directly observed. The utility maximization by consumers, in contrast, can only be postulated but never directly perceived.
It is not, however, necessary that the dominant method be used by all the producers, just as it is not insisted that the rate of profit be actually uniform in all activities at any instance. In fact, what constitutes the dominant method used for the calculation of prices of production is to be settled on the basis of observation of the specific circumstances of a particular industry. The adoption of a method of production depends upon a variety of circumstances including the state of the class struggle, the extent of competitiveness among producers, availability of materials, etc., all of which facilitate or hinder the proliferation of the least-cost method. The dominant method is the one which is not only the more profitable but also the one prominently being adopted.

What is important is that the classical theory did not, indeed, did not require to, postulate any restrictively specific functional relations between output and costs. No doubt in the case of agriculture, a relation between output and increasing cost came to be inferred. But the context was that of explaining rents and although it was realized that its operation could affect the cost of 'corn', increasing costs was not emphasized as a cause of variation in the relative prices of individual commodities. Moreover, the 'increasing costs' phenomenon was not generalized to all cases of production; land being a non-reproducible resource was treated as a special case where its availability was taken to be limited for the entire community. In general, when the output of a commodity increases, it was not necessary for the theory to presume that per unit cost would or should vary in any particular direction. Also, with such output variations, methods of production may or may not change—neither was it necessary to be presumed. It is in this sense that propositions were advanced irrespective of whether constant or variable returns prevailed. In fact, the equilibrium theorists have attempted to superimpose on the classical structure notions relating to 'returns', derived from their own theories.

Nor is it necessary for classical theory to presume the 'appropriate kind' of substitution of methods of production with a change in distribution (i.e. the wage rate or the rate of profit). We have already seen that in order to generate a well-behaved demand function for capital, the supply and demand
theories need substitution between ‘capital’ and ‘labour’ to so occur as to preserve a monotonic inverse relation between capital intensity and the rate of profit. No such restrictive condition need be satisfied in the theory of profit of Ricardo and of Marx.

The introduction of new methods of production involving changes in technical knowledge or the adoption of as yet untried methods is discussed in a broader historical context and perspective involving the advance of knowledge (whose thrust in particular directions is partly influenced by social forces), the expansion of markets, new geographical discoveries, and the expanding division of labour. Technology and its advance is thus embedded in the historical development of productive forces and production relations.

Relation between distribution and production

The notion of a historically ‘given’ wage exogenous to the determination of prices of production also needs to be interpreted with care. The temptation to misconstrue ‘given’ as synonymous with ‘fixed’ or ‘invariant’ is not uncommon. When wages are taken as determined exogenously in the prices-schema, it is so treated in order to underline the fact that the level of wages is to be explained by a large variety of forces outside the domain of that schema. Once wages are ‘given’, however, the relative prices and the rate of profit can only be determined simultaneously.

An important implication of the analytical structure of the prices-schema is that no functional relation between output and wages is to be inferred from it as is the case with the marginal productivity explanations of distribution based on the supply and demand theory of prices.

The classical writers, no doubt, were aware and took explicit cognizance of the intimate relation between distribution and production, not only because it is only the produce that can be distributed, but also because associated with a mode of production are its specific distributive categories and forms. It is not possible to envisage a uniform wage or rate of profit (as a dominant tendency of the system) without the economy having reached a stage of generalized commodity production and a competitive state. In the competitive capitalist economy
that the classical political economy mainly analysed, the explanations for the revenue shares accruing to labourers, capitalists and landlords were diverse; nor were they given a coordinate status in production, as we have seen already. The 'level of wages' was itself explained on the basis of a complex set of forces: the state of the class struggle, the pace of accumulation, the case of production and availability of wage goods, etc. Distribution is thus to be analysed in terms of the social relations of production and the state of productive forces, although from the point of view of the individual who receives the income it may appear that the starting point is the resources which he possesses—'the initial resource bundle'—whereby he is entitled to claims on the social produce. Behind what he receives in exchange, however, is the crucial interplay of social forces.

Distribution in turn affects production. In fact, the pace of accumulation and its character is significantly determined by distribution, which influences the level and composition of output via the level and the pattern of social consumption it generates. The importance of distribution for production and accumulation is amply reflected in Marx in his analyses of 'effective demand', the 'reserve army of labour', 'the realization problem', etc. It is important to note here that, given the analytical structure of value and distribution theory in Marx, the problems faced by capitalist accumulation such as of unemployment, excess capacities, the realization problem etc. do not appear as aberrations ill-explained by the theory but as the more likely consequences of the dynamics of the capitalist system, analytically compatible with his value-distribution explanations.

'Generality' of the classical analysis

Considering that the exchange value of a commodity in actual practice is influenced by a number of complex factors, we can view the prices of production of the classical theory as a way of approaching the problem of competitive value through a scheme of abstraction. The usefulness of an abstract scheme, if at all, would lie in the possibility of coping with more complex situations in successive approximations. Sraffa pointed out in his 1926 article precisely this merit of the
classical theory as a useful starting point: ‘...it emphasizes the fundamental factor, namely, the predominant influence of cost of production in the determination of the value of commodities while at the same time it does not lead us astray when we desire to study in greater details the conditions under which exchange takes place in particular cases; for, it does not conceal from us the fact that we cannot find the elements required for this purpose within the limits of the assumption’ (italics mine). Thus the classical theory did distinguish between the role of production and consumption and gave analytical primacy to the former. At the same time, for reasons discussed above, it did not include within the explanation of value any theory, explicitly or implicitly, of what determines social consumption and social output, its level or composition, taking these provisionally as the data of the problem.

On the basis of what I have already said, I shall present here a general point: namely, that far from being a restrictive framework because of its assumptions of given output, etc., the classical system is, in fact, more general in scope and versatile in dealing with historico-specific factors. For, in choosing a level of abstraction as a first approximation to an analysis of what determines value, it does not commit itself through its theoretical structure to any rigid form and direction of change; in other words, the classical theory is not constrained to permit only some specific changes of the many possible ones because they alone are consistent with theory. Thus it does not have to presume more than is necessary for the limited objective of determining relative values at one ‘observed’ position of the economic system. Of course, the classical theorists were interested in wider problems—of changes in these data as well. These changes could, in fact, be more effectively dealt with at a different level of abstraction.

On the other hand, the supply and demand theories sought to explain a single observed situation in terms of potential changes—and as brought about by the balancing of marginal

---

quantities operating through the principle of substitution. In order to be consistent with these explanations, the changes had to be in a direction and of the type postulated by theory. Consequently, the theory remains constrained within narrow limits, while at the same time getting bogged down in logical difficulties. Moreover, by seeking the explanation for changes in output, methods of production and distribution all in the domain of price theory, the theory restricted itself within a static equilibrium framework, which has imposed inherent limitations on its ability to analyse actual changes. In my last lecture, I shall look into some further implications of the particular structure of equilibrium theories which places a primary focus on relations in circulation. This too, I shall suggest, imposes severe constraints on their analytical and predictive capabilities, while giving the theory an appearance of universality.
LECTURE THREE

A Shift to Relations in Circulation

In this concluding lecture, I wish to discuss in some detail the shift of focus from production relations in market relations that resulted from the supply and demand theories. It is this shift and the search for causal explanations for economic changes primarily in the domain of price formation in exchange that, I think, has given the theory its apparent generality and wide applicability, while, in fact, it has constrained any meaningful analysis of change. I have divided my theme into three sections: in the first, I discuss the notion of the shift to relations in circulation, contrasting it with the primacy of production relations in classical political economy; in the second, I shall review briefly some developments within the neoclassical theory in response to certain historical situations that arose in capitalist economies, posing fresh theoretical challenges. These, in my view, opened up specific problem areas in economic theorizing which have since been intensively explored but many of these remain somewhat tenuously linked with the main tenets of 'pure-theory' which maintains its splendid isolation. In the third section, I conclude by suggesting that an integrated treatment of production and exchange relations within the classical framework provides a better basis for looking at the process of change, especially of historical transitions of economies.

1. PRODUCTION RELATIONS AND EXCHANGE IN CLASSICAL POLITICAL ECONOMY

In my earlier discussions I referred to the 'objective' basis of the classical theory of value; more specifically that the explanations of value were sought by them in the material conditions of production. I also sketched the interrelations between production, consumption and distribution where production
relations together with their associated property relations were seen to play a key role although they all form parts of an 'organic whole'.\textsuperscript{1} Here, I shall focus on the relation between production and exchange as was envisaged by Marx.

The relations of exchange are not autonomous, nor are the extent and specific forms of exchange. They are primarily, and to a considerable extent, a manifestation of the relations in production, which, as it were, provide a basis for supporting the sphere of exchange (or circulation). The type of exchange signifies the existence of a certain institutional, organizational form within which production takes place.\textsuperscript{2} For example, a private exchange economy connotes a notion of private property and production based thereupon. The construct of a perfectly 'competitive' market process current in economic theory is applicable only to a certain historical phase, competitive capitalism, and cannot be generalized to all economies in history or in the present. Similarly, the type of contracts under which labour is transacted is a matter reflecting prevalent production relations and a category like 'wage labour' is strictly meaningful only in the context of capitalist relations of production.

The intensity of exchange and its extent is also dependent upon the development of productive forces. The availability of an extensive variety and a range of use values presupposes a well-developed system of social division of labour and specialized production for the market. Circulation of commodities and hence exchange operates as a predominant link between production and consumption. In so far as production involves purchase of requisite materials and of labour, exchange becomes an integral part, 'an act within production': exchange takes an apparently autonomous and seemingly leading role when it is undertaken for the direct satisfaction of use values, i.e. consumption. Indeed, consumers appear as exercising their free choices according to their autonomously derived pre-

\textsuperscript{1} As Marx puts it: 'The conclusion which we reach is not that production, distribution, exchange and consumption are identical but they all form the members of a totality, distinctions within a unity. Production predominates not only over itself, in the antithetical definition of production, but over other moments as well.' \textit{(Grundrisse}, p. 99.)

\textsuperscript{2} Ibid., pp. 99–100.
ferences. However, we have already seen in Lecture Two (pp. 56–8) that the extent and pattern of consumption is not independent of production. Thus, forces of production and production relations do govern the mode, extent and terms of exchange.

This is not to rule out the fact of mutual interaction between production and exchange: expanding possibilities of exchange, 'the extent of market', as Adam Smith recognized it, provides a stimulus to production. The growing facility for trade, no doubt, accentuated the pace of production in the history of trading economies. However, how far the stimulus would be absorbed, to what extent the pace of the growth of commerce can be sustained on a continuous basis and in what form, depends upon the real conditions of production within the trading economy. Not all economies could derive benefits from expanding markets. Nor could markets themselves expand without the technological feasibility of widening communication or in some cases without the assertion of political power by the trading nation, both of which call for an advancing system of production in the trading economy. Again, coming into active contact with alien economies may induce certain responses and reactive changes in the conditions of production in an economy. The forces of commercialization may bring about significant changes in the economy. However, the pattern, the form and the extent of these reactions would essentially depend upon the production relations as found within the economy. I shall revert to this theme at a later stage but I insert this brief reference here lest I be misunderstood to be suggesting that primacy of production relations connotes a strict one-way causation implying absence of interaction, especially proceeding from exchange to production.

There appears to be a reason, however, why 'exchange', although primarily emanating from and presupposing the structure of real relations of production, nevertheless 'leads an antediluvian existence' as an economic category. Exchange, as the outward manifestation of social relations in an economy, has been extensively observed, researched into, particularly by economic historians and anthropologists, and forms an important chunk of the available information about economics,

old and new. As production for exchange extends generally, exchange or circulation of commodities takes growingly an abstract and seemingly independent form, as though divested of the real conditions of production. Especially under the capitalist mode of production, where commodity production has become so generalized as to draw the various productive activities of the economy into a closely integrated, interdependent network, commodities and their circulation appear in the role of the main characters. In fact, it appears as if it is the circulation of commodities that entirely dominates production and that the clue to changes in the structure of production, distribution and consumption must be sought in the 'market'. Marx begins his critique of capitalist production in *Capital* with the analysis of a commodity\(^4\) and exchange, precisely, it would seem, to unravel how, within capitalist relations, with highly advanced social interdependence, 'definite social relations between men assume the fantastic form of relations between things'. 'Since producers do not come into social contact with each other until they exchange their products, the specific social character of each producer's labour does not show itself except in the act of exchange. To the [producers] ... the relations connecting the labour of one individual with that of the rest appear, not as direct social relations between individuals at work, but as what they really are, material relations between persons and social relations between things'.\(^5\) In other words, production appears to lie in the private domain of individual producers, each concerned with maximizing his profit by assembling under his control a suitable assortment of commodities (i.e. means of production) to produce other commodities, on the basis of his information about prices at which commodities exchange. On the other hand, the 'collectivity' of individual acts makes its presence felt in exchange on the market in the form of aggregate demand for and supply of commodities. The 'fetishism' of commodities (social relations between things), as Marx calls it, gives circulation or exchange

\(^4\) The opening sentence of *Capital*, Vol. 1, runs as follows: 'The wealth of those societies in which the capitalist mode of production prevails presents itself as an "immense accumulation of commodities", its unit being a single commodity. Our investigation, therefore, must begin with the analysis of commodity.' (p. 35)

an appearance of playing the role of a dominant determinant (or a causal force).

In quite another way this high degree of interdependence and generalized commodity production manifests itself in a paradoxical appearance. It is only in such a historical context that personalized relations in production cease and an individual 'individuates' himself. 'Only in the eighteenth century, in "civil society", do the various forms of social connectedness confront the individual as a mere means towards his private purposes, as external necessity. But the epoch which produces this standpoint, that of the isolated individual, is also precisely that of the hitherto most developed social (from this standpoint, general) relations'. It is this paradox which 'frees' the individual to participate in markets as an apparently autonomous, decision-making entity and gives market relations a primary significance abstracted from production relations. Such a 'freeing of the individual' and 'the regime' of markets are the manifestation of a highly socialized production. However, it is precisely then that the 'social' relations in production become imperceptible on the surface, overshadowed by exchange or the 'social relations between things'; production appears to be a technological relation between inputs and outputs and distribution as yet another form of exchange, taking place in factor markets.

Shift to the sphere of exchange in supply and demand theories

The supply and demand theories, in focusing on market relations, drew a certain inspiration from these manifestations of capitalist relations: first, in presenting the sphere of circulation as one where the community is in action as an aggregate, in the form of collective demand and supply relations; and, second, in representing the economy as constituted of free individuals (as buyers and sellers) taking decisions on the basis of commodity prices and the set of feasible choices (in the forms of 'preferences' or 'technology') predefined for each, to maximize their return (whether utility or profit).

It may be legitimately asked, however, whether, in so far as these theories do consider production as providing one part of the explanation of prices and therefore recognize its relevance

* Karl Marx, Grundrisse, p. 84.
and importance, it would not be a misinterpretation to characterize the theories as focusing on exchange. Let me, therefore, try to show in somewhat more detail which elements of the theory appear to me to connote the shift.

*Distribution determined by pricing of factors*

First, to repeat a point made earlier, and a well-known one, the supply and demand theories attribute to relative prices an all-comprehensive, regulatory role; not only in determining output levels and consumption, but also in determining distribution. The economic process is a one-way avenue, beginning with certain initial stocks of 'primary' resources, transforming them through various stages and ultimately leading to the production of use-values or consumption. The entire process is regulated through a chain of interconnected markets. Production, distribution and consumption, in their quantitative aspects, result from transactions in different markets where individuals operate in the capacity of buyers and sellers. Distribution arises out of a pricing process in factor-markets where owners of 'factors' (as sellers) offer their services to producers (as buyers) and derive their incomes; production constitutes purchase of requisite materials, to be transformed into saleable products, and consumption results from the individual's income exchanging against the products. Hence, it is the prices in these markets that are supposed to be the significant factor in explaining the patterns of consumption, production and distribution, once the initial endowments of primary resources of individuals, technology and preferences are given.

Earlier, I presented a view that the explanation of distribution in terms of the forces of supply and demand operating on factor-markets ascribes a symmetry between wages and profits. A certain point of clarification may be raised here concerning Marx's well-known emphasis on 'labour becoming a commodity', which brings out all the more the significance in his theory of the 'primacy' of production relations over exchange. In the specific case of wages, there may appear to be some similarity between Marx's treatment of labour-power as a commodity whose value is determined according to the laws of exchange, and the supply and demand theories treating it as a 'factor' whose price is determined, like any other commodity,
by equilibrium of the forces of supply and demand. According to Marx, one of the important characteristics of capitalist relations is the presupposition of the 'free-labourer'—'free in the double sense, that as a free man he can dispose of his labour-power as his own commodity, and that on the other hand he has no other commodity for sale, is short of everything that is necessary for the realization of his labour-power.' Hence, the 'labour market' theoretically appears 'as a branch of the general market for commodities', so that 'the value of labour-power is determined as in the case of every other commodity by the labour-time necessary for production.'

However, the free labourer, with nothing but his labour-power to sell, is indeed the possessor of a peculiar commodity—labour-power; a commodity which resides in his person. The necessity of producing and selling his labour-power is not only the only means of his survival but identical with his survival. 'Given the individual, the production of labour-power consists in the reproduction of himself, or his maintenance.' He has no alternative possibility of producing or selling any other commodity, for he has no means 'to realize his labour-power' but through its direct sale. Nor can labour-power be stored up for future sale. Moreover, as Sweezy points out, unlike the capitalist producer, he does not produce and exchange labour-power in order to gain surplus value but merely to acquire through exchange use-values for his upkeep. The value of the labour-power is, under these circumstances, the value of the means of subsistence necessary for the maintenance of the labourer. And, in so far as the notion of maintenance itself is influenced by historical conditions, by 'habits and degree of comfort in which the class of labourers has been formed', in contradistinction with other commodities 'there enters into the determination of the value of labour a historical and moral element.'

Thus, even when labour-power is a commodity, it is a peculiar commodity. More importantly, its peculiarity arises not because of natural, inherent properties but because of the

---

7 Karl Marx, Capital, Vol. 1, p. 169.
8 Ibid.
10 Karl Marx, Capital, Vol. 1, p. 165.
historically evolved production relations, where the labourer has been freed of his means of production and maintenance, possessing labour-power alone. It is only on leaving the sphere of circulation that one can grasp the peculiarity of this commodity. In circulation, 'equivalents' are exchanged and labour obtains its due value: 'On leaving the sphere of simple circulation or of exchange of commodities, which furnishes the "Free Trader Vulgaris" with his views and ideas, and with the standard by which he judges a society based on capital and wages, we think we can perceive a change in the physiognomy of our dramatis personae. He who was the money owner, now strides in front as capitalist; the possessor of labour-power follows him as a labourer.'\(^{11}\) And it is this capital-labour relation that influences the determination of wages in capitalist economies. In the supply and demand theories, however, labour enters the theory of production and accumulation as but one of the primary factors of production with wage as its price.\(^ {12}\)

**Depiction of production in supply and demand theories**

Secondly, we may note the manner in which the production process is instituted within the structure of the supply and demand theories. Production concerns the transformation of 'factors' into 'products'. The individual producer's decisions are based entirely on the information concerning prices in factor and product markets and the choices open to him in

\(^ {11}\) Ibid., p. 176.

\(^ {12}\) The following quotation from Marx puts down pithily his criticism of determination of wages on the supply and demand basis. The criticism, in fact, extends generally against price determination on that basis: 'Classical political economy borrowed from everyday life the category "price of labour" without further criticism, and then simply asked the question, how is this price determined? It soon recognized that the change in the relations of demand and supply explained in regard to the price of labour, as of all commodities, nothing except its changes, i.e. the oscillations of the market price above or below a certain mean. If demand and supply balance, the oscillation of price ceases, all other conditions remaining the same. But then demand and supply cease to explain anything. The price of labour, at the moment when demand and supply are in equilibrium, is its natural price, determined independently of the relation of demand and supply.' (Capital, Vol. 1, pp. 357-8). The question of what determines the *absolute value* (as separate from fluctuations around that level) of wage is not answered in the supply and demand analysis.
the form of feasible technological possibilities. All changes in method of production adopted in practice must be explainable, therefore, in terms of changes in prices and/or changes in technological options. The latter are treated as exogenous.\textsuperscript{13}

Social production is viewed merely as an aggregative outcome of the individual producer's decisions which are guided by the ruling set of prices. Relations among social classes do not enter the analysis of production, which is confined to the market decisions of individual producers.\textsuperscript{14} No doubt, there are revenue classes of rentiers, capitalists and workers. However, they also appear as individuals with a certain factor endowment, each deriving his individual claim on revenue on the basis of the 'factor prices' determined in equilibrium, by supply and demand forces. Like all other commodity exchangers, they too are price-takers. In such a framework, the vehicle of change is the market; social classes and their interaction are eliminated effectively. Production is but an intermediate stage in the process of converting initial resources into use-values—a goal shared by all the members of the economic community, whether capitalists or workers. The former postpone their possible present consumption to the future and earn a right to an appropriate compensation; the latter, while being paid for expending effort, are inclined to consume immediately (converting their factor endowment into immediate use-value) because of their higher discounting of future consumption.

Generalizability of the supply and demand approach

The view of the working of the economy as a connected chain of markets captures the surface manifestation of an

\textsuperscript{13} In contrast, for example, in Marx, the adoption of labour-displacing methods of production is a strategy which capitalists resort to for a variety of reasons, e.g. when the 'reserve army of the unemployed' is depleted by the growing levels of production, or when labour offers an organized resistance or puts forth demand for wage increases.

\textsuperscript{14} It has been observed, especially in the analysis of agrarian conditions, how the resource position, and the placement in production relations of an individual, influences the exchange relations in which he is involved, and how that, in turn, affects the feasible courses of action open to him in the market, and hence his future economic condition. The argument has been presented briefly in Krishna Bharadwaj, \textit{Production Conditions in Indian Agriculture} (Cambridge, 1974), and Bharadwaj and Das, 'Tenurial Conditions and the Mode of Exploitation: A Study of Some Villages of Orissa', \textit{Economic and Political Weekly}, February 1975.
economy's operations. That possibly explains why the supply and demand approach has gained wide acceptance and a semblance of generality. For, under generalized commodity production and pervasive exchange, changes that occur in production relations must ultimately be reflected in exchange. To that extent, changes as observed in exchange relations can provide a seemingly reasonable basis for *ex post facto* explanations. Ultimately, any changes that occur in economic magnitudes would be amenable to a translation in terms of changes in conditions of supply and demand. For example, if the consumption of a commodity is noticed to have risen, one would say either that it has become relatively cheaper (i.e. it is a movement along the demand schedule), or that there has been a shift in the demand function due to 'changing preferences' (or similar alterations in 'other conditions' included in the *ceteris paribus* clause defining the demand function). There may be no independent means of testing whether the latter is indeed the case, and if there have been such changes, what their extent is. This is the case, for example, when the attribution is to 'changing preferences'. Such explanations, apart from becoming tautological in some cases, are *ex post facto* characterizations of an observed situation. The apparent generalizability may, therefore, at least in part, be due to the vacuousness of 'explanations' on these bases.

Another source of the apparent generalizability may be the fact that, as mentioned earlier, the categories in circulation have acquired an abstracted existence in the form of 'markets' which, moreover, exist under very diverse modes of production. Although the early theoretical pioneers, Walras, Wicksell, Böhm-Bawerk, etc., developed their theories specifically in the context of a capitalist economy, their method of work quite often left the impression that their categories would extend to other situations. It was the formation of relative prices in exchange that was the central problem. For example, the typical beginning of a discussion of exchange, as in Walras and Wicksell, starts with barter, followed by a more extended commodity system, ultimately incorporating 'capitalist production', meaning thereby that the system of production includes the production of capital goods. The transition from a barter system to 'capitalistic production' is not, however,
historically speaking, a mere extension in terms of number and type of commodities and markets. Again, Marx captures the substance of this method succinctly while commenting on the fallacy of Say’s Law: ‘We may notice two methods characteristic of the apologetic economy. The first is the identification of the circulation of commodities with direct barter of products, by simple abstraction from the point of difference; the second is the attempt to explain away the contradictions of capitalist production, by reducing the relations between the persons engaged in that mode of production to the simple relations arising out of the circulation of commodities. The production and circulation of commodities are, however, phenomena that occur to a greater or less extent in modes of production the most diverse. If we are acquainted with nothing but the abstract categories of circulation, which are common to all modes of production, we cannot possibly know anything of the specific points of differences of these modes, nor pronounce any judgement on them.\footnote{Karl Marx, Capital, Vol. 1, p. 114, fn. 1.}

This apparent generality of the operations of supply and demand relations has kept a firm hold on the theory, endowing it with a versatility despite the many challenges thrown up by changing historical conditions. Classical political economy responded sensitively to the changing social conditions by formulating new problems and new categories. I shall now briefly review how the neoclassical theory has responded to challenges appearing in its own time.

II. CHALLENGES OF CHANGING HISTORICAL CONDITIONS

The supply and demand theories, discussed so far in their traditional forms, served, no doubt, the purpose of rationalizing competitive capitalism as an efficient allocator of the nation’s resources and advocating a harmony of interests. The earlier ‘system of discords’ appeared to have been eclipsed. However, new problems raised their heads, especially in the thirties. During the war, precisely when the economists’ trust in the market as a device to solve what is avowedly the economic problem of ‘allocating scarce means to alternative uses’ should have found its greatest validity and relevance, the
functioning of the markets had to be suspended. But such 'abnormal circumstances' could not destroy the faith of the economist in the pricing system as an efficient allocator. During the thirties, the rapidly advancing capitalist system was coming up with situations challenging the complacent assumptions of the theory; some led up to a questioning of the way the system was envisaged to work; some, the way the system was characterized. Here I shall refer to a few of these developments.

Theory of the firm

The first of the serious challenges came up in the theory of the competitive firm. I have already mentioned how certain logical problems in relation to the phenomenon of increasing returns had indicated the nonviability of competition in the face of continued economies of scale. The problem was no more to be treated as belonging purely to the realm of logic as advantages of large-scale technology had indeed already cast serious doubts on the image of the passive competitive firm, content with being a 'quantity adjustor'. With excess capacities showing up all round, the rules of competitive pricing were being violated. An initial attempt was made in the thirties to modify, theoretically, the notion of competition and accept monopolistic competition\(^{16}\)—a compromise between the traditional 'monopoly' and 'competition'—as a more realistic and general description of the state of affairs. The new formulation was readily accepted, possibly because it was but a modification. It was recognized that firms enjoyed a certain amount of freedom of action with regard to the price, through differentiation of the product and selling expenditure. As Rothschild\(^{17}\) puts it, the earlier mechanistic analogies describing the behaviour of the firm were being gradually replaced by reasoning bearing affinity to biological thinking reflected in phrases like 'organic growth of the firm', and so on.


While the new developments incorporated many cases treated earlier as exceptional, the view of the firm remained as yet of one accommodative to the market and experiencing 'gradual' expansion. With the growth of monopolies, large business organizations and modern corporations, the limitations of this theoretical improvisation became obvious. Detailed researches into the behaviour of these large units have brought to light the complexity of the objectives they pursue (sales maximization, stable/rising share of markets, profit stability, growth of the firm, political control, risk-spreading, etc.), the intricacy of their organization (bureaucratic hierarchy, interlocking of directorates, chain operations), the variety of policy instruments (price control, control of distributive channels, manipulation of consumer preferences, wielding of political influence, financial control, wage policies, etc.), and the extent of their control spread over various enterprises and countries.

The neoclassical theory, by either abstracting from firms altogether or imposing conditions on their behaviour to make them compatible with their aggregative view, has suppressed the drama of these events—the rise and fall of products, of technologies, of firms. This is typically illustrated in the case of technical change—where economic historians and those researching in micro-behaviour of the firm have thrown up fascinatingly rich material on the introduction, adoption and proliferation of technical innovation. The motivational forces are complex and involve many 'policy variables (including questions such as labour control) other than prices. Technical change at the level of pure theory, however, continues to be treated as essentially linked either with changes in factor-prices or with a shift in the production function.

---


19 In the production function approach, popularized by R. Solow (see his seminal article, 'Technical Progress and the Aggregate Production Function', *Review of Economics and Statistics*, 1957), technical progress is estimated as the shift of the aggregate function. The shift is a measure of the increase in the productivity not explained by quantitative increases in labour and capital, 'the coefficient of our ignorance' as it is sometimes called. The approach faces a number of problems.
The theory of the firm, with its rich findings, has remained isolated from macro-theory. Individual case studies have remained at the level of typologies of 'non-competitive' structures, but there appears to be no clue available as to how to integrate the changing roles of the firm into the dynamics of a capitalist economy. Nor is there a systematic and connected account of what brings about these qualitative changes in the 'behaviour' of the firm. The trend towards increasing monopolization, the shift towards new strategies, are not accidental occurrences but an integral part of the advance of the capitalist system with all its sources of internal contradictions. For pure theory, however, the concern for the existence of equilibrium reigns supreme. 'In the case of a whole (closed) economy', writes Hicks, 'it is only quite recently that the necessary existence of an equilibrium has been established, even for the simplest form of organization, that in which perfect competition is taken for granted. For what forms of imperfect competition (if any) a similar necessity can be established is still (I believe) an open question.' The theory of supply and demand equilibrium, it appears, would continue its hold in the traditional form until such demonstrations are offered.

The full employment myth

The macro-vision of the supply and demand theories also met a severe challenge in the depression of the thirties. The complacent view that so long as markets are allowed free play

First, the underlying notion of the aggregate production function has already been theoretically challenged. Secondly, even if considered as a statistical relation between inputs (including capital, however measured) and output, a tricky problem arises as to which of the estimated production functions is to be accepted as a valid description, especially if they give widely different estimates of technical progress, while statistically giving as good a fit. This was, in fact, the case where Solow himself used the method in his *Capital Theory and the Rate of Return* (Dr. F. de Vries Lectures, Amsterdam, 1963). Thirdly, the measure of the shift taken as an estimate of 'technical progress' gives hardly any insight into the causal factors, apart from negatively stating that they are a 'residual' unexplained by quantitative increases in the inputs specified in the production function. The greater the errors in specification, the smaller the number of input variables explicitly noted in the production function, the larger is the measure of technical progress likely to be.

there is a tendency towards full employment but for occasional frictional disturbances was shaken by the intensity of the Great Depression. The story is too well known to be recounted here. Keynes argued that it was fallacious to conclude that sufficient flexibility of wages and interest would ensure that the economy would automatically pitch its operations at a full employment level. Underlying his theoretical analysis showing the possibility of 'underemployment equilibrium' and his policy prescriptions were, as Joan Robinson notes, his shrewd observations regarding the politics of nation-states, of the organization of industry, the working of the banking system and the stock exchanges of his day. And this is what gave his theory and policy a direct appeal and practical import. His central point, made forcefully and effectively, was to establish that the depression of the thirties was not a momentary aberration but could prove to be a recurrent phenomenon plaguing an advancing capitalist system and, therefore, a vigilant fiscal policy—the conscious, visible hand of the government to aid the operations of the invisible hand of the market—was called for, not as a faltering aid but as a stable partner in the task of maintaining full employment. In exposing the 'fallacy of composition'—that frugality, a private virtue, may be a 'public vice'—and that a higher level of savings does not automatically lead to a higher level of investment, he had questioned important tenets of the supply and demand theories. It was evident that the working of the economy could not be captured through the analysis of the individual's actions in isolation and aggregating the results. However, this critique was circumscribed to the savings-investment question and no further implications were drawn concerning, say, allocation of resources.

Keynes was more interested in reforming the system than in revolutionizing theory. 'At that time', writes Joan Robinson,22 'it seemed like a revolution; a new day had dawned in which economics was going to be a serious subject concerned with serious problems. But the day soon clouded over.' It was widely accepted that governments had to maintain a vigilant fiscal policy to keep up full employment. But once the helping

---

hand was taken for granted, the sanguine world of 'competitive allocation' and 'market allocational efficiency' returned. Keynes himself would seem to have approved of such a return to the old theory: 'But if our central controls succeed in establishing the aggregate volume of output corresponding to full employment as nearly as is practicable, the classical [in our context, neoclassical] theory comes into its own again from this point onwards. It is in determining the volume, not the direction, of actual employment that the existing system has broken down.' Thus, Keynes made a distinction between the level and the structure of employment—he seemed to believe that the market-guided capitalist system was yet sound in its allocative function.

In attempting to reconstruct the view concerning the macro-functioning of the capitalist system while carrying out only a partial analytical critique of the neoclassical theory, Keynes has in fact left a number of unsettled issues and uncomfortable loose ends. However, he had raised a number of relevant questions and offered some interesting tools and ways of analysis. His success was greatest from the point of view of the policies of his times. With the introduction of national policies towards full employment, the ghost of recurrent cycles that stalked the stage appeared to have been banished. The spurt in the literature on the theory of business cycles, which had revealed, albeit partially, some of the sources of contradictions inherent in the operation of the capitalist system, gradually subsided. Its place was taken by the sanguine world of 'growth equilibrium' and neo-Walrasian constructions.

While pure theory has launched into constructing growth models, in the real world capitalist economies are running into fresh problems. Each country hopes to adopt policies that will maintain near-full employment and continuous growth. However, the task is complicated, for this involves simultaneous balancing on many mutually conflicting fronts. While ensuring a reasonable level of employment, excessive inflation has to be avoided; the balance of payments situation must not be allowed to run out of hand; a high enough rate of return has to be ensured to the capitalist investor. 'The attempt at greater internal coherence of national policies makes inter-

national anarchy all the worse. Meanwhile, growth of the huge national and international corporations has established independent seats of power which cut across or manipulate the policies of national governments.

The conflict of interests does not remain all that hidden.

These contradictions are at present threatening the smooth functioning of the national economies and the international arrangements that the capitalist world had worked out. Neither a coherent and comprehensive theoretical diagnosis of these contradictions nor policies to judiciously contain them have been offered.

The response of economic theory to the growing challenges has been to fragment itself into several compartments. There has accumulated considerable research in depth examining evidence regarding the behaviour of micro-units (producing firms and consuming households). But this cannot be fitted neatly into the overall macro-framework of general equilibrium. On the other hand, the macro-behaviour of the economy in the shape of growth models is built on the foundations of a static economy using categories that were primarily employed to explain relative prices. 'All we can do', to quote Hicks again, 'is to define a static condition as one in which certain key variables (the quantities of the commodities that are produced and the prices at which they are exchanged) are unchanging. A dynamic condition is then, by inevitable opposition, one in which they are changing.'

Thus the growth theory has left behind the noisy world of firms and set off on the well-paved path of full employment and 'growth-equilibrium'. Keynes' macro-dynamics of the short period could not comfortably accommodate price-variations and adopted what Hicks calls the 'fix-price method' at times and the 'wage...

---

26 J. R. Hicks, *Capital and Growth*, p. 6.
theorem' at others;\textsuperscript{37} while the trade cycle theories, no longer in vogue, worked with time-lags, sequential analysis and temporary equilibria. Economic theorists have been constructing models, 'cheap vehicles' in Solow's words, with the hope of some practical use. However, they seem to be 'too rickety to stir from the spot where they stand'. Possibly the application of so many 'different methods of analysis' is a sign of the vigorous growth of a science. However, if what are analysed are parts of the same organic entity—the social economy—then it is necessary to know how to fit the pieces together in the jigsaw puzzle. Furthermore, if there are logical problems in traversing from one method to another, it is time to stop and think whether it may not be a case of so many blind men describing an elephant.

A host of questions concerning the method of analysis and the structure of the theory arise which would require a separate in-depth study. In the context of the method of political economy, Marx wrote: 'In the analysis of economic forms neither microscopes nor chemical reagents are of use. The force of abstraction must replace both.'\textsuperscript{38} The crucial question is: what does one abstract from? What categories do we choose? To choose only one example; while analysing the social economy, should one begin with a broad characterization of social classes in relation to the productive process and discuss the individuals as members of the class; that is, analyse the motivation and behaviour of the representative individual as derived from his position in social relations, as did classical political economy? Or, do we begin with the individual, defining certain innate propensities or his behavioural characteristics, and look upon the social economy as an aggregate of individuals? The primary units of analysis are evidently of crucial importance. The unbridgeable gap between micro- and macro-theories as they have developed in the supply and demand theories and the abstruse rules for aggregation that have had to be imposed in order to avoid the fallacy of composition in building up the

\textsuperscript{37} At times, the implicit assumption appears to be that relative prices do not change or are 'given'; at others, that they change in proportion to the money wage so that, in wage units, prices remain fixed. See Hicks, \textit{Capital and Growth}, Chapter 7, and \textit{The Crisis in Keynesian Economics} (Oxford, 1974), Chapter 3.

economy-level operations from micro-ones appear to arise from having defined micro-behaviour as autonomous with no relation to the social economy. Further, the structure of these theories appears to eliminate *in effect* the role of social classes, their conflicts and alliances, in interpreting the process of change. The workings of the capitalist economies have now become enormously complicated. It still remains to be seen how formal theory would cope with the present critical state in which the capitalist economies are finding themselves, and whether the analysis can be confined to 'prices and quantities', households and markets, or whether the conflicting interests of classes will have to get their due place.

III. ANALYSING HISTORICAL DEVELOPMENTS

There is one significant drawback of the supply and demand theories: they fare poorly in providing a basis for building up an interconnected account of the broad movements of a real economy. The categories that they have chosen and the analytical relations that they postulate appear to preclude taking note of important aspects of social relations (class relations, the character of the institutions, including that of the state) that are crucial to the dynamics of an economy.

Having brought up the question of historical developments, I may refer, however briefly, to certain attempts to look at historical developments, mainly from the point of view of the process of circulation. I have in mind more specifically the work of Karl Polanyi and his associates, and J. R. Hicks' work, *A Theory of Economic History*.

Among anthropologists and sociologists there has been, for quite some time, an acute discontent with the generalization of the economy based on individuals exchanging in 'price-forming' markets to economics with widely different institutional characteristics and belonging to different historical periods. Polanyi writes: 'Approaching the economy in any of its widely varied aspects, the social scientist is still hampered by an intellectual heritage of man as an entity with an innate propensity to truck and barter and exchange one thing for another ... The economic rationalism to which we are heirs posits a type of action *sui generis* economic. The action consists
of maximizing a certain goal by choosing a manner of disposing resources.\textsuperscript{29} Polanyi’s protest is against treating all economies as a ‘potential supply and demand price mechanism’ and explaining the various processes actually observed in history in terms of that hypostatization. However, ‘the whole of history apart from the last century’, according to him, ‘had different types of economies and the differentia specifica lies, in his view, in their not having ‘price-making markets’.

Polanyi goes on to suggest a classification of economies according to the process through which they satisfy their material wants. That involves, in his view, a study of the ‘movement of goods’ as a natural and social phenomenon, in their ‘locational aspect’ (i.e. production and transportation) and in their ‘appropriational aspect’ (i.e. changing of hands among persons or organizations through transactions or disposition). Three types of processes are identified, based on ‘reciprocity’, ‘redistribution’ and ‘exchange’, and each process is supported by its associated institutional structure. ‘Reciprocity’ denotes movements of materials between symmetrical groups and hence the existence of such groups. ‘Redistribution’ is characterized by the existence of a central authority which, by custom, law or force, appropriates materials and redistributes them. ‘Exchange’ refers to transactions in ‘price-forming’ markets and individuals or bodies freely participating in exchange. Polanyi and his associates have carried out studies into the early empires, bringing out the different bases on which ‘trade’ existed and the very different functions that money performed in their context. They have attempted to fit in the available information on trade and markets in the above typology.

Recently J. R. Hicks, in his \textit{A Theory of Economic History}, has offered an account of history seen mainly as a gradual transformation towards the ‘Rise of the Market’ or of the ‘Exchange Economy’. There is some similarity between the two (Polanyi’s and Hicks’) exercises: both concentrating on the process of circulation, but Hicks’ attempt is not only to suggest a typology but an account of the transformation too. ‘There is’, he writes, ‘a transformation which is antecedent to Marx’s Rise of

\textsuperscript{29} Karl Polanyi, C. Arensberg and H. W. Pearson (eds.), \textit{Trade and Markets in the Early Empires} (New York, 1957), p. 239.
Capitalism and which, in terms of more recent economies, looks like being even more fundamental. This is the Rise of the Market, the Rise of the Exchange Economy. As a 'theory', he starts with certain pure types of non-market organizations: 'The Customary Economy' based on traditional rules and norms, which can survive in a fairly tranquil environment of no risks (or fairly calculable risks) and more or less repetitive decisions. This can be, say, a tribal economy or a peasant economy. There is the possibility of decentralized decisions and the economy could work with 'complete belowness'. The other type is the 'Command Economy' with its complete aboveness— which could be a military organization, a monarchy (or even a highly centralized socialist enterprise). There could be mixed types: Hicks considers feudalism as a mixed type in which custom is dominant, while classical bureaucracy is another mixed type with the command element stronger. Hicks then endeavours to trace the history, primarily as one of expanding trade relations, beginning with customary exchanges amongst sovereigns, the rise of the trading community, and the gradual growth of political, monetary and credit institutions, the merchants' own organizations that arose to facilitate trade, and the penetration of commerce into agriculture and into foreign economies (colonies), taking the story up to the industrial revolution. It is the expanding volume of trade, its geographical spread and the parallel development of institutions that constitute the characters of his story.

In Polanyi as well as Hicks it is the satisfaction of increasing material needs and the institutional aspects of trade that dominate. Or, in other words, it is the specific exchange relations that offer the typologies to distinguish economies (or different periods in history): Polanyi and his associates offer interesting information, especially regarding the nature of trade and money, which is helpful to remove the fallacious preconceptions derived from a generalization of the concept of a 'market'. They do not, however, apart from giving a typology, tell us why certain economies changed qualitatively in their trade relations, why certain systems vanished and why some systems got transformed. They offer us no clue to the transitions. One may contrast their analysis of the various

---

functions of money with Marx's analysis of the same problem. "The particular functions of money which it performs, either as the mere equivalent of commodities, or as means of circulation, of means of payment, as hoard or as universal money, point, according to the extent or relative preponderance of the one function or the other, to very different stages in the process of social production." To Marx, the process of social production endows money with the roles it plays.

In Hicks there is a more connected account of the evolution of the Exchange Economy. (Incidentally, the account conveys an impression of a rather peaceful process of change.) Trade is in the vanguard. Very little is said about what productive organizations support the expanding trade, as though exchange were an autonomous activity divorced from production. It is not clear why certain trading economies suffered eclipse and why certain others rose to power. The main characters are the merchants and the sovereigns. The institutional developments spring primarily from the needs of trade. It is not until Hicks speaks of 'mercantilization of agriculture' that any 'agents of production' appear prominently. Does Hicks believe that until that stage in history the material conditions of production could be of little importance and, therefore, ignored?  

82 If Hicks implies that Marx's account of history was intended to be applied to the phase succeeding the rise of capitalism, the following quotation should remove the misgiving: 'Truly comical is M. Bastiat, who imagines that ancient Greeks and Romans lived by plunder alone. But when people live by plunder for centuries, there must always be something at hand for them to seize; the objects must continually be reproduced. It would thus appear that even Greeks and Romans had some process of production; consequently, an economy which just as much constituted the material basis of their world as bourgeois economy constitutes that of our modern world.... I take this opportunity of briefly answering an objection made by a German paper in America, to my work, Zur Kritik der Politischen Oekonomie, 1859. In the estimation of that paper, my view that each special mode of production and the social relations corresponding to it, in short, "that the economic structure is the real basis on which juridical and political superstructure is raised and to which definite social forms of thought correspond....", all this is very true for our own times, in which material interests predominate, but not for the Middle Ages, in which Catholicism, nor for Athens and Rome, where politics reign supreme.... This much.... is clear, that the Middle Ages could not live on Catholicism, nor the ancient world on Politics. On the contrary, it is the mode in which they gained a livelihood that explains why in one case Politics, and in the other Catholicism played the chief part. For the rest, it re-
Even in regard to mercantilization of agriculture, the discussion suggests almost a one-way causation: commerce influencing conditions of production. Hicks himself indicates various types of responsive changes that could occur in property relations following mercantilization, but in his one-way causation, he offers no hints as to what could be the decisive factors in making the response turn one way or the other.

The crux of the matter seems to be that tracing changes mainly at the level of circulation reduces the account either to a mere narrative—a description of an *ex post facto* sort—or, at best, gives only one part and possibly not the analytically most significant part of the actual dynamics of events. In so far as changes in production are reflected in the form and magnitude of exchange, it would seem that the story up to the Rise of Capitalism could as well be told as one of the Rise of the Market Economy. The question is, however, what constitutes the key variable in terms of analysing the process of change—not merely as a descriptive account but in terms of causative factors.

An analysis of production relations (including the nature and the state of the class struggle) would, I believe, play a primary role. First, in a number of cases the stimulus for change would arise directly in the sphere of production, with changes in the forces of production as well as in the form and the level of class struggle; associated changes would occur in the sphere of exchange. However, such a one-way causation is all too simple and not altogether an exhaustive characterization of the process. There is no doubt that the stimulus might as well appear from an 'external' source—the imposition of trade relations through force (colonization) or via 'normal channels of trade', whereby the economy may get drawn into the network of trade with other economies. No doubt such contacts with other economies would produce certain responsive changes in the economy. Here too, however, the *form* and *conditions* under which exchange takes place, as well as the extent of and the manner in which the initial stimulus would be ab-

---

93 See *A Theory of Economic History*, Chapter 7, particularly pp. 104–21.
sorbed, would depend upon the extant production structure and relations. An account of colonization or of forced commercialization could not be complete without bringing into the study the production relations of both the economies (with their own peculiar historically developed class antagonisms) which interact through exchange relation. By now, it is evident that the imperialist strategies differed from nation to nation and from time to time. So also did the impact of the imperial policies on the colonized economies. It is the dynamic interplay of the two—production and exchange relations—that completes the picture.

In conclusion, I have to admit that the rather broad terrain I have tried to cover in these lectures has, at least partly, caused me to remain at an abstract level. To a certain extent this was inevitable. For the supply and demand theories have very deep roots and a wide range in terms of their influence as many readers, especially those belonging professionally to social science disciplines other than economics, may have realized. Mine was an attempt to view critically the basis of this dominion.