It has become commonplace to describe the discipline of economics as beginning with an Adam, whose surname was Smith. While it is true that his great work - published in 1776 - was the starting point of a classical tradition in economic thought, a larger claim for his innovating role would not be justified.

Long before the eighteenth century, men had speculated about the nature of the economic process and recorded their judgements of its significance. Nevertheless, the questions raised by this classical approach - and the manner in which its practitioners handled them - were recognizably modern. In the main, pre-classical literature had been more disposed to judge economic performance than to analyse it. Medieval economic debates, for example, were largely preoccupied with such ethical questions as: what constitutes the just price? and is usury (i.e. lending at interest) morally defensible? Even after these considerations shaded towards the background, as they had by the seventeenth century, explicit economic analysis on a comprehensive scale was yet to flourish. Though a lively debate was carried on in tracts produced in England at this time, most of its participants were constrained by a particular view of the workings of the economic system and few of them made a conscious effort to detach their arguments from their interest in promoting the advantage of particular groups.

The classical perspective gave a fresh orientation to economic discussion. Yet in, at least one respect the classical outlook can be understood as an extension of inquiries initiated by its immediate forerunners. The mercantilist tradition in England and the Physiocratic School in France were, in quite different ways, directed attention to the importance of an economic 'surplus'. The classical economists sustained the exploration of this issue, but gave it another interpretation.

Mercantilist pamphleteers in the seventeenth and early eighteenth centuries, though they did not speak with one voice on many important subjects, were virtually unanimous on one point: the importance of a surplus of exports over imports (i.e. a favourable balance of trade). As a practical matter, the generation of a 'surplus' in this form was also favourable to the earnings of firms engaged in foreign trade, in whose fortunes a fair number of the pamphleteers had a personal stake. But the case for a 'surplus' through trade could be and was argued on grounds of national benefit. A favourable international balance was alleged to promise power, plenty, or both. The mechanism through which these happy results were to be achieved, however, was seldom explicitly articulated.

Circumstances of the times provided several plausible links between export surpluses and the national interest. In an age in which the circulating medium consisted almost exclusively of precious metals, countries (of which England was one) lacking sizeable and exploitable deposits of gold or silver were obliged to draw on foreign supplies. A favourable balance in the international accounts was thus a pre-condition for substantial enlargements of the money supply called for by a prospering and expanding economy. Similarly the accumulation of monetary reserves might promote the interests of the state in either or both of two ways. The sovereign's ability to command men and arms was thereby enhanced. In addition, the acquisition of gold and silver through foreign trade might deplete the reserves of other states, thus improving the relative - as well as the absolute - position of the surplus country. In an era of intense national rivalries few statesmen were indifferent to these considerations.

The pursuit of mercantilist objectives implied a considerable degree of state intervention in economic activity. In the interests of curtailing expenditures on imports most European states of that era encouraged steps toward national self-sufficiency and governments attempted to nurture and protect home enterprises. In England agriculture was sheltered from foreign competition through the sliding scale tariff provided by the Corn Laws (which in years of good harvests virtually excluded grain imports, though when home supplies were low and prices high, imported grain could then bear the cost of the lowered protective duties). Meanwhile, in France, Colbert, manufacturing establishments were launched and subsidized by government. In addition governments sought to earn as well as to save foreign exchange by stimulating their export trades. This consideration appeared to recommend the award of monopolistic trading privileges to companies prepared to develop new markets - particularly, though not exclusively, in the trade beyond Europe. Moreover, it was held to be important to both the strategies of import restriction and export promotion to hold down costs of production - especially labour costs - at home.

The approach to economic policy adopted by French mercantilism provided the background for the intellectual protests of the Physiocratic School. In the history of economic ideas, however, writers of this persuasion are better remembered for the fundamentally different account they offered of an economy's crucial surplus. In this doctrine agriculture was the only genuinely productive sector of the economy, and the generator of a surplus which a 'surplus' in trade was an added. Agriculture was alleged to be unique; a farmer could plant one seed, and, in due course, reap twenty. A manufacturer, on the other hand, could register no similar multiplication in the physical product; he simply altered the shape of the material inputs on which he worked. The Physiocrats drove this point home by describing manufacturing as 'sterile' and reserving the term 'productive' for agriculturalists. One prominent Physiocrat, Dr François Quesnay, a physician in the court of Louis XV, whose duties included attendance on Mme de Pompadour - produced an ingenious diagram, labelled the 'Tableau Economique', to communicate this finding. His intention was to demonstrate how the fate of the economy was regulated by productivity in agriculture and how its surplus was diffused throughout the system in a network of transactions. With such a surplus, French economy could be at peace, but not at war. The argument was that only in agriculture, not in manufacturing, there was no similar multiplication in the physical product. This line of argument was readily compatible with the requirements of emerging industrialism. The availability of a surplus from which capital could be accumulated was clearly a vital concern. No less important to the successful fostering of economic expansion was the efficient utilization of this potential. In the diagnosis provided by classical writers, the institutional arrangements of mercantilism were ill-suited to this assignment. As they saw matters, regulations and restrictions on the movement of men and goods were shackles to efficiency and to growth. They called for a world in which the energies of enterprising individuals would be liberated and in which market privileges accorded to those in official favour would be stripped away.

As has been true both before and since, the technique of inquiry in the classical era - no less than the choice of raw concepts to be addressed - was influenced by the intellectual climate of the times. Most of the main contributors to the classical tradition - and all of its founding fathers - viewed the economic order as analogous to the physical universe depicted by Newtonian mechanics. Economic affairs were regarded as governed by laws which, though ascertainable by man, lay beyond his direct control. In their day-to-day business, men were still well advised to understand the properties of these laws in order to guide their actions intelligently. It was indeed an important objective of economic studies to propagate an understanding of the significance of these laws.
appropriate standard against which to measure existing social institutions, and their doctrines could be used to support revolutionary causes. In the case of classical economists, the ‘natural order’ became a weapon with which to attack political regulation and the economic association with the mercantilist era. The term ‘mercantilism’ was actually coined by the English classicists and Physiocrats who used it as a label of abuse. This political device served, however, less than ideally to historical accuracy. Expressions like Smith’s ‘the mercantile system’ imputed more coherence to the thought of that era than it, in fact, possessed.

These ingredients of the classical mentality were forcefully brought to bear on one central question - the analysis of economic growth over extended time periods. Though the theoretical literature of classicism was to deal with a variety of issues, an overriding concern with the theme of economic growth took precedence in the moulding of its analytical categories.

This choice of focal point was clearly pertinent to the concerns of the time. By all the measurable indices, eighteenth-century Britain had enjoyed a considerable expansion in real output. At least in embryonic form, individualism was well under way. The tempo of economic life was changing, and at a pace more rapid than most of the classical writers perceived. But when economic expansion had already occurred, it was also clear that much remained to be done.

The Wealth of Nations has suffered the fate accorded to most classics: it is more talked about than read. To the popular mind in the mid-eighteenth century, Smith’s work is now commonly associated - not always accurately - with observations on economic policy. Though Smith was clearly an opponent of ‘the mercantile system’ and of the apparatus of privilege and state protection supporting it, one may reasonably doubt whether those who pigeon-hole the man solely as an apologist for unregulated business enterprise have fully appreciated such passages as the following:

People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

The interest of dealers ... in any particular branch of trade or manufactures, is, in some respects different from, and even opposite to, that of the public. ... Even the introduction of any new law or regulation of commerce which comes from this order, ought always to be listened to with the greatest attention, and to be followed by the most minute examination after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention. It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even to oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.

At the same time, Smith saw manufacturers and ‘projectors’ as the carriers of progress and he urged that they be afforded more space in which to manoeuvre. Much of his practical message was that institutional restrictions (whether legislated by governments or rooted in parochial traditions) were unhealthy. They cramped the rate at which a new and more productive industrial era could mature. Smith’s vision of the ‘industrial revolution’, however, was still remarkably circumscribed. He wrote more about pin factories than about iron fabrication and failed to appreciate the pace at which technological change was occurring during his lifetime.

Despite its impact on popular attitudes (and thus, indirectly, on economic policies) Smith’s work still deserves to be remembered as a highly ingenious contribution to economic theory. The Wealth of Nations brought to the fore issues that were to dominate the attention of economists for the next three quarters of a century and which, for that matter, have never lost their pertinence. This aspect of his thought, set out most fully in the first two of the five books into which his treatise is divided, calls for careful inspection. With a degree of comprehensiveness unrivalled by his predecessors he here formulated the grand design of an economic order in which all the parts could be seen in relation to one another. His views on policy, however, were derivative and cannot be adequately understood if detached from their theological moorings.

1ADAM SMITH (1723-90)

Smith was born to a Lowland Scots family of modest circumstances and reared by a mother who was widowed a few months before his birth. He early distinguished himself as a student and, at the age of fourteen, entered the University of Glasgow. Here he studied under the colourful Professor Hutcheson, the man credited with coining the phrase ‘the greatest happiness for the greatest number’, whose naturalistic approach to religious and political liberty clashed with prevailing theological doctrine. Smith was later to count Hutcheson among his important intellectual creditors.

In 1740 Smith was elected to the Snell Exhibition, a scholarship awarded to promising Scotsmen for continued study at Balliol College, Oxford. He was to spend the next six years of his life there. Despite the duration of his stay he was much in the Oxford atmosphere and, although he did not form a popular figure and did not get on well with fellow students or with his teachers. He found space in The Wealth of Nations to record his judgment on the Lindsay, a lasting friendship. This was a period in which the public professors have, for these many years, given up altogether even the pretence of teaching.3 This state of affairs, in his view, was but a manifestation of a general economic principle: that when financial rewards were divorced from criteria of performance, neglect of duties was likely to result.

Smith had originally been sent to Oxford with the expectation that he would enter holy orders. His sceptical turn of mind and sympathy for the works of David Hume (an attachment that strained his relationship with the Balliol tutors) ruled out this career. Upon his return to Scotland in 1746 he sought a teaching position - a search fulfilled five years later when his old university, Glasgow, called him to fill the chair of Logic. In the following year, he shifted to the chair Hutcheson had once held as Professor of Moral Philosophy.

The major fruit of this period in his life was The Theory of Moral Sentiments, published in 1759. This work, which has little distinction as a contribution to philosophy, was a preliminary attempt on Smith’s part to formulate the character of a ‘natural order’ of society. Human conduct was analysed in terms of three pairs of motives: self-love and sympathy; the desire to be free and a sense of propriety; the habit of labour and the desire to be free. In Smith’s view these natural sentiments acted as checks and balances on one another and supported a social order of natural harmonies in which each man, when left to pursue his own interests, unconditionally promoted the common good. Other themes, later to be worked out more fully in The Wealth of Nations, emerged in his Glasgow lectures. Already he was arguing that ‘the division of labour is the great cause of the increase of public opulence, which is always propor tioned to the industry of the people, and not to the quantity of gold and silver, as is foolishly imagined.

In 1762 Smith resigned his professorship to accept a position as tutor to the son of the Duke of Buccleuch. Quite apart from its financial attractions the appointment brought him opportunities for contact with influential figures - economically (e.g. few demands on his energies. He wrote from France to his friend, David Hume, On 5 July 1764: ‘I have begun to write a book in order to pass away the time. You may believe I have very little to do.

The incubation period of The Wealth of Nations was extended. Writing from Edinburgh in 1772, Hume, who had been led to believe that the work was near completion in 1769, upbraided Smith:

I should agree to your Reasoning if I could trust your Resolution. Come hither for some week’s Christmas; divest me of my and equip me for a visit to Kircaldy: finish your work before autumn; go to London, print it, return and settle in this town, which suits your studious independent turn even better than London. Execute this plan faithfully, and I forgive your unceremonious peremptoriness.

Ultimately, The Wealth of Nations appeared in 1776. Smith spent the last thirteen years of his life as His Majesty’s Commissioner of Customs for the northern part of Scotland. He is reported to have discharged his administrative duties competently. It is one of those ironies of the times that a man who had devoted a substantial part of his intellectual activity to producing arguments favouring the promotion of free trade and the minimization of governmental interference in economic affairs should have ended his days as the beneficiary of such patronage.

2. THE DEFINITIONAL BASIS OF THE WEALTH OF NATIONS

The central focus of Smith’s analysis was stated clearly in the full title of his work - An Inquiry into the Nature and Causes of the Wealth of Nations. Put in more modern terms, he was concerned with developing a theory of economic growth.

Smith announced his major explanation for economic growth in the early pages of his work which has since become the stock-in-trade of economists - ‘the division of labour’. This expression has a deceptive simplicity. Smith employed it in two quite distinct senses. The first referred to the specialization of the labour force accompanying economic advance that brought with it the ‘greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgement with which it is any where directed, or applied. . . . ’8 The full benefits of the progressive sub-division of tasks were available, however, only to a society in which production for exchange could take place. The capacity of a subsistence economy to generate these output-raising innovations and adaptations was severely limited.

From the point of view of the definition followed by the extent of the market9 and that measures widening the market - whether geographically (e.g. through improvements in transport and communication) or economically (e.g. through the removal of restraints on trade) - were in the general interest.

Smith’s interpretation of ‘the division of labour’ was not confined to job specialization. It also referred to the division of the labour force between those employed in useful labour ... and those not so employed’. The ‘division of labour’ in this second sense - which referred to the division of the labour force between various lines of employment - played an important role in his analysis of capital accumulation and of the ‘progress of improvement’ (as Smith was often to describe economic growth). The division he had in mind was that which made possible the ‘fructifying’ and perplexing. Nowadays economists are reluctant to stand in judgement over particular types of jobs, declaring some to be ‘productive’ and others to be ‘unproductive’ on the basis of which jobs provide the highest income or wages. Smith, by regarding labour as productively employed whenever there is a buyer for its services; in short, the gainfully employed population is by definition productive.
This point has caused considerable confusion, partly because the classical approach is quite alien to thought patterns now conventional and partly because classical writers were not themselves always careful to distinguish between the various uses to which they put their concepts of value.

If value was distinct from price, how then was the former established? Smith maintained the metaphor that the market was the 'great clockwork' of society, which would ensure that wages, rent, and profits were set in such a way that total output would be maximized. This led to the development of the notion of 'natural price', which was determined by the cost of production, and was therefore independent of demand and supply.

This approach was initially met with resistance, as many believed that the price of a commodity was solely determined by supply and demand. However, Smith argued that the market was a complex system, and that the natural price was a more accurate measure of the true value of a commodity. This idea was later refined by other economists, such as David Ricardo, who developed the concept of 'relative scarcity' to determine value.

In conclusion, Smith's ideas on value were a significant development in economics, and his approach remains relevant today. His emphasis on the role of the market in determining value, and the development of the concept of 'natural price', have had a lasting impact on economic thought.
exercise could be performed by dividing the total output, expressed in money terms, by the basic wage. If the result in period 2 exceeded that for period 1, it could be asserted that growth had occurred; moreover, the amount of change in the economy's total output could be established.

But this procedure, on closer inspection, did not fully live up to its initial promise. If wages remained fixed between periods, then prices, and other values, would no longer be comparable, unless it could also be assumed that all other prices and income shares had changed in the same proportion. Other issues, common to Smith's formula could prove misleading; if, for example, wages fell while other prices and income shares remained the same, output (expressed as command-over-labour) would appear to increase even when production had actually occurred. In parts of his argument Smith seemed to protect himself against this perplexity by taking the position that the natural wage rate tends to be a law that is worked through so, for example, the cost per pair of shoes would be the same in a plant produced to equip 100 pairs of shoes per day as in a plant producing ten pairs per day.

This view has been invalidated by later experience. It has since been abundantly demonstrated that in many lines of production unit costs are substantially reduced when high technologies are applied in large concentrations. In the infancy of industrialism, when the economic universe was dominated by small-scale producers, it was not altogether implausible. Smith, while neglecting the influence on productivity of various innovations in the innovations of the time, recognized that expansion in the economy as a whole would generate important gains in productivity. As the scale of the economic system grew, the division of labour would be further enhanced by technological innovation. Smith appears to have thought that the effects of this gain in productivity would be fairly uniformly distributed throughout all productive branches.

If Smith encountered some awkward stumbling blocks in his attempt to devise an invariant standard for measuring economic change, the problems he grappled with were still real and important. Similar issues persist in modern analyses of economic growth. In his time, the expanding economy was dominated by small-scale producers, it was not altogether implausible. Smith, while neglecting the influence on productivity of various innovations in the innovations of the time, recognized that expansion in the economy as a whole would generate important gains in productivity. As the scale of the economic system grew, the division of labour would be further enhanced by technological innovation. Smith appears to have thought that the effects of this gain in productivity would be fairly uniformly distributed throughout all productive branches.

In Smith's hands the appeal to labour as a basic measure of value underwent one further variation. He announced the theme in the infancy of industrialism, when the economic universe was dominated by small-scale producers, it was not altogether implausible. Smith, while neglecting the influence on productivity of various innovations in the innovations of the time, recognized that expansion in the economy as a whole would generate important gains in productivity. As the scale of the economic system grew, the division of labour would be further enhanced by technological innovation. Smith appears to have thought that the effects of this gain in productivity would be fairly uniformly distributed throughout all productive branches.

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land; this procedure, though stripped of social class associations, is closer to Smith's approach. Interest (which Smith subsumed under profits) is treated as the return on capital, the inanimate but man-process of capital accumulation turned on a part of its price is.

In such a 'functional' system all class lines are hidden. Smith, on the other hand, began with a social class division and built the greater part of his analytical structure around it. Though he did introduce some 'functional' considerations, they were intended primarily to cover the fuzziest cases. How then was the national revenue divided between the various orders of society? Smith's answer was developed in two stages. In the first, he considered the wages of the peculiarly attached to the determination of wages, profits and rents with considerable attention to the influence of the institutional environment on variations in the level of each. But never far from was a second and overriding influence; the 'geographical circumstances of the country.' - whether the economy as a whole was stationary, expanding, or declining.

Thus in the case of wages, prevailing scales at any particular moment were likely to be influenced by a variety of factors peculiar to individual jobs: their 'agreeableness or disagreeableness,' their geographical situation, expected duration, the worker's knowledge (or ignorance) of alternative employments and their terms, etc. But Smith also drew attention to another consideration - the relative bargaining strength of employers and employees - and he noted that the scales were often weighted to the disadvantage of workers. These variations, though important, could operate only above a lower limit: the minimum wage level required to maintain the health and strength of workers. After all, Smith argued, wages could not sink below subsistence requirements without shrinking the size of the labour force. Did it then follow that the 'subsistence' level of wages was a constant in the relationship toward which actual wages, over the long period, would gravitate? Malthus was to argue this case at a later moment in the evolution of classical theory. At one point, Smith wrote as if in anticipation of the Malthusian position that 'the demand for labour, and the price of any commodity, necessarily regulates the production of men.'

This assertion implied that a rise in wage rates above the minimum required for subsistence would soon be neutralized by an induced expansion in the size of the population and of the labour force. It would have to be to maintain the same other parts of production. Smith consistently maintained this position. As noted above, his command-over-labour doctrine could yield intelligible results only when equal amounts of revenue could be produced in the same quantity of time or over the same interval of time i.e. when the natural price of labour was constant. But, once having introduced this notion, Smith quickly moved away from it, arguing that the natural course of wages was closely related to 'the general circumstances' of the economy. An expanding economy was likely to be associated with rising wage rates, a declining one with falling wages, while in a stationary economy there would be little reason to expect wage levels to change.

This argument hinged on what Smith described as the volume of 'funds destined for the payment of wages.' The notion he had in mind called for a few simple assumptions, derived both because of his economic analysis and because it was so unfamiliar and because its central idea figured so prominently in the general classical outlook. In this view the process of production and exchange which was 'beginning with the revenue of the employers (capitalists and landlords) to acquire labour and the material inputs required in production. Workers, the recipients of these advances, later paid back this advance as wages. Same transaction, however, involved the transfer of funds back to employers who could finance 'advances' to initiate the next round of production. Thus, whether the demand for labour in a subsequent period was greater or less than, or unchanged from, the preceding one depended in large measure on conditions in the size of the non-wage shares of income (profits and rents) and the proportion of the fund thus generated that was allocated as advance to labour. In a period of general economic expansion it was expected that the wage fund would be enlarged and the demand for labour augmented. This, in turn, would tend to bid wage levels beyond the subsistence minimum, and to this condition, agriculturalists, later political economists, workmen of different kinds [who] make up the far greater part of every great political society.' Population growth might then follow. But, at this point in the argument, Smith entertained no Malthusian fears:

The liberal reward of labour, therefore, as it is the effect of increasing wealth and the only measure of the increasing wealth, is the natural tendency of a country's progress, having laid down the necessary cause and effect of the greatest public prosperity.

The course of economic progress was still not clear, despite Smith's minimum and to bring improved conditions to the 'servants, labourers and labour. In a period of general economic expansion it was expected that the economy as a whole was stationary, expanding, or declining.

As capital increases in any country, the profits which can be made by employing them necessarily diminish. It becomes gradually more and more difficult to find within one country a demand for the products of any new capital. A fuller explanation of the expected effects of the 'progress of improvement' required an analysis of the relationship between profits and rent. Smith, land-owner and income share attached to it clearly possessed some special attributes. The consequences of this uniqueness emerged forcefully in Smith's assertion that:

High or low wages and profit, are the causes of high or low price; high or low rent is the effect of it. It is because high or low wages and profit must be paid, in order to bring a particular commodity to market, that its price is high or low. But its price would be high or low, a great deal more, or very little more, or no more, than what is sufficient to pay those wages and profit, that it affords a high rent, or a low rent, or no rent at all.

How was this puzzling proposition to be explained? At base, Smith's account rested on the presupposition that nature was generous. Like the Physiocrats before him he viewed agriculture as capable of yielding outputs far in excess of inputs. Unlike but that he could expect its price to be high on a low, a great deal more, or very little more, or no more, than what is sufficient to pay those wages and profit, that it affords a high rent, or a low rent, or no rent at all.

Substantial growth in demand for agricultural products would have an important influence on the 'subsistence par dependence on conditions between the various orders of society. Most particularly, it would benefit owners of land. Smith anticipated that the demand for the various outputs of land was likely to rise more rapidly than demand for different goods. Thus, the various claims on land competed with one another; the same plot could be used for both agriculture and manufacturing. Smith was aware of this possibility; yet he did not push this argument to its logical conclusion. On the whole he regarded economic expansion as bringing benefits to all. It might be checked at a future point in time, but that day was distant. The emergence of a stationary state, when further expansion would be halted and capital accumulation restricted to replacement requirements, was too remote to call for serious analysis.

5. THE ANALYSIS OF CAPITAL ACCUMULATION

Smith's discussion of the problem of value and distribution set out the conceptual core of his analysis. To be completed, his model required an account of the mechanisms of economic change and of the factors governing the allocation of the labour force between productive and unproductive employment. Smith's explanation of the relationship between profits and rent was that landowners would receive an extra compensation to landowners, leading to new capital. A fuller explanation of the 'progress of improvement' required an analysis of the relationship between profits and rent. Smith, land-owner and income share attached to it clearly possessed some special attributes. The consequences of this uniqueness emerged forcefully in Smith's assertion that:

...
Though his development of these concepts was not altogether clear, he appears to have had in mind a subdivision of annual output into two components. The first referred to the portion of current output that would be necessary to finance rent payments and to maintain the employment of fixed capital at the same level in the following year. The second component - the net revenue - was intended to isolate that portion of current output which could be made available to augment production in the future.

One attribute of Smith’s definitions is especially noteworthy: unlike the net revenue defined in preceding decades, derived from productivity gains not restricted to capital consumption or depreciation allowances. Instead, maintenance requirements for the whole society were to be deducted from gross output; i.e. in addition to the minimum wage required to keep on fixed capital and the replenishment of raw materials, provision was also made for the ‘maintenance’ requirements of the various classes of society. The residual represented resources which, at least potentially, could be used to enlarge production in the future.

How then was the size of the net revenue established? In Smith’s analysis, the greater part of the answer was to be found in the distribution of income between the various orders and, most particularly, in the shares accruing to capitalists and landowners. Wage earners, after all, were unlikely to be paid enough to permit much, if any, ‘surplus’ in excess of their ‘maintenance’ requirements. Landlords and capitalists, on the other hand, might well have larger funds at their disposal than would be necessary to finance replacements and to sustain their conventional levels of living. The ‘surplus’ might, of course, be allocated to the enlargement of their consumption. But the outcome for society would be happier if these ‘surplus’ funds were used in some manner to convert into forms that would later enlarge production, a point Smith emphasized when asserting that ‘capitals are increased by parsimony, and diminished by prodigality and misconduct.’

Strictly speaking, members of both the classes receiving ‘net revenue’ might use these resources in ways that supported economic expansion. In Smith’s view, however, landlords displayed a distressing tendency to indulge in high living and to engage unproductive hands. For practical purposes, capitalists were the principal agents through which the net revenue could be converted into accumulation. The size of the profit share could thus be regarded as the basic determinant of the pace of accumulation and, in turn, of the rate of economic expansion.

While saving was a vital prerequisite for economic growth, Smith was at pains to point out that saving, as he viewed it, would not lead to witherskins or stagnation. ‘From this,’ he said, ‘the main end of saving is to be supplied the needed reinforcement by insisting that restrictions on trade would never internal interferences, destructive as was the trade of precious metals would produce effects that would later erode the favourable balance of trade. Hume, of course, needed another prop to this argument before it could stand. After all, a convinced mercantilist might argue that regulations could check a deterioration in the balance of trade. Hume supplied the needed reinforcement by insisting that restrictions on trade would not only frustrate the growth of trade, but would also restrict the operation of the invisible hand, and the progress of improvement.

Within the framework of his analytical system, Smith could quite consistently oppose many of the practices of European governments. But it did not follow directly from this part of his analysis that a régime of laissez-faire led to the best of all possible worlds. As he himself had recognized, unregulated private interests - fully as much as governments - might behave in ways that would suppress the progress of improvement. How was this difficulty to be resolved? Smith’s solution, though largely left implicit in his writing, amounted to the view that economic growth and a competitive order were mutually reinforcing. His case against mercantilism rested on the assumption that competition maximized growth. But if that assumption could be taken for granted, the subsequent treatment of international specialization and division of labour. This line of critique carried more weight than did much of Smith’s attack. His position, in fact, could thus be regarded as the basic determinant of the pace of accumulation and, in turn, of the rate of economic expansion. The progress of improvement thus took on an instrumental as well as an intrinsic value; it was the essential catalytic agent for the conversion of potential discord into harmony and the solvent of all restrictions and the barriers to effective competition. Only then could the natural tendencies of businessmen to collude against the public interest be held in check. Similarly, a climate of expanding demand that would naturally neutralize the power of capitalists to take advantage of unorganized workers. If competition was desirable as a spur to growth, economic expansion was no less important to the promotion of effective competition. The happy results that Smith saw from an expanding competitive society involved yet another assumption: that the benefits of growth would be shared by all orders of society. Smith himself, as we have seen, was generally confident that this would be the case. But at least some parts of his argument could be interpreted in such a way as to lead to a conclusion that might lie ahead. Improvements in real wages for members of the working class might, of course, be offset by subsequent population growth; further, the distribution of income between those two classes might change as the result of differentials in productivity. But, Smith argued, it was the collective advantages of labour that might be realized; the net advantage of landowners might also give rise to complications. These themes can be heard in The Wealth of Nations but only in muted tones.

6. ADAM SMITH AND ECONOMIC POLICY

Smith’s theoretical model and its attitudes towards policy questions were part of a single package. He regarded economic growth as the basic goal, the desirability of which was beyond dispute. From this perspective the adequacy (or otherwise) of any particular policy should be measured by its effects on the ‘progress of improvement’ and, more specifically, by its consequences for the accumulation of capital and the specialization of labour. When judged by these criteria, the mercantilist pattern of state regulation and control which Smith saw as the mainstay of 18th-century society. Similarly, his theory of value was now integrated into the scheme of the analysis of the economic universe made its complexity intelligible to men of the level of Smith’s influence in the classical tradition was devoted to the task of tidying and tightening the basic framework he had laid out for the next generation of contributors to the classical tradition was devoted to the task of tidying and tightening the basic framework he had developed. Prominent among the immediate issues to which Smith’s solutions themselves were such questions as the following: how and in what circumstances might the progress of improvement be checked? Did it necessarily follow that free competition was the solvent of all restrictions and the barriers to effective competition? Were the happy results that Smith saw from an expanding competitive society? sustained economic progress necessarily a paramount social value? Were the happy results that Smith saw from an expanding competitive society? sustained economic progress necessarily a paramount social goal? Malthus, Ricardo, and John Stuart Mill were to address themselves to these topics and to offer answers somewhat different from those Smith had supplied.
Although Adam Smith posed the main questions with which subsequent classical writers dealt, he left a number of loose ends in his argument. To his successors fell the jobs of refining and revising the classical theoretical structure and of probing deeper into its implications. Thomas Robert Malthus was to play an important part in this last activity. High among his interests was the codification of technical terminology and late in life he devoted a book, entitled Definitions in Political Economy, to this subject. The task was an arduous one, involving extensive research and ingenuity on the part of the author, but the result was considerable. It is true that his book was overshadowed by the publication of his Principles of Political Economy, but it did much to keep classical economic thought sharp and clear, and it established a form of expression by which subsequent writers could operate.

But analytical tidiness was by no means his dominant interest. He also sought to place the discipline on solid empirical foundations, recognizing both the woeful deficiency of statistical data then available and the shaky empirical basis of many widely accepted theoretical propositions. In the introduction to his main work on economics, he maintained:
The principal cause of error, and of differences which prevail at present among the scientific writers on political economy, appears to me to be, a precipitate attempt to simplify and generalize; and while their more precipitate opponents were confining themselves to frequent appeal to partial facts, these writers run to a contrary extreme, and do not sufficiently try their theories by a reference to that enlarged and comprehensive experience which, on so complicated a subject, can alone establish their truth and utility. Though not himself altogether innocent of the sins he saw in others, the empirical turn of his mind was often decisive in shaping his position on controversies of the day.

By the time Malthus wrote, re-examination and reconsideration of Smith’s findings were clearly in order. The economic climate had undergone a significant change. Smith’s successors, though still concerned with the economy’s long period prospects, were quite naturally involved in debates over immediate economic problems as well. The Napoleonic wars had stimulated sharp price increases and most particularly in the prices of food grains. Meanwhile real wages had deteriorated, bringing considerable distress to the working class. In addition, the United Kingdom became for the first time a net importer of foodstuffs. These war-induced disturbances were compounded when the end of hostilities brought with it a period of severe deflation. The post-1815 problems of re-adjustment were to stimulate important developments in political economy and to spark a lively public interest in the reflections of political economists.

1. THOMAS ROBERT MALTHUS (1766-1834)

Malthus has been described by his principal biographer as “the best-abused man of the age.” Certainly he was in the thick of controversy for the better part of his days. Born to an upper-middle class English family with aristocratic pretensions, Malthus entered Jesus College, Cambridge, in 1784 where he studied mathematics and compiled a distinguished academic record. As he himself reported, he was more noted as an undergraduate ‘for talking of what actually exists in nature or may be put to real practical use’ than for an interest in abstract reasoning for its own sake. After a period of hesitation—apparently because of concern about a speech defect—he took Holy Orders. Though the label ‘parson’ was permanently attached to him, he was a practising clergyman for only a brief period. For most of his life he pursued an academic career, first in Cambridge and later as Professor of Modern History and Political Economy at a college newly established to train officials of the East India Company. This appointment, for which there was no precedent, entitles him to be regarded as the world’s first professional economist.

Malthus first gained fame with the Essay on the Principle of Population. The first edition, published in 1798, appeared anonymously, presumably because its author feared that some readers might be disturbed to discover an ordained churchman discoursing on such delicate matters. The author’s identity, however, was only thinly veiled. William Godwin, whose views were a major target of criticism in the essay, is known to have corresponded with Malthus about its contents in the year of publication. The lively reception of the essay led Malthus to prepare six further editions, the final version of which was published in 1826. The theory he developed with much direct pertinence to current debates. Shortly before the publication of the first edition, the younger Pitt proposed legislation designed to reorganize the poor law; the prospects were good, and the government responded with encouragement and large efforts on the grounds that ‘those who, after having enriched their country with a number of children, have a claim upon the protection of government, and who without their assistance cannot support their families.’ The project was intensified by the census of 1801 (the first comprehensive enumeration of the population of Great Britain).

These tabulations appeared to indicate that population had grown substantially in the latter part of the eighteenth century. Previously, an important body of opinion had believed—Mayo believed—that the pioneer national income statistician, who had predicted in 1696 that the population of England would be unlikely to double in less than six hundred years—that the pace of population growth was more than the pace of economic expansion. Malthus’s response to population questions served as a point of departure into more general analyses of economic and social problems. He addressed himself to broader themes in a series of pamphlets and articles on topics of the day and in his major theoretical work, The Principles of Political Economy Considered with a View to Their Practical Application. He found his teaching duties satisfying and regarded his subject a suitable study for young men who ‘could not only understand it, but they did not even think it dull’.

Contrary to many popular impressions—both in his day and since—he was by temperament a warm, generous, and gentle man. Of his many friendships the one of most significance to the history of ideas was his association with his intellectual adversary, Thomas Godwin. Although they were sometimes at loggerheads, they each admired the other occasion but an ally in the pursuit of truth. On his feelings toward Ricardo he once observed: ‘I never loved anybody out of my own family so much.

2. THE LAW OF POPULATION

Malthus’s law of population developed a point that Smith had left in obscurity and was readily assimilated into the main stream of classical thought. Malthus’s intellectual input into the subject was considerably stimulated by a debate with his father over the doctrines of Godwin, an advocate of a crude form of utilitarianism who had called for the abolition of private property. In Godwin’s view, the positive law of population was an unequalized blessing: with more numbers to be happy total happiness could be increased. Feeding an enlarged population, moreover, was left as an open question. Malthus was not content to unleash fresh incentives for the enlargement of production. In short, Godwin maintained that with appropriate institutional reforms a social Utopia was within reach. The sympathies of the elder Malthus with this position spurred his son to refute it and the document he wrote for this purpose became the first version of his famous essay.

The basic argument was stated succinctly in the following propositions: I think I may fairly make two postulata. First, That food is necessary to the existence of man. Secondly, That the passion between the sexes is necessary and will remain nearly in its present strength. Assuming, then, my postulata as granted, I say, that the power of population is indefinitely greater than the power in the earth to produce subsistence for man. Population, when unchecked, increases in a geometrical ratio, whereas the means of subsistence increase only in an arithmetical ratio. A slight acquaintance with numbers will show the immensity of the first power in comparison with the second.

From these propositions Malthus deduced that a war between the powers of human reproduction and the production of food would be perpetual. In the nature of things, population could not exceed the limits set by the availability of food-stuffs. How then were the immense powers of human reproduction to be contained? The first edition described one of the mechanisms touched off by population growth as follows: The number of labourers also being above the proportion of the work in the market, the price of labour must tend toward a decrease; while the price of provisions would remain nearly in its present state. Assuming, then, that the pace of population growth was the same time to rise. The labourer therefore must work harder to earn the same as he did before. During this season of distress, the discouragements to marriage and the difficulty of rearing a family are so large that population tends to fall. In the second edition Malthus elaborated on the cheapness of labour, the plenty of labourers, and the necessity of an increased industry amongst them, encourage cultivators to employ more labour upon their land; to turn up fresh soil and to manure and improve more completely what is already in tillage; till ultimately the means of subsistence become in the same proportion of the population as at the period from which we set out.

Over a longer period, more forceful checks to the tendency of population to increase beyond the means of subsistence were also likely to be effective. In the first edition two checks - the positive and the preventive — were distinguished, though both were reducible to misery and vice. The positive check was that population might be thinned by war, famine, pestilence, plague or disease. The outcome would be less bleak if the population could be persuaded to exercise appropriate prudence in restraining the growth of numbers. Malthus held out little hope that this outcome could be brought to pass. In any event, he maintained that lengthy postponement of marriage would probably be associated with a rise in moral depravity and unnatural attachments.

This analysis offered only a dismal future for the human race. Mankind was left on a treadmill. Any improvement in average levels of income, the message seemed to say, would soon be neutralized by expanding numbers; wages would then be pushed back to subsistence. (Modern readers should bear in mind that the age of entrance into the labour force was much lower in Malthus’s day than is now the case in industrial societies; many of the textile mills in the early stages of the industrial revolution were manned by children under ten and it was by no means unusual in the first quarter of the nineteenth century for six-year-olds in the coal pits.) The Malthus of the first edition saw the links between population and real wage levels as so unbreakable that ‘to
prevent the recurrence of misery, is, alas! Beyond the power of man'. It is small wonder that Malthus has been interpreted as converting Smith's inquiry in the 'wealth of nations' into an inquiry into 'the poverty of nations'.

In the second and subsequent editions, the argument was restated with a number of modifications. These qualifications made little difference to the public understanding of his message and indeed Malthus sometimes neglected them in his own writing. The preventive check – i.e. the restraint on fertility – operated regardless of whether or not a labour market operated and was upgraded with the effect of opening up some prospect for improvement in the condition of the working class. This shift in emphasis, however, involved a more substantial redefinition of one of his crucial concepts than Malthus directly acknowledged. In the first edition subsistence could generally be interpreted as referring to physiological requirements for survival, but the concept subscribed to by Malthus in subsequent editions introduced a complication. Subsistence could no longer be understood in terms of survival needs. A psychological version of subsistence – i.e. the restraint that a potential parent would insist upon before raising a family – would be a more complicated concept. Subsistence might be constant or they might rise, depending on which notion of condition of the working class.

In his essays on population Malthus attached little weight to the possibility of this outcome. He appeared to believe that significant changes in the habits and attitudes of the population (and, most particularly, of the working class) would take place only over a long period of time, if at all. In his later work on price of economic writing, the alternatives were given fuller recognition: From high wages, or the power of commanding a large portion of the necessities of life, two very different results may follow: one, that of a rapid increase of population, in which case the high wages are chiefly spent in the maintenance of large and frequent families: and the other, that of a decided improvement in the modes of subsistence and the conveniences and comforts enjoyed, without a proportionate acceleration in the rate of increase.

This concession, however appealing as a withdrawal from the harshness of the first edition, stripped his population theory of much of its bite. No longer could it be maintained that Malthus had uncovered a scientific law with direct and immediate bearing on social reality. Instead, his principle was reduced to a tautology, empty of empirical content. Despite its appearance, the proposition that pressure of population will naturally prevail over a subsistence level says almost nothing about the condition of the working class. With growth in national output, real wages might be constant or they might rise, depending on which notion of subsistence was operative. No evidence can falsify a statement of this form.

The cost of this immunity, however, is loss of contact with the world of events. In his recommendations on economic policy Malthus largely ignored these qualifications. Moreover, most classical economists interpreted his principle of population as providing a convincing demonstration that real wages would naturally gravitate to an equilibrium at a fixed level of subsistence. Nor in the popular understanding was the gloom of the original version noticeably relieved. As one of the characters in D. H. Lawrence's Love Person observed: Bachelors and spinsters I decidedly venerate. The world is overstocked with featherless bipeds. More men than corn is a fearful pre-eminence, the sole and fruitful cause of penury, disease and war, plague, pestilence and famine.

If Malthus's logic was not impeccable, his interpretation of the causal mechanisms of population change was also open to reconsideration. Not only had argued that adjustment of population size to economic change occurred largely through effects on natality. If real incomes improved, marriages would be contracted earlier and births would increase. He assigned little importance to the possible relationships between economic improvement and reductions in mortality. There is considerable evidence to suggest, however, that the 'population explosion' of his day was heavily influenced by reductions in death rates. These demographic changes, moreover, were linked more closely to improvements in public health and sanitation than to improvements in real wages. The facts of the case, however, are not yet completely established and the adequacy of Malthus's argument is further weakened by the fact that the British population in the late eighteenth and early nineteenth centuries is such that, as one close student of these problems has commented, a thorough-going understanding of the available data would require 'a generation of collaborative work on parish registers and other local sources'.

With the benefit of hindsight, it is now clear that Malthus considerably underestimated the pace of technological progress and its impact. He could not have known that the expectation of a break-through in agricultural science that was later to alter radically the capacity of the limited supply of land to feed much enlarged populations. Nor did he foresee improvements in the techniques of fertility limitation. Similarly, Malthus did not appreciate the opportunities offered by international trade for expanding a small island's capacity to provide subsistence to an equilibrium of the causal mechanisms of population growth. He assigned little importance to the prevention of famine as a withdrawal from the harshness of life. His claim that real incomes would naturally gravitate to an equilibrium of the causal mechanisms of population growth cannot be sustained.

In Western countries, the tone of fatalism that ran through Malthus's discussion of the relationship between population and food production still today. The western countries in which it now has no justification. The experience of the past century in industrial societies provides abundant evidence that the coefficients of human reproduction and food production are more variable than Malthus and many of his contemporaries believed them to be. In many of the poorer parts of the modern world, however, Malthusian presuppositions remain dangerously ungrounded. The demographic explosion of the 1840s reduced the population – through the combined effects of mortality and emigration – from nearly nine million to six and a half million in only six years.

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on the grounds that for each mouth God sends a pair of hands. Now it appeared that food output, though it could still grow, was likely to do so at a declining rate and that in consequence the problem of maintaining food availability per head could be expected to become more serious as the population mounted. Malthus did recognize, however, that considerable relief could be afforded if capital were poured into agricultural improvement. The landlord, he held, could not be kept without profit and return'. Unlike Smith, he held that the landlord could be an important improver and investor. The intensification of agricultural production, however, was not likely to occur until rents had already risen.

In another respect the classical notion of diminishing returns diverged from the interpretation that later acquired currency. For Malthus (and for most classical economists) this analysis was intended to refer only to agricultural production. The tendency to 'diminishing return' was not extended to industrial production. On the contrary, they anticipated that in manufacturing - where the basic instruments of production could be multiplied without natural limit - the same problem would not arise. The returns reaped by capitalists (i.e. profits) were likely, over the long term, to exceed the cost of production. But what a phenomenon was related more to the effect of rising rents and food prices than to the conditions attached to the production of manufactured goods.

This analysis of production problems in agriculture buttressed Malthusian population arguments, but it also had a number of further consequences. In effect it challenged one of the presuppositions on which The Wealth of Nations had been built. Smith had viewed rent as an unearned income arising primarily from the bounty of nature. Malthus brought another side of the coin to the foreground - its stinginess in limiting the size of the acreage and in restricting the supply of lands with high fertility. Natural conditions thus imposed severe limitations on the rate at which agricultural output could grow.

This finding, in turn, was symptomatic of a broader re-orientation in the classical outlook. It could be set out as the result of a proposition advanced by Malthus and by Ricardo, a redistribution of income in favour of rents and at the expense of profits was likely to occur at a faster pace than Smith had been prepared to allow. Malthus added the qualification that rent could not rise while the relative magnitude in the course of economic expansion, would not necessarily increase as a proportionate share of total revenue. But his view - which Ricardo, among others, did not share - rested on the assumption that rising rents would spur capital improvements in agriculture with the result that a growing share of the income of landowners could be treated as profit. In any event, the consequences of this accumulation greatly exceeded those likely to be associated with rising food prices, higher 'honey wages' (even though the real wage was unchanged), and a squeeze on the profits of capitalists. The prospect of stationary population growth would cease and capital accumulation would be restricted to replacement requirements - thus became a less distant possibility.

Malthus's analysis of population and of agricultural production did much to cast a shadow over the optimism of early classicism. In some degree this part of his message was absorbed into the mainstream of later classical thought. The inferences flowing from these findings were largely responsible for provoking Carlyle to label political economy as 'the dismal science'.

4. MALTHUS AND THE LAW OF MARKETS

Malthus's place in the history of economic ideas rests on more than his contribution to the classical analysis of population and of productivity in agriculture. He is also renowned for an important dissent from one aspect of the orthodox classical tradition. The crucial company with most of his contemporaries concerned the allegedly 'self-adjusting' properties of markets. This weapon in the arsenal of classical economic laws has usually been associated with the name of a Frenchman, J. B. Say (1767-1832), though its central idea had been spelled out earlier by James Mill. For that matter, Smith - without arguing the point - had anticipated its conclusions in The Wealth of Nations.

Say's law has figured so prominently in economic controversies over the past century and a half that the form in which it was originally stated deserves to be set out. It proceeded deductively from two propositions:

(1) That products are given in exchange for products
(2) That goods constitute the demand for other goods.

The significance of the first of these statements lay as much in what was not said as in what was said. By asserting that 'products are given in exchange for products', Say restricted money to the role of a medium of exchange, while the second asserted that 'goods constitute the demand for other goods'. This was not an original view; Smith and Mume before him had reached essentially the same conclusion. Say regarded this finding as revolutionary, and as demonstrating conclusively the fallacies of a mercantilist view that money was worth acquiring as an asset.

Say's second proposition was to have a marked influence on the development of economic thinking. The emphasis on 'products' as the demand for other goods' was interpreted to mean that the act of producing generates incomes sufficient to buy back the product or, more simply, that 'supply creates its own demand'. The proposition was understood to refer to the economy as a whole and not to the situation of individual firms or industries. Because a deficiency in aggregate demand allegedly could never exist, Say's Law ruled out the possibility of 'general over-production'.

This conclusion rested on an important, though implicit, assumption: that all income was spent and none hoarded. For Say and most writers in the classical tradition, the basic premise was too self-evident to call for detailed argument. The proposition that 'demand would not be created without supply' could not be that anyone should ever wish to hoard. After all, no intelligent man (as opposed to the exceptional case of the misguided miser) would accumulate idle balances of income awaiting the same funds at interest. This attitude was held with the force of dogma by the orthodox classical mind, a phenomenon not unrelated to its antiquity toward the mercantilist attitude that hoarding on a national basis was socially beneficial.

While 'general over-production' was thus ruled out, 'partial over-production'- a situation in which individual firms or industries were unable to dispose of all their output - could clearly occur. Even though an individual producer added as much to total demand as to total supply, he would thereby leave the rest of the market incomplete. Disturbances might arise - stemming, for example, from entrepreneurial miscalculation or changes in the public taste - that would confront the seller with a partial glut of unsold commodities.

But that was not the end of the matter. It was essential to this argument to insist that if and when partial overproduction occurred, the disturbance would not- escalate into a general glut. The doctrine maintained that if one seller was unable to dispose of all his product, then others could be expected to enjoy an abnormally strong demand for his. This conclusion followed from the condition that all income was spent on either consumption goods or investment goods.

With one further step it could also be maintained that a situation of partial over-production would tend, in the normal course of events, to correct itself. For there were always potential buyers for idle labour and capital, and as demonstrating conclusively the fallacies of a mercantilist view that money was worth acquiring as an asset.

The tidiness and elegance of this argument gave it to an obvious appeal. But one of the distasteful consequences of the doctrine was that the economy was assumed to be a self-regulating system. The stability of the market and the mobility of capital and labour, then partial over-production could be expected to induce a real-allocation of productive resources. Capital and labour would be withdrawn from the glut sectors and put to work in enterprises displaying buoyant demand. Without the need for increased capital and employment could not be made instantaneously. Nevertheless the natural forces of the market, if left alone, would supply the imperatives required to eliminate a temporary partial glut.

By modern standards; Malthus's counter-argument was not systematically worked out. His views were developed around a distinction between two categories of outputs - essentials (primarily food) and non-essentials. In the case of the former, there was never a problem of glut. As his argument on population had demonstrated, increased supply (in the form of an enlarged availability of foodstuffs) automatically created its own demand (in the form of a larger number of mouths). In the case of the nonessentials, however, the problem was different. Whether or not the market was cleared of these goods depended on the tastes of those - younger landlords and capitalists, in particular - which required these goods. Those who were more willing to pay the going price for them. Malthus might well have added another sub-group (though he did not): the nouveaux riche who held the enormously enlarged government debt created by the Napoleonic Wars. At the time their economic position was not unimportant, as service charges on the national debt amounted to about ten per cent of the national income.

Malthus's diagnosis of the 'glut' problem had much in common with the attitude that led him to put little faith in the efficacy of the preventive check to population growth. The tastes and habits of the working class could not be altered even over a prolonged period time, he maintained, nor were those of potential buyers of luxuries likely to be much more pliable. As he elaborated the significance of this point in a letter to Ricardo in 1817:

You seem to think that the wants and tastes of mankind are always ready for the supply; while I am most decidedly of opinion that few things are more difficult, than to inspire new tastes and wants, particularly out of old materials; that one of the great elements of demand is the value that people set upon commodities that the supply suitably to the demand the higher will this value be, and the more they labour will it exchange for, or give the power of commanding...I am quite of opinion that practically the actual check to produce and population arises more from want of stimulus than want of power to produce.

To deal with these distresses Malthus proposed several heretical remedies. Fearing that the absence of 'normal' good prices would lead to an abundance of goods, the orthodox classical mind, with its view that the demand might be insufficient to absorb the product of the economy, he maintained that encouragement of unproductive expenditures was the cure of all wrong. This attitude was held with the force of dogma by the orthodox classical mind, a phenomenon not unrelated to its antiquity toward the mercantilist attitude that hoarding on a national basis was socially beneficial.

To deal with these distresses Malthus proposed several heretical remedies. Fearing that the absence of 'normal' good prices would lead to an abundance of goods, the orthodox classical mind, with its view that the demand might be insufficient to absorb the product of the economy, he maintained that encouragement of unproductive expenditures was the cure of all wrong. This attitude was held with the force of dogma by the orthodox classical mind, a phenomenon not unrelated to its antiquity toward the mercantilist attitude that hoarding on a national basis was socially beneficial. The results would be even happier if landlords engaged workers who

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Malthus’s views on the problem of gluts in the post-Napoleonic war period have been described as an anticipation of later Keynesian arguments on the importance of aggregate demand to the determination of total income and employment. Despite the surface resemblance between these lines of argument such claims place an undue strain on the facts. Malthus’s thought was still very much in the classical mould. Though he sensed something amiss, he was unable to rise above the limitations of this tradition. In fact, the main manoeuvre that would have permitted him to make a counter-argument— an analysis of the likelihood of hoarding in periods of ‘glut’— he did not seriously entertain.

5. MALTHUS AND ECONOMIC POLICY

If Malthus was at odds with the mainstream of the classical tradition in his analysis of ‘gluts’, he also parted company with many of his contemporaries on other matters. While most classicalists favoured free trade, particularly in the context of agricultural commerce, Malthus defended the agricultural protection provided by the Corn Laws. While most of his contemporaries opposed unproductive expenditures (particularly government spending) and circulating capital, Malthus made a positive case for them. Perhaps even more puzzling was his attitude towards population control. In view of his fears of a population explosion and its consequences for human misery, one might have expected him to be calling for more adequate birth control. In fact, however, he opposed contraceptive practices, technically deficient (by modern standards) as they were in his day.

Underlying these positions was a consistent, if dubious, rationale. Malthus attached prime importance to an expanded production of foodstuffs and he deplored a sharpening of incentives as essential to its achievement. Agricultural protection was thus justified on the grounds that high food prices would encourage productivity-raising investment in agriculture.

This attitude was bolstered by a subsidiary non-economic argument: it would be unwise, he maintained, for a small island to rely on imports for a substantial part of its nourishment. In times of war or national emergency, it would be unwise, he maintained, for a small island to rely on imports for a substantial part of its nourishment. In times of war or national emergency, its position would be uncomfortably vulnerable.

Similarly, his opposition to birth control rested on the view that family responsibilities helped men to overcome their natural tendency to indolence and sloth. The pressure of necessity was an unrivalled spur to diligent and intensive work. His heretical recommendations on unproductive expenditures were addressed to a specific situation and were not defended as general propositions. The remedies proposed, however, gave an important place to the employment of idle labour in tasks that would raise the productivity of the land.

Though Malthus made some conspicuous departures from the standard classical position, his views on a wide range of policy issues were in full accord with other methodological contemporaries. Malthus was no less militantly opposed to the Poor Laws than were his ideological opponents. He already noted he was generally an advocate of the free market and an opponent of governmental restrictions. Like most of his classical contemporaries he attacked the Poor Laws. While he followed the path cleared by Smith, he provided - with the aid of his population analysis - some additional arguments for repeal or amendment. No longer were the Poor Laws objectionable primarily on the grounds that they interfered with labour mobility; Malthus also argued that they had the unfortunate effect of swelling claims on the nation’s food supplies while making no contribution to their enlargement. Moreover, the existing system compounded the difficulties in at least two respects: not only did parish relief deplete incentives to work but it also enabled its recipients to reproduce at rates higher than would otherwise have been possible, thus intensifying the competition for a limited food supply.

Harsh though some of Malthus’s views on policy appeared to be, it must be noted that, by his lights, they were inspired by a genuine concern for humanity. Malthus was almost alone among his contemporaries in urging public measures to alleviate post-war unemployment. His recommendations on the Poor Laws - to which he was militantly opposed - were a gradual phasing out of parish relief. He advised withdrawal of public assistance only from the able-bodied; persons unequipped to earn their living would retain a claim on state charity. But, most important, all of his views on economic policy stemmed from a conviction that constraints on food production imposed severe limits - limits that men could ignore but only at their peril - on the prospects for improvement in material circumstances.

Ricardo and Malthus worked much the same theoretical territory. Both were concerned with extending the tradition launched by Smith and with sharpening its insights. Moreover the writings of both responded to the unusual circumstances of the Napoleonic wars and their aftermath. On a number of specific points they arrived at quite different conclusions. Nevertheless, both aimed at a classical economic theorizing. For his part, Ricardo identified himself with its central issues when he declared that the ‘principal problem in Political Economy’ was to ‘determine the laws regulating the distribution of income among the various classes and their relation to the general circumstances of society.’

The aspect of this theme on which Ricardo initially focused attention was more restricted in scope: the effects on the economy as a whole of the protection afforded to agriculture by the Corn Laws. In the circumstances of the time, it was by no means accidental that this issue should have occupied a dominant place in Ricardo’s thought. The Napoleonic wars - combined with a run of poor harvests - had, as noted earlier, converted the British economy into a net importer of food grains. Corn prices had skyrocketed and meanwhile the income of landlords had been swollen. On one estate for which systematic records have been kept, for example, the landlord’s return increased by nearly tenfold between 1776 and 1816. And as this return can be interpreted as an ‘economic rent’ in the sense in which Ricardo and Malthus wrote about it in their theories; part represented a return on investments to raise the productivity of the soil. Nevertheless it was a decade later that a full-blown view - dealing with the balance of agriculture (relative to the rest of the economy) had occurred.

The problems were aggravated by amendments to the Corn Laws passed shortly after the end of the war. Their effect was to make the protection of domestic agriculture virtually absolute by prohibiting the importation of foreign grain until the domestic price of wheat exceeded sixty shillings per quarter. The problem to which Ricardo addressed himself was clearly real and important. His preoccupation with the significance of agriculture was apparent in the phrasing he chose to preface his major work: The produce of the earth - all that is derived from its surface by the united application of labour, machinery, and capital, is divided among the three classes of the community; namely, the proprietor of the land, the owner of the stock or capital necessary for its cultivation, and the labourers by whose industry it is cultivated.

But in different stages of society, the proportions of the whole produce of the earth which will be allotted to each of these classes, under the names of rent, profit, and wages, will be essentially different; depending mainly on the actual fertility of the soil, on the accumulation of capital and population, and on the skill, ingenuity, and instruments employed in agriculture.

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In his interest in the abstract problems of economics was developed in the middle years of his life. His acquaintance with the subject appears to have started when, at the age of fourteen, he entered the London Stock Exchange in the employ of his father. Upon the son’s marriage outside the Jewish faith seven years later, family relationships were strained and the younger Ricardo struck out on his own. Specializing in dealings in government securities, he soon flourished and, by 1815, had amassed a sizeable fortune.

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1. DAVID RICARDO (1772-1823)

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Late in life, despite his protestations on the malevolence of landlords, Ricardo placed the largest part of his subject in labour—this aspect of his friend's behaviour, Malthus once observed: "He [Ricardo] is now become, by his talents and industry, a considerable land holder; and a more ardent supporter of the land system, a grain dealer, a man, a lawyer for the qualities of his head and heart more entirely deserves what he has earned, or enjoys it better, I could not point out in the whole circle of landholders."

It is somewhat singular that Mr Ricardo, a considerable receiver of rents, should have so much underrated their national importance; while I, who never received, nor expect to receive any, shall probably be accused of overrating their importance. Our different situations and opinions may serve at least to skew our mutual sincerity, and afford a strong presumption, that to whatever bias our minds may have been subjected in the doctrines we have laid down, it has not been that, against which perhaps it is most difficult to guard, the insensible bias of situation and interest.

2. RICARDO'S ANALYTICAL PROGRAMME

The central core of Ricardian theoretical argument was contained in one fundamental proposition: ‘that in all countries, and at all times, profits depend on the quantity of labour requisite to provide necessaries for the labourers on that land or with that capital which yields no rent’. To the extent that the bulk of his analysis was dedicated to supplying arguments to support this conclusion. The importance of this proposition within the larger context of classical thought can be readily appreciated. The rate of profit for Ricardo, as for the earlier classicists, was a primary regulator of the forces likely to frustrate its continued expansion. Population growth, rates of profit were likely to deteriorate even though real wages were unaltered. The margin of cultivation would then be extended to poorer lands where more labour input per unit of output would be required than had previously been the case. More corn would then be available for consumption in order to raise the income. The extra corn output needed to feed a larger population. As Ricardo phrased the outcome, ‘the quantity of labour required to produce necessaries on zero-rent land’ would rise. Higher rates of profits in agriculture and throughout the economy would be squeezed.

Ricardo’s simple model, though built around an analysis of productive conditions in agriculture, thus had contained within it a broad vision of the forces regulating the distribution of the social product and, in turn, of the forces likely to frustrate its continued expansion.

3. THE RICARDIAN REFORMULATION OF THE THEORY OF VALUE

Ricardo’s simplified model of the corn-based economy permitted the mechanisms of distribution to be analysed in real terms without reference to valuation. If, in fact, society had been organized exclusively along the lines of a giant farm, a very different rate of profit would be required to bring the output, this formulation would have required no elaboration. But Ricardo appreciated that the world of reality was more complex. Some headway towards a formula by which all sectors of the economy could be analysed was made by isolating a ‘basic’ sector possessing convenient analytical properties and by arguing that all other sectors would conform to its results. Nevertheless a closer inspection of the linkages was clearly in order.

At a more general level of analysis, the problem became less tidy. Outside agriculture, outputs were considerably more heterogeneous and their variety called for the aid of a device capable of reducing them to a common denominator. In short, statements about the division of the national income into wages, profits, rent, etc. were not only productive of this output, but were necessary to the further assumptions of the system. A more general analysis into primary factors of production could be made by isolating a ‘basic’ sector possessing convenient analytical properties and by arguing that all other sectors would conform to its results. Nevertheless a closer inspection of the linkages was clearly in order.

Ricardo approached the problem of value along a path somewhat different from the one his predecessors had taken and he emerged from his inquiries with a different solution. Smith, for example, had addressed himself to the issue for the primary purpose of measuring changes in total output between time intervals of considerable length. Ricardo, though not insensitive to the importance of this problem, was doubtful that labour could serve as a ‘stable’ and ‘invariant’ measure. In any event, it was more pertinent to his concern to analyse the consequences of changes in the relative prices of output for the distribution of income.

The Ricardian approach was taken to be closer to the questions that were to dominate economic theorizing in a later stage - in particular, the analysis of price determination - than had Smith’s. Even had he chosen to do so, Smith, with the tools he worked with, would have been prevented from offering a systematic account of relative price in labour terms. His procedure, it will be recalled, used labour as a ‘measure of value’ by relating income to labour inputs that could be ‘commanded’. On the input side, however, he lacked a basis for dissolving the nonlabour factors of production into labour units.

The Ricardian analysis of rent re-opened the labour input route to the analysis of value. Because he maintained that the price of corn was regulated by labour inputs on zero-rent land, the land factor of production could be effectively excluded. Ricardo, in this respect, was little different from his forerunners. Indeed, a different factor of course, was a different matter. It appeared to be readily reducible to labour inputs. A machine, for example, could be viewed as embodied or allocated labour, whereas the power of water, which would be transferred to current output over the course of its life. The value of a commodity could then be expressed in terms of labour inputs (both those applied
directly and indirectly through embodiment in machines) required in its production.

At first glance it might appear that a satisfactory common denominator had been found. But, as Ricardo came increasingly to realize as he grappled with this issue, a labour-content interpretation of value became awkward precisely because it met the demand where it would be required least—of long period economic change. A crude labour-content explanation of relative price ran into heavy weather when important dynamic considerations came into the scene: e.g. changes in money wage rates and the accumulation of fixed capital.

With the accumulation of capital, Ricardo saw that a number of complications were introduced. After all, it could not be assumed that the fixed capital stock employed in an economy would have uniform durability, nor could it be assumed that fixed and circulating capital were allocated in identical proportions in all lines of production. Once these elements of diversity in the productive structure were allowed, there was no longer any basis for holding that prices would correspond to labour inputs in a given sector of the economy. Divergent price results could be obtained, for example, if wage rates were altered, even though production processes themselves were unchanged. The basic point to which Ricardo wished to draw attention was that a production process dominated by direct labour inputs would be more vulnerable to an increase in money wage rates than would one in which indirect labour inputs (i.e. labour embodied in fixed capital) were used. If a uniform rate of profit were to be maintained in all branches of production, then relative prices would diverge from ratios of labour inputs in production. Moreover, a divergence might arise from inequalities in the time periods of production.

Two commodities produced with identical quantities of labour input would still vary in general purchasing power if longer periods of capital outlays before revenues were realized through sales than the other. In short, the strict labour interpretation of value broke down. Ricardo still maintained that wages were the indispensable, or at least one of the narrow limits. At one point in his treatment of the divergence of price ratios from labour input ratios of two commodities produced with differing proportions of direct and indirect labour, he asserted: The greatest effects which could be produced on the rate of profits of these particular kinds of wages, could not exceed six or seven per cent, Labour content was only a crude approximation or, as he later put it, the foundation of value.

This unsuccessful detour into value theory in a dynamic setting was not, however, devoid of significance. It produced a fresh insight into the relationships between wages in general, and the accumulation of fixed capital, the phenomena responsible for undercutting his labour input approach. Both of these changes were expected to accompany economic expansion. But there was another important connexion between them. Rising wage rates would induce employers to substitute fixed capital for labour in order to reduce costs of production. Ricardo expected that the resulting economies would, at least in part, be passed on to consumers through price reductions, a result that competition was expected to assure. But what would be the consequence for the volume of employment? The Ricardo of the first two editions of Principles was confident that technological unemployment was an impossibility and that productivity gains brought by the introduction of machinery were an unmixed blessing. All classes of society would benefit from the ensuing reductions in prices of output, and profits would be higher than would otherwise have been the case. The rate of growth could thus be sustained and the total demand for labour enlarged to the benefit of the entire community.

In the third edition of Principles, Ricardo shifted his ground. After recognizing the possible detrimental effects of machinery on the employment stemmed from a view that the volume of circulating capital available to hire labour would be reduced by the purchase of fixed capital. This finding, of course, touched a sensitive nerve in contemporary economics. The upper classes, who possessed qualifications Ricardo added to his conclusion, were convinced that the machine was inimical to the interests of working men and, acting on this premiss, had sparked the machine-smashing riots in textile districts in 1811 and 1812.

Ricardo was still hopeful that unemployment in this form could be averted, arguing that technological discoveries were necessarily gradual and could thus be assimilated without sudden shock. Ricardo saw the danger, but played down its practical significance. Nevertheless, his argument contained a sharply worded warning as to the consequences of technological change on the various classes of society. Marx was later to pick up this theme and to give it a central position in his theoretical system.

4. RICARDO AND THE LONG-PERIOD PROSPECTS OF THE ECONOMY

Classical analysis of the problem of value underwent a subtle but profound change from Smith to Ricardo. Ricardo's approach, imperfect and approximate though it was, not only yielded fresh findings but buttressed a number of familiar observations, the most notable of which was an underpining to the long-term prognosis of economic expansion. With its support, he could write: The reason then, why raw produce rises in comparative value, is this—The increase in the quantity of the last portion obtained, and not because rent is paid to the landlord. The value of corn is regulated by the quantity of labour bestowed on its production on that part of the country, or with that portion of capital, which pays no rent. The implications of this conclusion extended far beyond their direct bearing on differential rates of change in the prices of agricultural and manufactured goods to other things as well. For example, the analysis pinpointed the connexions between economic expansion and income distribution. As population growth was thought likely to accompany economic expansion, for requirements which could only be satisfied at substantially higher cost would grow. Higher money wages would be called for in order to maintain real wages at their conventional level. The profit share of income would thus be squeezed. Meanwhile, the distribution of income would shift in favour of rentiers. This development would be due to the increasing difficulty of making constant additions to the food of the country. Conversely, Ricardo maintained, if the necessities of the workman could be constantly increased with the same facility, there could be no permanent alteration in the rate of profits or wages, to whatever amount capital might be accumulated.

The upshot of this argument was that the process of economic expansion might erode its own foundation—i.e. accumulation out of the profit share of income. Ultimately, as a result of profit squeeze, the stationary state would emerge when further net accumulation would be halted. Nor was it necessary for profits to be eliminated altogether before growth would be checked. Ricardo anticipated that a critical point might be reached earlier. As he put it: the farmer and manufacturer can no more live without profit, than the labourer without wages. Their motive for accumulation will diminish with every diminution of profit, and will cease altogether when their profits are so low as not to afford them an adequate compensation for their trouble, and the risk which of what they must necessarily encounter in employing their capital productively.

The day when growth was halted could, however, be postponed by measures that reduced the labour costs involved in enlarging food supplies. The tendency of profits to fall, Ricardo noted, ‘is happily checked at important intervals by the introduction of new machinery, which reduces the production of necessaries, as well as by discoveries in the science of agriculture which enable us to relinquish a portion of labour before requisite, and therefore to press the price of labour’. But relief via technological innovations could not be predicted with confidence. The upward pressure on the prices of subsistence goods and, in turn, on money wages rates, might be more reliably restrained through the importation of food stuffs from lower-cost producers abroad. This consideration figured prominently in Ricardo's hostile attitude toward the protection to home agriculture afforded by the Corn Laws.

5. RICARDO ON ECONOMIC POLICY

On most points of public controversy in his day Ricardo accepted and extended the mainstream of classical thinking. With respect to the Poor Laws he maintained that ‘every friend to the poor must ardently wish for their abolition’,16 though he feared that their abolition would result in higher payments should be withdrawn gradually. In general, he opposed government intervention in economic activity and endorsed the beneficence of a market system. He opposed the Poor Laws in particular, and defended against Malthus's doubts about the efficacy of Say's Law. His most important contribution to debates on policy focused on the issue that had originally inspired his investigations - the Corn Laws. Ricardo advocated repeal, but with a more powerful battery of arguments than had earlier been mustered. With the aid of his analytical model it could now be demonstrated that the Corn Laws were objectionable - not simply because they obstructed the free movement of resources - but, more importantly, because they tightened the squeeze on profits, the mainspring of sustained economic expansion.

In support of his arguments for free trade in agricultural products, Ricardo worked out the basic format of the doctrine that now enters introductory textbooks as the theory of comparative advantage (and offering part of the output for export) and by importing its requirements of the other. In this fashion, gains from trade would accrue to both parties. A greater portion of the output would be acquired than would have been possible through exclusive reliance on domestic resources.

But it was not simply the general gains from specialization and trade that Ricardo wished to emphasize. It was important that British trade should flow through channels that could constrain the costs of the error of 1780, for a matter of indifference which goods predominated in the trading pattern.
On the contrary, the national interest was best served when imports were concentrated on foodstuffs, with British manufacturers supplying the exports to pay for them. Specialization along these lines would reduce pressures on money wage rates by making substance goods available at lower cost than would otherwise have been possible. As Ricardo argued the point: If, therefore, by the extension of foreign trade, or by improvements in the methods of food and clothes, we can be brought to market at a reduced price, profits will rise. If, instead of growing our own corn, or manufacturing the clothing and other necessities of the labourer, we discover a new market from which we can supply ourselves with these commodities at a cheaper price, wages will fall and profits rise; but if the commodities obtained at a cheaper rate, by the extension of foreign commerce, or by the improvement of machinery, be exclusively the commodities consumed by the rich, no alteration will take place in the rate of profits.

The realization of the full benefits of international trade required, however, a sound international financial system. Ricardo’s views on monetary and financial questions — which left a formidable imprint on the thought of his time — were dominated by this concern. The domestic monetary system, he maintained, should be regulated to insure against disruption in the international division of labour. Conceivably, increases in the note issue at home might threaten a country’s trading position should they lead to price increases that made its exports less competitive in foreign markets and imports more attractive in home markets. These considerations led Ricardo to adopt what was described as a ‘bullionist’ position in the debates of the time. He maintained that the domestic money supply should be directly tied to the country’s gold supply. Under such an arrangement, the note issue of a country suffering a loss of gold through an unfavourable balance of trade would automatically be contracted. A reduced money supply would tend to depress the price level within that country, thus encouraging the desired adjustments in the international accounts. The deficit country’s exports would become more attractive to foreigners while imports could compete less successfully in home markets at the prices of domestically-produced items declined. In embryonic form, Ricardo had sketched the theory of the nineteenth century gold standard.

Considerations of the problems of growth also informed Ricardo’s basic strategy with respect to matters of taxation. Though he was at one with the mainstream of the classical tradition in his suspicion of government intervention in the economy, he recognized that some necessary functions could only be discharged on the public account. In the choice between various types of tax levies that might be used to finance these services, one criterion, he held, was that each tax levy should be regarded as productive. In other words, the taxes should be levied on the producers or on goods that were produced by them. If the taxes fell on unproductive spenders and expenditures, particularly on the rent share of income and on luxury consumption.

CHAPTER 4

THE REVISIONISM OF JOHN STUART MILL

John Stuart Mill regarded his writing in economics — which formed only a part of his larger intellectual enterprise — as primarily an exercise in synthesizing the findings of the classical tradition. His professed objective was not to originate, but to condense classical analysis as it had evolved since Smith. In fact, however, his contribution to economics went well beyond this stated aim. In the course of his work, he managed — while always maintaining that the classical doctrine was essentially sound — to define some familiar classical terms. One of his first essays on economic questions was addressed to the definition of ‘productive’ and ‘unproductive’ labour. In his view the argument that labour was ‘productive’ only when it produced material objects called for a re-examination. One intangible in particular — the transformation of labour — should be regarded as ‘productive’ at least under certain conditions. But Mill was still enough in the classical mould to insist on a qualification: labour involved in training workers was productive, ‘provided that an increase of material products is its only consequence’.

Mill quarrelled more seriously with orthodox definitions when he protested that standard classical terminology conveyed an unfortunate impression that the functions discharged by governments were essentially unproductive. In principle, he maintained, there was little to distinguish the productive works of government, such as highways, lighthouses, and the like, from unproductive works supplied by governments when they financed police officers and courts of justice.4 He carried the critique a step further by arguing that some types of tax — which clearly were not productive — might stem from productive labour. Indeed, productive labour might ‘render a nation poorer’ if the wealth it produces, that is, the increase it makes in the stock of useful or possible things, is not utilized. This was at least more than a hint in this attitude that the conventional classical approach to problems of value did less than justice to considerations of utility and
demand. But this was not the only limitation from which it suffered. Labour might also be wasted if it produced material outputs with outmoded techniques. Though Marx was also to emphasize this point (arguing that it was a necessary condition of calculation of value), it had been given little attention by earlier classicists, largely because they assumed that the extension of the market would be a sufficient antidote to inefficiency.

While adding qualifications to familiar classical distinctions, Mill nevertheless accepted the basic point stressed by earlier classical writers. He, as much as they, saw the importance of isolating that part of society's product likely to give rise to subsequent increases in the national output from that part produced for consumption. If in practice individuals sought more than a pinch of arbitrariness, the basic concept was both clear and significant. Mill moved further away from the tradition of his orthodox classical predecessors in his hot contemplation of the specific ingredients of value. When explaining the difference in value of two commodities, for example: if one of two things commands, on the average, a greater value than the other, the cause must be that it requires for its production either a greater quantity of labour, or a kind of labour permanently paid at a higher rate; or that the capital, or part of the capital, which supports that labour must be advanced for a longer period; or lastly, that the production is attended with some circumstance which requires to be compensated by a permanently higher rate of profit.

This view took into account the exceptions Ricardo had observed to his labour-input account of value, but it also severed the earlier classical link between labour value and none. None of Smith's concern to use a labour measurement to solve the index-number problem remained; Mill, in fact, devoted a whole chapter in his Principles to demonstrating that the search for an invariant measure of value was misguided on both logical and empirical grounds.

At the same time Mill retained the classical terminology of 'natural' and 'market' prices. The former, he held, represented market prices in long-period equilibrium and - barring the case of monopoly - would normally be adjacent to the natural price. He noted that natural prices could not always be relied upon as an effective force in the pricing process. In some instances - particularly in the case of public utilities - 'competitors are so few that they always end by agreeing not to compete'.7 Moreover, this problem was likely to become more serious as economies of large-scale operations increased the size and reduced the number of sellers. He did not grasp the full significance of this matter, but he at least caught the scent of an issue that was later to preoccupy a generation of economists.

Mill summed up his position with a judgement that was rashly modest. 'Happily', he wrote in 1848, 'there is nothing in the laws of value which remains for the present or any future writer to clear up; the theory of the subject is completed'.9 Later strands of economic theory were to offer a completely different account of this problem. But within a tradition bearing any resemblance to classicism, Mill's conclusion was largely correct. The territory bounded by classical presuppositions had been fully explored. New departures required another analytical framework.

3. THE REVOLUTIONIST VIEW OF THE LAWS OF PRODUCTION AND DISTRIBUTION

Perhaps the most significant of Mill's modifications in the orthodox classical tradition was his re-interpretation of the laws governing economic activity. He generally adopted the same distributional perspective at an abstract level Mill shared many of the standard conclusions about the likely redistributive effects of economic growth. He agreed with the classical mainstream that a period of expansion would generate tendencies towards rising rents, falling profits, and rising money (though Smith had observed to his developments. The masses of the population, which supports that labour must, of course, were addressed to Mill's contemporaries in the manner of his preface. He, as much as they, saw the importance of isolating that part of society's product likely to give rise to subsequent increases in the national output from that part produced for consumption. If in practice individuals sought more than a pinch of arbitrariness, the basic concept was both clear and significant. Mill moved further away from the tradition of his orthodox classical predecessors in his hot contemplation of the specific ingredients of value. When explaining the difference in value of two commodities, for example: if one of two things commands, on the average, a greater value than the other, the cause must be that it requires for its production either a greater quantity of labour, or a kind of labour permanently paid at a higher rate; or that the capital, or part of the capital, which supports that labour must be advanced for a longer period; or lastly, that the production is attended with some circumstance which requires to be compensated by a permanently higher rate of profit.

This view took into account the exceptions Ricardo had observed to his labour-input account of value, but it also severed the earlier classical link between labour value and none. None of Smith's concern to use a labour measurement to solve the index-number problem remained; Mill, in fact, devoted a whole chapter in his Principles to demonstrating that the search for an invariant measure of value was misguided on both logical and empirical grounds.

At the same time Mill retained the classical terminology of 'natural' and 'market' prices. The former, he held, represented market prices in long-period equilibrium and - barring the case of monopoly - would normally be adjacent to the natural price. He noted that natural prices could not always be relied upon as an effective force in the pricing process. In some instances - particularly in the case of public utilities - 'competitors are so few that they always end by agreeing not to compete'.7 Moreover, this problem was likely to become more serious as economies of large-scale operations increased the size and reduced the number of sellers. He did not grasp the full significance of this matter, but he at least caught the scent of an issue that was later to preoccupy a generation of economists.

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Mill proceeded by distinguishing between two types of economic laws. Those of the first type governed production; they were immutable, fixed by the nature and technology. Men could adjust to these laws, but were powerless to amend them. The laws governing the distribution of the product, however, fell into a different category. In this case the outcome was subject to the human condition. Mill gave support of this proposition Mill examined at length the different sets of laws which underlay social relations. He agreed with the classical tradition that an increase in the demand for goods would not simply be associated with a proportionate increase in the supply of goods. He, as much as they, saw the importance of isolating that part of society's product likely to give rise to subsequent increases in the national output from that part produced for consumption. If in practice individuals sought more than a pinch of arbitrariness, the basic concept was both clear and significant. Mill moved further away from the tradition of his orthodox classical predecessors in his hot contemplation of the specific ingredients of value. When explaining the difference in value of two commodities, for example: if one of two things commands, on the average, a greater value than the other, the cause must be that it requires for its production either a greater quantity of labour, or a kind of labour permanently paid at a higher rate; or that the capital, or part of the capital, which supports that labour must be advanced for a longer period; or lastly, that the production is attended with some circumstance which requires to be compensated by a permanently higher rate of profit.

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economy to substantial fluctuations. Indeed, tendencies toward instability were inherent within an unregulated economic system.

5. MILL AND ECONOMIC POLICY

In several important respects, Mill's attitude towards questions of economic policy was substantially more liberal than that of many of his predecessors. His sharp break with orthodoxy concerned the economic role of the state. Mill's frame of reference contained certain elements of the laissez-faire theory of the active provision of public goods and services, and state intervention in economic life that his predecessors would have tolerated. In the first instance he emphasized the economic importance of the state as a 'civilizer' - i.e. as the sponsor of improved educational facilities, as well as such cultural amenities as parks and museums. Elevation in popular tastes and aspirations, especially among members of the middle class, was widely regarded as a banishment of Malthusianism and to the exercise of human control over the distribution of income. Nevertheless, like his classical forebears, Mill was critical of the administration of poor relief on the ground that it had unfortunate effects on the mobility of the labour force and on its allocation to socially most effective uses.

While pursuing their civilizing mission, governments could also perform a significant stabilizing function. Mill, in his revisionist analysis of the onset of the stationary state, had held that falling rates of profit were likely to be associated with speculative rashes which in turn led to unintended wastages of capital. How much better the outcome would be, he maintained, if the state taxed an increasing share of potentially investible fund available for the use of the private capitalist projects. In this fashion two worthwhile purposes would be served simultaneously: deterioration in rates of return on private capital would be slowed and the volatility of the economy in general dampened. But this technique was not the only one available for slowing reductions in the rate of profit as the stationary state was approached. If part of domestic savings were channeled into foreign investment, the government could ensure that some rate at which the stock of capital would be slower than would otherwise have been the case. The results would be doubly beneficial if capital exports were directed into the development of low-cost sources of food and raw materials required in the less developed countries. This is an interpretation of capital export which is, in this context, consistent with the analysis of imperialism as a part to the capitalist order that was later devised by Hobson and Lenin.

Mill also placed himself outside the classical mainstream in his attitudes toward private property. Existing social institutions he regarded as 'merely provisional' - i.e. subject to review and modification by the present generation. He argued that the existing restrictions on the freedom of the individual, which were inherent within an unregulated economic system.

Postscript to Classical Economics

The classical tradition underwent considerable modification between the publication of Mill's writings and those of the subsequent generation of socialists. While we repudiated with the greatest energy that tyranny of society over the individual which most of which are connected to this line of argument. In our view, no interest is supplied to the exercise of human control over the distribution of income. This is an interpretation of capital export which is, in this context, consistent with the analysis of imperialism as a part to the capitalist order that was later devised by Hobson and Lenin.

Despite his sympathy for social change, Mill did not work out carefully the details of a future and happier order of society. But one point was at least clear: his vision of socialism was not one in which the state would play a commanding role. He thought more in terms of voluntary cooperative arrangements and of co-partnerships between capital and labour.

It is thus not surprising that the analytical achievement of classical economists has left an impressive legacy. Their imprint on an important strand of modern analysis is conspicuous. Among the more interesting developments is the work of W. A. Lewis on underdeveloped economies. Lewis's model of growth in underdeveloped economies devised by W. A. Lewis. His analysis, which is of considerable interest in its own right, provides an excellent illustration of how questions of wider implications can emerge in modern theories exploring the relationship between growth and distribution. In certain recent formulations, the socialists are held to be responsible for the high volume of accumulation and of the rate of economic growth. Though the classical belief that the rising rents associated with population growth would tend to erode the rate of profit has largely been discarded, models constructed with classical categories now usually maintain that profits are likely to be squeezed for another reason - the existence of diminishing

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returns to capital investment. Unless this tendency is offset by 'technological progress' - a possibility that classical writers also allowed for in their worries about the future course of rents - the rate of profit will be depressed and a situation analogous to that of the stationary state may arise.

Nor did classical analysis attempt to offer a full account of costs and conditions of supply. In the circumstances of the first half of the nineteenth century, the reasons are not difficult to comprehend. Those theories were only dimly visible - at least as measured by expansion in the volume of manufactures - till the mid-century. Factories had sprung up on an unprecedented scale that would have astonished Adam Smith. If the first wave of industrialism was to be assessed in terms of the growth of total production, of the volume of international trade, and of the accumulation of productive capital, it would have to be judged an unqualified success. But this was only part of the story. These impressive changes had brought with them little conspicuous benefit to the bulk of the population. One important factor was that the new working class was herded into urban slums where its members were exposed to miserable conditions of life. In all too many cases they lived in conditions of mass unemployment and social disorganization, which we parted company, he remarked: 'And yet there is a great deal of miseries of the world, but he did not accord detailed attention.

While classical writers did not attempt to offer a full account of costs and conditions of supply, the classical tradition was more concerned with promoting economic improvement than with understanding the techniques of economic analysis. Though they differed among themselves about specific issues they adopted a common procedure when approaching matters of public policy. For Ricardo, for example, one overriding question - the likely consequences of policy actions on the course of economic expansion - set the context of controversy. Classical writers generally proclaimed the virtues of a free market, but Ricardo did so on grounds quite different from those invoked by later generations of economists. To members of the classical school, the unregulated market was more important as an engine of growth than as a principle for the optimum allocation of economic resources. The classical tradition contrasted even more sharply with those of the Social Darwinists of the late nineteenth century who held that the struggle of unfettered competition insured that only the fittest and most deserving should flourish and that no sympathy be wasted on the less fortunate.

Karl Marx paid high tribute to this manifestation of British empiricism when he wrote in the Preface to the second edition of Das Kapital: 'Karl Marx and John Stuart Mill observed the same economic environment. It was a world in which industrialism - at least as measured by expansion in the output of manufactures - was flourishing. Factories had sprung up like mushrooms on an unprecedented scale that would have astonished Adam Smith. If the first wave of industrialism was to be assessed in terms of the growth of total production, of the volume of international trade, and of the accumulation of productive capital, it would have to be judged an unqualified success. But this was only part of the story. These impressive changes had brought with them little conspicuous benefit to the bulk of the population. On the contrary, the new working class was herded into urban slums where its members were exposed to miserable conditions of life. In all too many cases they lived in conditions of mass unemployment and social disorganization, which we parted company, he remarked: 'And yet there is a great deal of miseries of the world, but he did not accord detailed attention.

To be sure, the classical tradition left some questions - questions that were to be debated at length by later schools of thought - unanswered. In particular, the classical frame of reference precluded a full exploration of two issues: the process of market price formation and the problem of economic fluctuations. The revenues of the land class were related to the institutional setting of classicism. In the early stages of Western industrial emergence - when poverty and scarcity were the dominant factors of economic life - it was probably appropriate to confine attention to these two aspects. But in the process of being fascinated by the 'abnormal' circumstances (such as those immediately following the Napoleonic wars) that writers of a classical persuasion diverted their attention from the supply to the demand side of production, and then only temporarily.
through the course of the 19th century, so the Reform Bill of 1832 the rising business and industrial community had overcome the earlier political supremacy of the landed aristocracy and - benefits by an ameliorative argument. Discord among economists was itself symptomatic of the antagonisms latent within capitalism. He maintained that: The more the antagonistic classes come into conflict, the more the representatives of bourgeois production, find themselves in conflict with their own theory; and different schools arise. Some of these schools might genuinely lament the ‘siren songs of lassitude’ that led to such measures as the Corn Laws and day work, but Marx insisted that those who held them failed to understand that conflict was inherent in capitalism and that these were but the engines of historical change. Moreover, they failed to comprehend that the causes of distress were rooted in the very nature of the system and could only be eliminated through the destruction of the system itself. This line of argument gave to Marxian economic thought another distinctive attribute.

All of the other ‘master models’ have been constructed for the purpose of throwing light on the types of policy most likely to improve economic performance. Even early classicism, despite its appeal to the natural order, was reformist in orientation with its appeals for amendments in existing legislation and in prevailing administrative practice. The Marxist approach could not stand more sharply in contrast.6 Within its historical framework, policies intended to remedy economic ills are useless and constructive reforms are impossible.4 Political analysis is thus restricted to laying bare the laws of historical change which foredoom the destruction of capitalism, and to demonstrating the futility of policies designed to relieve its ills.

Karl Marx and the Economics of Das Kapital

Despite the central position occupied by an interpretation of historical change in Marx’s thought, his economic writing was focused primarily on one stage of historical evolution. The objective of his major work, as he described it, was to ‘lay bare the economic law of motion of modern society’1 - i.e. of the capitalist mode of production. Though his scheme did provide the basis for an interpretation of pre-capitalistic productive arrangements, he rejected all attempts to lay out a developmental scheme that would replace capitalism following the collapse he held to be inevitable.

1. Karl Marx (1818-83)

Marx’s career blended the retirement of the philosopher and scholar with the active life of the organizer and propagandist. In one role, he was a student of the dynamics of society; in the other, he was an interventionist who sought to hasten social change. These diverse facets of the man and his activities were closely associated. It was through a process of detached intellectual inquiry that he first identified the causes he sought to promote and he carried over much of the manner of the scholar to his role in public affairs. For a political organizer his style was remarkably austere. Born to an upper-middle-class Rhineland family that had forsaken Judaism in favour of the establishment church, his early years were largely conventional. He entered the university to study law, but changed his plans after the lively debates on Hegelian philosophy in Berlin in the 1830s captured his imagination. He identified himself with the Young Hegelians who sought to transform Hegelian orthodoxy into a radical social doctrine. With this cause in mind, Marx in his mid-twenties aspired to a university post as a philosopher. This he gained in 1842 and died when the Prussian Minister of Education proscribed the Hegelian Left.

Obliqued by the death of his father to find a means of supporting himself, he turned to journalism, writing for a newly-founded anti-government journal published in Cologne. He flourished in this enterprise, which afforded him an opportunity to agitate for political reform and to sharpen his skills in writing trenchant prose. Within a year, he had risen to the post of editor. This episode was short-lived. In 1843, the government censored the publication and Marx set off for Paris to assist in the editing of another journal. This episode was short; in the next two years, the framework of ideas with which he worked began to take clear shape. While in Paris, he devoted the major literature of economic theory. Life there also brought him into contact with many of the most influential French sociologists of the period with which he had been associated, expelled him.

In 1849 - after a period of hectic political activity that included collaboration with Engels in the drafting of the Communist Manifesto - he went into exile in London where he was to spend the remainder of his days. During these years, he passed the bulk of the daylight hours in the reading rooms of the British Museum. The bulk of what he gathered were woven into his major contribution to economic thought - the three volumes of Das Kapital. Few serious students of social problems have worked under more arduous conditions than Marx, for the small sums he could eke out from free-lance journalism (plus the charity of the devoted Engels) were insufficient to keep creditors from the door. Even when living in the most miserable housing conditions - conditions that a Russian spy assigned to check on his activities reported on with horror - Marx was

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2. MARX AND THE CLASSICAL TRADITION

Much of Marx's sharpest polemical writing was directed against the classical tradition of economic thought. He attacked the analytical procedures employed by classical writers as well as the conclusions they had reached. Nevertheless, his relationship to the classical tradition must be understood. Despite his amassing of economic evidence, he made much of its analytical framework his own. Though he embellished, modified, and poured new meaning into the classical categories, he inherited the core of his system from the classical economists.

In Marx's hands the familiar classical questions were re-opened: in particular, what are the laws governing the distribution of income and how do they affect the economy's long-period prospects? He also appropriated classical insights in many points of detail. As had the mainstream of the classical tradition, he approached the problem of value in terms of labour and regarded only physical objects as embodiments of value. In addition, his scheme of income distribution was organized around a set of social class categories and his theory of accumulation was linked to the behaviour of profits. Marx's philosophical presuppositions about history and his claim to have discovered its inner logic both gave established categories a different significance and supplied the springboard for fresh departures. His general modus operandi can be instructively observed in his critique of Malthus. This polemic, moreover, is of particular interest in its own right. The interrelation principle proposed by Ricardo, by demonstrating that members of the working class had only themselves to blame for their misery, had to be demolished before Marx's alternative explanation of poverty could stand.

The manner in which Marx invoked his view of historical stages to undercut Malthusian population doctrine can be seen in the following passage:

"The labouring population...produced along with the accumulation of capital produced by it, the means by which it is made relatively superfluous, is turned into a relative surplus population, and it does this to an always increasing extent. This is a law of population peculiar to the capitalist mode of production: and in fact every special historic mode of production has its own special laws of population, historically valid within its limits alone. An abstract law of population exists for plants and animals only, and only in so far as man has not interfered with them."

In short, capitalism did, in fact, create the appearance of a redundant population. But, contrary to Malthus, the pressures were not universal throughout time and space. A change in productive arrangements could readily convert an apparent surplus of population into a shortage. Marx's reasoning on this point rested on his distinction between 'population', each of whose members has characteristic. In the pre-capitalistic mode private ownership of the means of production was far from universal and, to the extent that private property was recognized, it was qualified by a reciprocal pattern of rights and obligations along feudal lines. Moreover, production for exchange was far from ubiquitous. The emergence of capitalism led to the rapid breakdown of this kind of production. Most importantly, the use of machine techniques created a sharp cleavage within society. Those who owned the means of production and those who worked with whom they were divided into distinct groups. No longer was it possible for the worker to use the tools with which he gained a livelihood; instead he became dependent on others to supply them. Meanwhile the widening of the market called for higher and higher degrees of specialization which heightened the interdependence between various components of the economic system. Hence arose one of the iron contradictions in Marx's terms) within the capitalist mode of production.

On the one hand, it was organized on the basis of property relationships that were private; on the other, its production processes involved social relationships that were cooperative in character. Marx maintained that this situation inevitably bred tensions - tensions which would lead to the violent collapse of capitalism and which could not otherwise be resolved. Under the laterer arrangement capitalism had reached a stage characterized by which he meant 'that condition in which the means of production are no longer owned collectively and both the mode of production and the productive relationships would be social in character. Class conflict could no longer occur because the very basis of class divisions - private ownership of the means of production - had been eliminated.

It might be thought that Marx's discussion of stages of economic evolution had much in common with some of the early classical classicists. Smith, for example, had written about earlier types of economic arrangements and his consideration of an 'early and rude' stage of society. Marx's approach, however, was profoundly different. Classical writers had in mind a hypothetical social stage, the critical actions were conducted by barter and which, in turn, could be used as a benchmark for analysing production and exchange under the simplest conditions conceivable. Marx, on the other hand, was concerned with specific epochs, real, pre-historical cases, and he looked at history as a succession of stages governed by immutable laws.

It was against this background that Marx accused the classical economists of propagating gross error. Their findings, he maintained, failed to take into account the full significance of the inner dynamics of the historical process. In addition, classical writers did not comprehend that each stage of history was governed by economic laws peculiar to itself. A universal law of population was not derived from isolating the peculiar mode of production and its own social conditioning in forms which affected all human behaviour, including man's reproductive activities.

Apart from his quarrel with classicism on method, Marx's philosophical premises also called for an important amendment in a basic set of classical categories. To the classical conception of the social group as a single body, Marx added the notion of income distribution involved three classes: capitalists, landlords, and labourers. Marx insisted, on the other hand, that under capitalism this scheme would be replaced by a two-fold grouping into the commonly recognized rights to property. In his analysis the essential class groupings of capitalism separated those who owned the means of production from those who did not. A residual class, that capitalists were thus a common genus. In Marx's view it was a 'Physiocratic illusion' to hold that 'rents grow out of the soil and not out of society'.

3. THE ANALYSIS OF VALUE

Marx's debts to his classical forerunners were particularly marked in the framework he adopted for the analysis of value. Here he appropriated the essentials of the Ricardian labour-input approach. Labour was held to be the only productive agent and the source of all value. Following Ricardo, capital goods were regarded as stored-up labour. Land, however, virtually disappeared as a separate element in the production scheme. Anything economically interesting about land could be dissolved into labour inputs. Marx's version of the labour input approach had been modified by a number of modifications to Ricardian procedure. His amendments did not alter the substance of the argument appreciably but they considerably augmented its sophistication. The family of solutions, which had been presented by the lack of homogeneity in the labour force provides an interesting case in point. The standard classical escape from this difficulty had rested on an appeal to wage differentials established in the market as a basis for weighting the economic contribution of members of the labour force. This technique, it was believed, was not strictly applicable on classical premises if existing prices were acceptable as measures of the value of labour, why were they not adequate in the market for commodities? Marx cannot be faulted on this score. For Marx, the value of labour-power was itself established by labour-inputs. 'The value of labour-power is determined,' he asserted, 'as in the case of every other commodity, by the time necessary for the production, and consequently also the time of production, of this special article.6 In other words; the labour-time necessary to provide the means of subsistence for the work force and to permit its replacement in the next generation governed the value of unskilled labour. This amounted to a subsistence interpretation of the standard wage, though Marx was at pains to point out that the composition of the 'subsistence' bundle was not inflexible; instead it was subject to adaptation with changes in the social environment.

Labour-input requirements for 'necessaries' thus established the floor beneath which wages could not sink. But differentials in the remuneration of wage earners were regulated by another type of labour input: the labour-time involved in equipping workers with skills. Here Marx picked up a point Adam Smith had left out. That the labour-time required to train earlier classical usage of the term 'productive', insisted that the training of workers (though not an activity directly involving the production of material objects) should normally be treated as 'productive'.

Marx tightened the concept of labour-input further by stating explicitly the conditions under which the labour-time were to count as creating value. The fact that labour time had been poured into the production of useful tangible commodities was not, he maintained, a sufficient test. Only 'socially necessary' inputs of labour time, by which he meant 'that required to produce an article under the normal conditions of production, and with the average degree of skill and intensity prevalent at the time8 - could qualify. Marx illustrated the force of this restriction in an example dealing with the manufacture of textiles:

The introduction of power looms into England probably reduced by one-half the labour required to produce a given quantity of yarn into cloth. The hand-loom weavers, as a matter of fact, continued to require the same time as before: but for all that, the product of one hour of their labour represented after the change only half an hour's social labour, and consequently fell to one-half its former value.

In his attitude toward the displacement of labour produced by the competition between advanced and traditional techniques of production, Marx sharply differentiated his position from that of many contemporary commentators on industrialisation. Marx had adopted the socialists' position of those who called for a return to rustic simplicity and who sought to turn their backs on technological progress. He insisted that the advance of mechanization in the capitalist system, however unhappy its consequences in other respects, was the not inconsiderable merit of adding enormously to productive capacity.

Marx attached another restriction to, his analysis of value - one that further reflected his preoccupation with the study of the capitalistic mode of production. Production for exchange, he asserted, was a prerequisite of value as capitalistic economic relationships. By Marxian definitions, they could produce neither commodities nor value.
Once these conditions had been added there was no question in Marx's mind that exchange values (or relative prices) were regulated unequivocally by the labour inputs required in the production of commodities. Under capitalism, exchange values could be expressed in money terms, but this was only possible 'because all commodities, as values, are realized human labour, and therefore correspond to one another as one and the same constant commodity, and the latter converted into the common measure of their values, i.e. into money.' At this stage in the argument the Ricardian principle that commodities of the same kind might vary in price was discounted, and the notion of defining a 'net' revenue for the members of the capitalist class and the absence of uniformity in the proportions of fixed and circulating capital dropped out of the picture, though Marx later addressed himself to them in other contexts.

4. THE CONCEPTS OF SURPLUS VALUE, VARIABLE CAPITAL, AND CONSTANT CAPITAL

While Marx appropriated many of the building blocks of the classical labour-input version of the theory of value, he put them to work for another set of problems: he maintained that the productivity of labour and the value of commodities were governed by the same principles, he was equipped to provide an alternative interpretation of the mechanisms of production and distribution in capitalist societies. The position he adopted was reinforced subsequently by his analysis of the consequences of the accumulation of capital. The initial steps, however, grew directly out of his theory of value.

This extension of the argument involved the reassertion of the conclusion that the value of each commodity was based on the labour inputs required for its subsistence and training. In a capitalistic system, workers would be obliged - simply as a condition of survival - to sell enough of their labour time to accumulate the necessary subsistence. But in the conditions of industrial production, more labour time would be demanded from labourers than was necessary to produce values equivalent to their subsistence requirements. In the sphere of industry, if the terms and conditions set by employers. Workers, for example, might be able to produce enough to cover subsistence requirements in a four-hour working day, but employers could insist on labour inputs of longer duration. The working day was thus divided into two components: the 'necessary' labour time required for the production of values equal to maintenance requirements and 'surplus' labour time.

In Marx's view the commanding position in the power hierarchy attached to the ownership of means of production - the owners of that part of fixed capital that was passive; they could impart thus inert. Their contribution to the productive process, though important, was passive; they could impart no more value to the final product than they extracted themselves.

Marx modified this procedure by dividing capital into a 'variable' component (the wage bill) and a 'constant' component (raw materials and depreciation allowances for plant and equipment). These distinctions turned on his concept of the surplus-generating capacity of direct labour inputs. Active labour, he maintained, had the unique property of 'being a source of value only in so far as it can produce more value than it consumes'; the contribution of plant and equipment to the production process was thereby rendered inert. Their contribution to the productive process, though important, was passive; they could impart no more value to the final product than they extracted themselves.

For Marx (as for the classical economists) the general term 'capital' was used to refer to the resources available for initiating and sustaining production. These resources could be allocated between the required productive inputs - e.g. labour, raw materials, and plant and equipment. In the mainstream of the classical tradition, two categories of capital were distinguished: circulating capital and fixed capital. The demarcation was generally based on the basis of the length of the time periods before the values contained in these components of capital could be realized through sale.

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These definitions, occupied a strategic position in the unfolding of Marx's analysis. Three important ratios were built around them. The first (S/V) related the capitalist's surplus to the wage bill and was described both as the 'rate of surplus value' and as the 'rate of exploitation'. The two components of capital could also be expressed in a ratio form (C/V), this relationship, labelled the 'organic composition of capital', provided a convenient device for expressing variations in the proportions of constant to variable capital. All three variables entered into the 'rate of profit' (S/V+ fixed capital). This notion was allied to the concept of compound interest, the rate of profit was treated as the percentage return on the outlays advanced to labour as well as on the current costs of raw materials and fixed capital. The bulk of Marx's dynamic analysis was organized around the expected behaviour of these ratios.

5. THE ANALYSIS OF ACCUMULATION

Like the contributors to the classical tradition before him, Marx held that accumulation arose as a result of the accumulation of surpluses. The means of production and the natural resources of the earth, he said, 'are the original sources of capitalist wealth and the sources of surplus value.' But his general view of the economic process yielded a different insight into the nature of this 'net' revenue. Within Marx's framework of analysis, it was not the maintenance and generation of fixed capital but the generation of surplus value that defined the structural characteristics of the capitalist system. Given the property relationships of capitalism, workers were obliged to put themselves at the mercy of the capitalist and it was the capitalist who benefited from this situation. Labour, as Marx put it, 'is a piece of good luck for the buyer [of labour], but by no means an injury to the seller.'

The extended use of machinery had other significant effects. By virtue of the fact that higher techniques increased the productivity of labour - i.e. labour inputs per unit of output were reduced - the value of commodities was compressed. At the same time, Marx maintained that the rate of surplus value would tend to rise because the cheapening of commodities would reduce the number of working hours required to produce the marginal unit of output, thus modifying the outcome expected by writers in the mainstream of classicalism. Most theorists in this tradition held that the 'progress of improvement' would tend to reduce the wage bill, and this in turn would reduce the rents necessary. This conclusion had been based on the special conditions governing the production of food. As they saw the problem, larger national food requirements would necessarily tend to shrink the capitalist's surplus by raising the cost of the main component of subsistence. Marx rejected this analysis, arguing that the dividing line between commercialized agriculture and industry was not as sharp as the classical tradition had supposed. Instead, he maintained that capitalist production, by its nature, spread its tentacles throughout the economic structure. The industrial segment of the economy might be the dynamic engine of change. But the marginal growth of capital would tend to homogenize conditions of production throughout the economy. In fact, he insisted:

In the sphere of agriculture, modern industry has a more revolutionary effect than elsewhere, for this reason, that it annihilates the peasant, that bulwark of the old society, and replaces him by the wage labourer. Thus the line between the social classes is annihilated. The interests of workers, and employers, are, for the first time, raised to the same level in the country as in the towns. The irrational, old-fashioned methods of agriculture are replaced by scientific ones. This view reflected Marx's rejection of classical definitions of profits and rents. From his perspective, what counted was ownership of the means of production: nothing of substance distinguished the capitalist from the landlord. Both were in a position to exploit labour and to extract surplus value from it. Similarly, the physical constants on the rapid expansion of agricultural output (to which writers of a classical persuasion had given so much attention) were de-emphasized. The application of new techniques to agricultural production would not raise the stock of productive commodities high enough to satisfy the food requirements generated by industrial expansion. This did not mean that rents disappeared completely from the Marxian vocabulary. They remained, but their extraction from the land would tend to become a result of qualitative differentials in any of the productive agents. This set of arguments Marx disposed of the other support to the Malthusian fear that population would tend to outstrip the availability of food.

The appropriation of surplus value by capitalists also permitted an accumulation strategy for increasing the power of the capitalist class; the potential for accumulation was substantial. It afforded the command over labour which Smith had written about; Marx merely added the qualification that it was 'essentially the command over unpaid labour.' Nor did he entertain any doubt that a constantly rising share of surplus value claimed by capitalists would be used for the purpose of extending their capitals and, most particularly, for the acquisition of machinery. Further, the application of higher techniques meant that the rate of profit would be increased, and they were, in turn, bound to contribute surplus labour time. The consequences of the creation of surplus value under capitalism were therefore influenced by the nature of the techniques used and the extent to which the ranks of the eligible participants in the capitalist process were swollen. Positions in the labour force were now created, for example, for women and children (who could be employed more cheaply than men in a large number of newly-created repetitive tasks).
The problem to which Marx was here directing attention has by no means lost its relevance in the 21st century. Some widely held view that labour-saving technological improvements should be welcomed on the grounds, that, whatever their short-term effects on the labour market, their long-term effects will be beneficial for the wages and working conditions of the employed. The effectiveness of these improvements may have unfortunate ‘backwash’ effects on established lines of production. The consequences of this situation are especially severe in underdeveloped countries, in many of which the population of working age is growing at considerably faster rates than was the case in Western countries at comparable periods in their industrial emergence. Some governments - perhaps most notably the government of India - have attempted to minimize the risks of job displacements from the introduction of modern technologies by restricting their use to product lines which do not compete with established manufacturing enterprises. This approach to policy builds on an insight that was initially Marxian, though Marx himself would have rejected it. Within his perspective, policy measures designed to alter the course of history were inevitably fruitless and vain. As Marx saw it, the mechanism of accumulation under capitalism could be explained in the first instance by the creation of surplus value by the process of capitalist exploitation and not by a need to invest a substantial part of that surplus. The significance of the process he was describing extended well beyond the domain of economic causes and effects. As narrowly viewed by the very notion of capitalist exploitation was bound to produce an ever-widening cleavage within the social structure. Increasingly labourers would be debased in skill and reduced to the status of operatives performing routine and repetitive tasks. This debasement of skill, it may be noted in passing, had the analytical consequence of simplifying the measurement of output in labour units, for the economics of the capitalist system itself tended to standardize the work of the labour force. Meanwhile, the displacement of labour by machines would increase the number of jobless and swell the ranks of the ‘reserve army of unemployed’. The traditional view of the mechanics of production, Marx maintained, required this outcome both to maintain the power position of capitalists and to ensure that an abundant labour supply would be available at subsistence wages and thereby perpetuate the necessary by-product of these mechanisms. As Marx saw the outcome of this phase of capitalism: ‘...in proportion as the productiveness of labour increases, capital must increase its supply of labour in order to preserve its value, or surplus value, or surplus labour’.

Meanwhile, at the other end of the social spectrum, the situation of capitalists - or at least of those who retained a position as owners of the means of production - would be improved. They could now afford to invest in saving innovations. Marx described the significance of the process he had formerly been. In Marx’s words, ‘the limit to his using a machine is fixed by the difference between the value of the machine and the value of the labour-power displaced by it’. This line of argument, virtually by definition, made the substitution of machinery for labour a precondition for the acquisition of capital goods. This proposition was crucial to the enrichment of Marx’s model. Ricardo had anticipated the conclusion in the chapter ‘On Machinery’ in the third and final edition of his Principles. He then amended his earlier position to explain that the immediate competition between machinery and men would be offset by releases of funds which could be used to engage more labour.23 The mainstream of classicism, it will be recalled, rested its case on the argument that this compensating effect could not be achieved - by swelling capitalist profits - at the subsequent demand for labour - any short-term appearances of technological unemployment.

This view, Marx insisted, was fallacious in that it presupposed that all of the ensuing gains to the capitalist would be ‘destined to support labour’. Marx, on the contrary, maintained that the laws of motion of capitalism demanded that part of the expanded surplus be allocated to the acquisition of machinery. Moreover, when this occurred, the total demand for labour would necessarily diminish. Marx, of course, recognized that the introduction of higher techniques might be associated with reductions in costs and with growth in the volume of output. To this extent, mechanization might generate additional demand for labour in industries producing products not yet displaced by machinery. The laws governing the supply of labour committed to work were still to be held by the class. However, the way in which the capitalist society marched hand in hand with increasing misery and inequality.

6. THE ANALYSIS OF DISTRIBUTION

Marx had enough in common with the classical tradition to give a prominent place in his model to the mechanics of income distribution. The classical tradition was concerned with the laws governing the way in which the surplus product of industrial labour was divided between the wage-earner and the employer. For Marx, a twofold class schema was sufficient. What mattered was the separation of those who had a legally recognized stake in the ownership of the means of production from those who did not. On this basis the distinction between agriculture and industry - to which the classical tradition had attached so much importance - largely evaporated.

Nevertheless, Marx appropriated from the mainstream of classicism two of its main conclusions about the behaviour of distributive shares during a period of dynamic change. In both models the real wage was expected to grow alongside a rising price level, the general price level always rising more rapidly than the wages of the employed. In Marx’s words:

Since the demand for labour is determined not by the amount of capital as a whole, but by its variable constituent alone, that demand falls progressively with the increase of the total capital, instead of ... rising in proportion to it. It falls relatively to the magnitude of the total capital, and at an accelerated rate, as this magnitude increases. With the growth of the total capital, its variable constituent or the labour incorporated in it, also does increase, but in a constantly diminishing proportion.

And again: Accumulate, accumulate! That is Moses and the prophets! Therefore, save, save, i.e. reconvert the greatest possible portion of surplus-value, or surplus-product into capital! Accumulation for accumulation’s sake, production for production’s sake...

This explanation of the incessant drive of capitalists to wide implications. Within Marx’s system economic development was often described as a restless exploiter. Even so, Marx held it to be inappropriate to blame all of the capitalist as a person, a point he made plain in the preface to the first edition of Capital:

I paint the capitalist and the landlord in no sense coule de rose. But where individual agents are described, in so far as they come into the economic categories, embodiments of particular class-relationships and class interests. My standpoint, from which the evolution of the economic formation of society is viewed as a process of natural history, can less than any other make the individual responsible for relations whose creature he socially remains, however much he may subjectively raise himself above them.

In short, energies devoted to condemning the behaviour of capitalists were misplaced. As Marx observed in another context: ‘What avails lamentation in the face of historical necessity?’

Clear limits, however, were attached to the amount of accumulation undertaken at any one time. Marx stated these limits in terms that flowed directly from his labour-input analysis of value. Investment in machinery, he maintained, would be worthwhile only when it resulted in the displacement of labour. The value of a commodity could be reduced only to the extent that it could be produced with less labour input. From the capitalist’s point of view it would be worthwhile to acquire additional machinery only when the sum of direct and indirect labour inputs would subsequently be lower than that formerly been. In Marx’s words, ‘the limit to his using a machine is fixed by the difference between the value of the machine and the value of the labour-power displaced by it’.

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of accumulation - that meant the reserve army of unemployed was swollen. On this point he asserted that ‘... it is capitalist accumulation itself that constantly produces and produces in the direct rate of capital accumulation its own immediate evil, the relative surplus-population of labourers, i.e. a population of greater extent than suffices for the average needs of the self-expansion of capital, and therefore a surplus-population.’

The existence of this reserve army was sufficient to explain the tendency for real wages to be tied to subsistence. As long as capitalists could tap uncapped labour by the mere fact that they paid any amount of higher wages, there was no reason to expect the circumstances of the poor to improve. On this point Marx directly challenged the classical view that workers had to organize in order to limit the destructive tendencies of rising wages. He described as ‘folly’ that ‘economic wisdom that preaches to the workers in the interests of the capitalist class to accept lower wages as a matter of course. The mechanism of capitalist production and accumulation constantly effects this adjustment. The first work of this adaptation is the creation of a relative surplus-population, or industrial reserve-army.’

It did not follow, however, that the real wage would never deviate from the subsistence level. For short periods it was at least conceivable that unusually intense demand for labour might bid wage rates beyond the tolerable minimum. Even Malthus had recognized that this might occur. In both the Marxian and classical traditions it was held that any tendency in this direction would soon be offset by forces inherent within the economic system - forces that would depress wages back toward their ‘natural’ level. But quite different explanations of this phenomenon were offered by the classical and the Marxian analyses. Malthus saw the adjustment occurring on the supply side of the labour market; improvements in the real wage, he had argued, would lead to increases in the labour force which would counteract any wage increase. Marx, on the other hand, made his adjustment as occurring in the demand for labour. He described the path toward the restoration of the subsistence norm as follows:

If the quantity of unpaid labour supplied by the working class, and accumulated by the capitalist class, increases so rapidly that its conversion into capital requires an extraordinary additional of paid labour, then wages rise relatively to profits. In this case all classes of society, not being able to shift the unproductive elements of their incomes, diminishes in proportion. But as soon as this diminution touches the point at which the surplus-labour that nourishes capital is no longer supplied in normal proportions, then in a small degree, accumulation lags, and the movement of rise in wages receives a check.

Marx thus arrived at the classical conclusion about the behaviour of real wages during a period of economic expansion via a different route. By the same token he offered an alternative explanation of another classical phenomenon - the tendency for the rate of profit to fall. Within the classical tradition, the behaviour of profits was analysed primarily in terms of the redistribution of income between the shares of profits and rent. Productive conditions in agriculture, it had been argued, led to rising food costs and rents and to increases in the price of subsistence goods. Higher priced wages payment would thus be required in order to maintain the subsistence wage. Capitalist employers, by virtue of rising wage costs, would be obliged to accept lower rates of return on their capital outlays.

This line of explanation was obviously close to Marx. Having eliminated the classical conclusion, he arrived at his own on the existence of significant differences in the productive conditions of industry and agriculture, he could not invoke rising food costs in his account of the behaviour of profits. He chose to base the argument around changes in the values of his three fundamental ratios: the rate of surplus value (or of exploitation) (s/v); the organic composition of capital (c/v); and the rate of profit (s/c+v).

The analysis of the behaviour of one of these ratios - that of the organic composition of capital - presented no complications. The bulk of the Marxian model had already been developed around the view that the pressure on capitalists to accumulate would mean that outlays for constant capital would grow faster than expenditures on variable capital. If Marxian propositions on the technological unemployment supposedly generated by the accumulation of capital were accepted, it then necessarily followed that the organic composition of capital would rise. The behaviour of the rate of surplus value (or the rate of exploitation) was less straightforward. In the bulk of his numerical illustrations Marx suggested that for every 100% rise in the surplus of the capitalist was equal. Marx nowhere argued explicitly that the rate of surplus value should be regarded as a constant, nor did he demonstrate that an increase of 100 per cent would maintain the rate. He held that the inner mechanics of the capitalist system prevented more than temporary reduction in the established rate of surplus value on the ground that the trend of the rate of profit would be countered by increased investment in labour-displacing machinery.

An increase in the rate of exploitation, however, was not precluded. Reductions in the labour-inputs required to produce the commodities entering into the subsistence wage would make it possible to extend surplus labour time at the expense of necessary labour time. Nevertheless, Marx appeared to have argued that the rate of surplus value was constant. If the assumption of a constant rate of exploitation is combined with a rising organic composition of capital it follows that the rate of profit (s/c+v) must fall. But if we are assuming a falling s/v, the value of the denominator in this expression increases more rapidly than the value of the numerator. In this fashion Marx could reach a conclusion similar to the one arrived at by classical economists on the long-term behaviour of the rate of profit.

This line of argument was not without pitfalls. In particular, one of its conclusions contradicted a vital piece of Marx’s earlier argument on the course of real wages. Presumably the process of capital accumulation raises the productivity of labour and increases the rate of surplus value (s/v). When the proportion of s to v remains constant, growth in the size of the net product would imply that total wage payments (v) increased - and the probably slower growth of the volume of employment - was likely to grow. Mechanization, after all, was expected to suppress the rate of growth in the demand for labour. This outcome, however, would imply that the portion of continuing profits (c) would be increased, and thus improvements in real earnings. The prospect that sustained increases in real wages might occur under capitalism cannot be reconciled with the mainstream of Marxist thought, nor can the requirements of the argument be reconciled analytically with the existence of a reserve army of unemployed. Marx appeared to have been unaware of this inconsistency in his analysis.

7. THE MARXIAN THEORY OF CRISIS

Both the mainstream of classicalism and of Marxian analysis contained a type of teleological reasoning; i.e. they saw the natural laws of economic dynamics as propelling the system toward a predestined end. In the case of classical writers the economic system was interpreted as set on a course toward the stationary state. For Marx, on the other hand, the telos of capitalism was an inevitable and violent collapse. But whereas classical writers held that appropriate economic policies could postpone the onset of this crisis, Marx maintained that no human contrivance could alter the destiny of the capitalist system.

Marx offered two distinct explanations of the crisis in which the capitalist order would be destroyed. He regarded these explanations as interdependent and mutually reinforcing. They can, however, be examined separately. In fact, they follow from the presentation of two opposed arguments. His first account of the capitalist crisis was built around an elaboration of distinctions he had drawn in his portrait of the capitalist system. The essential context in this concept was the division of the economy into two different spheres of production. Each sphere has a separate production process and each the other producing the means of consumption. The relationships between these departments were then examined under differing sets of assumptions. In the first case (where the current production is treated as autonomous reproduction) neither net saving nor net investment occurred and output would be unchanged from one time period to the next. His analysis of the matter took the following form.

In Department I (producing the means of production) the gross value of output would be equal to labour inputs and could be represented as the sum of C1+V1 = S1. Similarly, in Department II (in which the means of consumption were produced) the gross value of output could still be stated as the sum of C2+V2 = S2. In both departments, of course, means of production were employed and used up in the process of creating output. For this reason, if production was to be continued on the same basis in the succeeding period, the supply of replacements forthcoming from current outputs of producer goods had to cover the current utilization of constant capital. By the same token the output of Department II had to equal the requirements for consumption goods generated in both departments.

Examination of this simplest case thus established having no choice but to reach a state of equilibrium required a delicate balance between the two departments.

As a practical matter Marx saw that the task of achieving this balance was complicated by a number of factors. Realism demanded that a third department - one producing luxuries to satisfy part of the consumption demands of capitalists and others - had to be taken into account. In the fact that a portion of the capitalist's surplus was allocated to net accumulation. The maintenance of the self-sustaining equilibrium thus became an increasingly intricate operation and could easily be disturbed by nothing more unusual than the acquisition of assets of unequal durability - a situation which would later lead to an uneven timing of replacement requirements and to fluctuations in the demand for producer goods. Marx's treatment of this point carried overtones of Ricardo's analysis of the consequences of inequalities in the life of capital goods. But, whereas Ricardo was concerned with the implications of this problem for the hour-input the productive system, Marx attached more importance to it as a threat to the stability of capitalism. Any departure from the conditions necessary to sustain the system on an even keel during the course of the normal process of production and exchange would undermine the stability of the departments, give rise to the accumulation of unwanted stocks, and provoke a price-cutting panic (or in Marx's terms, a 'realization' crisis).

Marx's analysis of the chronic instability of capitalism contained the germ of a theory of the business cycle. Though he argued that the intricacies of market and exchange made the system both incomplete and subject to failures. The only way that he could overcome the fact that each malfunctioning of the system would be deleterious, and quite probably at a faster rate than the volume of employment was likely to grow. Mechanization, after all, was expected to suppress the rate of growth in the demand for labour. This outcome, however, would imply that the portion of continuing profits (c) would be increased, and thus improvements in real earnings. The prospect that sustained increases in real wages might occur under capitalism cannot be reconciled with the mainstream of Marxist thought, nor can the requirements of the argument be reconciled analytically with the existence of a reserve army of unemployed. Marx appeared to have been unaware of this inconsistency in his analysis.
cullminate in a breakdown of the system. More was required for such a demonstration. Marx thought he supplied the additional ingredients in a second theory of crisis with arguments that rested more on his philosophical presuppositions than on his economic analysis. The process he saw at work can be summarized as follows: capitalism bred heavy accumulations of fixed capital; as these accumulations mounted in volume, the size of the reserve army of the unemployed was swollen. For the working class, misery and distress were intensified. Meanwhile the ranks of the proletariat were further enlarged by recruits from the capitalist class. These new economic superiors were in competition with industrial giants. As Marx described these aspects of the unfolding of the system:

Along with the constantly diminishing number of magnates of capital, who usurp and monopolize all advantages of this process of transformation, grows the mass of misery, oppression, slavery, degradation, exploitation; but with this too grows the revolt of the working class, a class always increasing in numbers, and disciplined, united, organized by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of production, which is spurned up and flourished along with, and under it. Centralization of the means of production and socialization of labour at last reach a point where they become incompatible with their capitalist integument. This integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated. But this very process also was expected to lay the foundations for a new economic order in which the inner contradictions between the mode of production and the productive relations of capitalism would be resolved. As Marx saw this matter:

Modern Industry, on the other hand, through its catastrophes imposes the necessity of recognising, as a fundamental law of production, variation of work consequent on the levelling of the labour-power, the economic foundation for the greatest possible development of his varied aptitudes. It becomes a question of life and death for society to adapt the mode of production to the existing conditions of labour. Marx’s law. Modern social life is always in the same society, under penalties of death to replace the detail-worker of today, crippled by life-long repetition of one and the same trivial operation, and thus reduced to the mere fragment of a man, by the fully developed individual fit for a variety of labours, ready to face any change of production, and to whom the different social functions he performs, are but so many modes of giving free scope to his own natural and acquired powers.

The social tensions bred by capitalism were too intense for the transition to be accomplished peacefully. Revolution, Socialism, Realism, Fascism, Marxist crisis theory of crisis. The violent overthrow of the capitalist order, however, cannot be explained on technical economic grounds. Marx’s view of the dynamics of history was an essential prop to this conclusion.

Postscript to Marxian Economics

As a body of technical argument Marx’s contribution to economic analysis was, in the first instance, a highly ingenious extension and modification of the work of the classical school. In Marx’s hands, however, classical tools were reformulated in a manner that yielded sharper insights into some problems - in particular, those of monopoly and instability - than had the works of his predecessors and contemporaries. Marx’s unique place in the history of economic thought is also evident on more than the technical theoretical categories. From his perspective economic reality and society at large were inseparable. The task of the economic analyst was to interpret the economic relations of a whole, rather than the isolated aspects which could be treated unambiguously as economic. Moreover, this interpretation depended on a grasp of the whole sweep of human history and was limited by the subject matter observable at any single moment in time.

Whatever the deficiencies of Marx’s single-minded deterministic account of the economic and social process, it had the clear merit of shaking the mood of confidence and self-congratulation about the consequences of economic progress that had settled over much Western thought by the middle of the nineteenth century. Marx’s doctrines became the rallying point of political forces which have left an indelible imprint on subsequent history, yet they also aroused and reinforced the social concerns of many who did not share his philosophical presuppositions. One of the least alerted men to an awareness that the consequences of the economic process under capitalism might be more brutish than benevolent.

No less important is the stamp Marxian analysis has left on the subsequent development of other traditions in economic thought. Marx insisted that economic events are the result of understandings and consciousness, and sociological dimensions. The very sweep of his claims has meant that those who have rejected his conclusions and have wished to give economics a “purist” foundation have been forced to define their positions more precisely than would otherwise have been the case. In fact, much of the analytical shape of neoclassical economics was conditioned by an attempt to divert economic discourse from Marxian channels.

Later refinements within the Marxian tradition itself have been influenced, in part, by these measures. Moreover, Marx himself did not make systematically: (1) how was the remarkable survival power of the capitalist system (combined with its ability to generate rising levels of real wages, rather than immediate revolution) to be explained? (2) how could the categories of Marxian analysis be adapted to the problems of economic planning and administration in a post-capitalist society? The first of these questions was raised late in the nineteenth century when the revolutions expected in capitalist countries failed to materialize.

The second became urgent after the Soviet government acquired power in 1917. Within the latter-day Marxian tradition a position addressing doctrinal unanimity has been developed to account for the unexpected longevity of capitalist regimes. The story of capitalist growth was written with the foundations laid by the British socialist, Hobson, and by two Marxian revisionists, Hilferding and Rosa Luxemburg - provided the framework for the protean solutions to the problems of industrial giants. The story, maintained, had managed to postpone (though not permanently to escape) violent destruction through investment in colonies. The expected fall in the rate of profit was thus arrested. Further, colonial outlets for the capitalist’s accumulations meant that labour displacements proceeded at a slower pace and that the size of the reserve army of unemployment was substantially smaller than otherwise. The economic significance of empire did not end there. Inasmuch as imperial countries were interpreted as casting colonies in the role of suppliers of low-cost raw materials and foodstuffs, it was possible that the real income of the proletarian class in the imperial countries might actually improve with the resulting reduction in the cost of the components of subsistence.

This interpretation yielded conclusions somewhat different from the ones Marx had reached, but it could be readily assimilated into the original Marxian system. Indeed, hints of Lenin’s argument can be found in Volume I of Das Kapital as well as in Mill’s Principles. The Leninist modifications merely extended Marx’s basic analysis from the case of an economy closed to international trade and investment to that of an open system. Capitalism was not, however, imperative; the proletarian claim that industrial capitalism had been widened and internationalized. Imperialism subjected colonies as a group to the process of exploitation and imimization that the proletariat had earlier observed in industry. The original revolutionary ferment among the exploited would rise to the point that the imperial chains would be thrown off. Contradictions and rivalries within the imperial countries, however, had hardened the imperial system especially in the underdeveloped countries, though united as exploiters of backward peoples, were deeply divided on other issues. Each sought to swell its share of the imperial loot at the expense of its rivals - a situation calculated to breed hostility and world war. In this view, it may be noted, was not at all implausible at the time of the First World War.

More recently an alternative explanation of the remarkable survival power of capitalism led a brief but illustrious life. It was offered by Eugene Varga, a Hungarian by birth, who had compiled a distinguished record of contributions to Socialism - among them a critical examination of the Leninian imperialism on which the original thesis was buttressed with updated materials. The work for which history is most likely to remember Varga, however, was Changes in the Economy of Capitalism Resulting from World War II. In this study he maintained that Marxist theoreticians would be well advised to revise their expectations about the downfall of capitalism on the grounds that the Second World War had changed the character of capitalist systems. The successful conduct of the war effort, he argued, had demanded extensive state intervention in economic life and, though the role of the state would diminish with the return to more normal circumstances, the lessons learned in wartime economic planning would not be completely forgotten. In his view, an active role for governments as regulators and stabilizers had come to stay and provided an “indicative” and “presumptive” guarantee that fundamental reasons Western capitalism could be expected to be more stable than Marxian theory had been prepared to allow. At the same time, the events of that war had altered the expectations both of extractive markets and of the imperial and overseas colonies. A movement towards the non-violent transition to national independence had been set in tow and was likely to continue.

These views, though promulgated by a writer whose credentials in the Marxian tradition were well established, conflicted sharply with official Soviet doctrine. Following an extraordinary session of the Soviet Academy of Sciences in 1947, Varga was sharply censured and relieved of his official positions. From the perspective of orthodox he was guilty of the cardinal error of imputing to the state in a capitalist society both the will and the ability to act in the general social interest, even when its intervention ran counter to the interests of capitalists. He had exposed himself to the charge of committing “revisionism” - a charge he strenuously deplored when the struggle that imperial connections could be severed peacefully. In the era of high Stalinism, such heresies could not be tolerated.

In orthodox Marxian circles confidence in the ultimate crisis of capitalism has not been abandoned. To many the experience of the American economy in the 1970s, with its violent swings from boom to bust and uneven growth rates and a persistent unemployment problem - bears witness to the chronic and unresolvable contradictions within capitalism. In addition, it has been argued, the rate of profit, which had been expected to fall in the period following the First World War had not. This view of a new phase of capitalism has been manifested: an intensification of industrial concentration and a widening gap in the distribution of incomes between the property and labour shares. In the view of one able American Marxist, economists schooled in other traditions of analysis have been blinded to these aspects of contemporary problems because “no genuine trends - in Marxian terminology, no ‘laws of motion’ - are conceded to exist, still less subjected to analysis”.

With respect to the second outstanding item of business on the latter-day Marxian agenda - the organization of a post-capitalist economy - Marx himself offered very little guidance. From his sketches on common ownership that he expected the state (at least in the period
immediately following the collapse of capitalism) to make several deductions from the social product - deductions not unlike the constant capital and surplus value shares under capitalism. It would be a part of the task to consider how resources might be set aside for replacement purposes and as reserves against contingencies. In addition, part of the social product would have to be earmarked for capital accumulation. He also recommended deductions to cover the general costs of administration as well as to provide for such community needs as education, public health, and the support of those unable to work. Ultimately, in these respects, that of the underdeveloped economies - economic life could be governed by the rule 'from each according to his ability, to each according to his needs' and the state would then wither away.

These comments fell short of providing a systematic blueprint useful to a group of economists. Practical problems of resource allocation in the light of this analytical vacuum, it is not altogether surprising that one modern Marxist commentator should describe Marxian economics as the 'economics of capitalism' and capitalist economics as the 'economics of sociology'. This is not to detract from Marx's analytical power with the analysis of the 'laws of motion' within a capitalistic framework and suggests that, once private ownership of the means of production had been supplanted by social ownership, most of the impediments to an efficient allocation of resources through the price system would be removed. The market as a guideline for resource allocation could then come back into its own. Though this solution was rejected by those who had initially held power in the Soviet state, no alternative theoretical rationale was readily available. Lenin, for example, seemed to have viewed production of wheat as the guiding principle. In the new state, however, he argued that the 'government of men with the administration of things'. Managers trained under capitalism - at least those who perceived the demands of their jobs - could continue to perform the same functions and, on the production and distribution side, the economic system could more or less take care of itself.

A clearer direction for Soviet planning was ultimately set during the Stalin period when top priority was assigned to the build-up of heavy industrial capacity. Marxian economic theory provided no obvious justification for this choice, though an independent theoretical rationale for it could be developed - and was by an obscure Soviet economist named Fel'dman - with the aid of Marxian analytical categories. The basic insight of his argument can be summarized as follows: in a poor society in which economic expansion is an overriding concern, the capacity to suppress consumption in order to save capital accumulation is limited. If too much of the social product will be consumed, however, be directed by a substantial share of an economy's resources and energies into producing outputs that literally cannot be eaten: i.e. into the production of capital goods. The physical form of these outputs precludes consumption and ensures capital accumulation.

The success of the Soviet economy in building a powerful industrial base from small beginnings has, quite naturally, attracted the attention of many underdeveloped nations. The formula for growth now offered to the underdeveloped world by Soviet advisers and Marxian theorists largely calls for the imitation of Soviet experience and recommends that the initial steps toward industrialization should give priority to the capital goods industries. One illusion is the application of the Marxian categories in the context of the underdeveloped world can be found in the planning framework developed by Professor Mahalanobis for the Indian economy. His modern economic model of production is geared to the demands of the Indian economy and defends the growth of the economy as a whole is largely governed by the share of national output allocated to the department producing capital goods. Though similar conclusions about the desirability of a slower rate of growth for the Indian economy could be reached by other routes, Mahalanobis's analysis owes much to Marxian analytical categories and has much in common with the argument worked out in the 1920s by Fel'dman.

In two important respects, however, Marxian doctrine is inappropriate for the analysis of the current problems of the underdeveloped world. From the outset Marxian analytical categories were shaped to deal with the circumstances of industrial societies. Marx himself had little comprehension of the phenomena of agriculture, particularly of traditional agrarian societies; as one critic has observed, Marx treated peasants as 'a bag of potatoes'. Yet the central fact about the underdeveloped country's agrarian structure is precisely the nature of the ironies of history that Marxist doctrine has enjoyed its greatest political success in predominantly agrarian societies, even though the Marxian mode of analysis is not well suited to such environments.

For the purposes of understanding the problems of underdeveloped countries, the Marxian system has failed to provide any other reason. Orthodox Marxism - from the days of Marx's vehement assaults on Malthusian teaching to the present - has refused to entertain seriously the possibility that population growth may present a formidable obstacle to economic development. The problems presented by the unprecedented growth of the populations of underdeveloped countries deserve hard-headed analysis. Though by no means the only distraction to clear thinking on the problem, the Marxian tendency to avoid an adequate comprehension of these important issues.

An assessment of the place of Marxian economics within the family of 'master models' should also recognize that, in a number of important respects, Marx inherited both the strengths and weaknesses of his classical forerunners. In both theoretical systems, the central analytical categories were moulded to illuminate the causes and consequences of long-period economic change and the relationships between economic growth and income distribution. The tools useful for these purposes were not, however, well adapted (nor were they intended to be) to a systematic investigation of the processes by which new economic institutions are formed and the implications of short-period economic fluctuations.

Marx's analysis, however, presents several puzzles that are peculiar to his mode of procedure. The first involves a problem in epistemology. On what basis, it may be asked, was Marx entitled to claim an infallible insight into the forces governing the historical outcomes? On the contrary, the Marxian analytical scheme is further handicapped for the purposes of economic improvement. The problems presented by the underdeveloped world is the dominance of an agrarian economy's resources and energies into producing outputs that literally cannot be eaten: i.e. into the production of capital goods. The physical form of these outputs precludes consumption and ensures capital accumulation.

In the world of neo-classical economics, the focus of analytical attention was directed to the process through which a market system allocates an economy's resources. This theme, though not altogether absent from the classical and Marxian traditions, had been far overshadowed in these theoretical systems by the paramount concern with inter-relations between long-period dynamic change and the distribution of income among the various economic classes. Throughout the 1960s and 1970s, neo-classical economists reversed the earlier orderings of analytical priorities. In their type of theoretical structure, market behavior within capitalism and the economics of time dominated the field. The economics of capitalism as the 'economics of capitalism' was given priority with the aid of Marxian analytical categories. The basic insight of his argument can be summarized as follows: in a poor society in which economic expansion is an overriding concern, the capacity to suppress consumption in order to save capital accumulation is limited. If too much of the social product will be consumed, however, be directed by a substantial share of an economy's resources and energies into producing outputs that literally cannot be eaten: i.e. into the production of capital goods. The physical form of these outputs precludes consumption and ensures capital accumulation.

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in progress and in the benevolence of its consequences. Their conclusions pointed to the existence of certain ‘imperfections’ in the economic system that called for policy remedies. Nevertheless, they restored a temper of optimism to economic thought that, for a few exceptional years, had been suppressed since Malthus. Progress, they could hold, appeared to resolve social tensions rather than to aggravate them.

These influences converged to direct the attention of economic theorists to an analysis of economic behaviour focusing on its decision-making units - households, firms, and industries - and on the ways in which choices made by their economic agents were converted into an orderly process. The answers supplied at least purported to demonstrate that the market system was an instrument of impersonal forces through which the resources at the disposal of the economy could be allocated to the most socially beneficial uses. With this concentration on the behaviour of small units, the system of thought concerned itself less with the analytical traditions with aggregate income and its share-out between profits, wages, and rents, micro-economics - i.e. the study of economic behaviour of households, firms, and industries - was brought to the centre of the stage.

This adjustment of analytical priorities was to have sweeping implications for the organization of economic thought and for the selection of issues deemed worthy of attention. One of its immediate consequences was to elevate the status of the theory of market price. For the purposes of analysing the behaviour of a market system, an understanding of the factors shaping the prices of both outputs and inputs took on a paramount importance. No longer was the discussion of price subordinated to concepts about abundance and its long-run attainment. Instead, the Lynch-pin of the whole network of micro-economic relationships. The elaboration embellishments to the analysis of market pricess was the innovation of the neo-classical economists opened up an analytical horizons undreamed of by the John Stuart Mill of 1848, who had declared the theory of value to be complete.

The privacy of price-theory, however, necessarily implied a downgrading of other themes - and particularly of the long-period growth and distribution concerns of the classical and Marxian traditions. Even so, most major neo-classical theorists felt obliged to offer a few comments in passing about the longer-term prospects of the economy. This matter, however, was not close to their hearts and was, in the main, treated rather cursorily. From the point of view of history, the most important of the laws were more immediate in time. One commentator has described this shift in emphasis as a displacement of the big classical questions of growth and distribution by such little ones as ‘why does an egg cost more than a cup of tea?’ It was not simply by chance that neo-classical modes of reasoning should have been so far removed from those adopted in earlier theoretical traditions. Indeed, some of the pioneer formulators of neo-classical theory consciously designed their categories of analysis as refutations to Marx. In the words economics was effectively removed from historical time and detached from the laws of history. The separation of theory and society was largely abandoned to be replaced by the investigation of market processes and their allocative properties. Human behaviour (or at least a stylized interpretation of its economic mainsprings) became the point of departure. On this basis neo-classical writers addressed their attention to the decisions reached by producers and consumers in market situations, and to the functions and their consequences, approach from Marx's conviction that human behaviour was driven by impersonal forces beyond challenge or control. Within a neo-classical perspective the conscious choice and policy initiative was enormously widened. Though many who worked within this theoretical framework opposed governmental intervention in economic life, they were nevertheless prepared to argue that policies of the state could alter the course of economic affairs.

While neo-classical analysts shunned the fatalistic overtones of earlier traditions (and of Marxism in particular) they continued to look to the natural sciences for inspiration. The images and vocabulary of the natural sciences emerged most clearly in the propensity of neo-classical economists to construct much of their argument around ‘pure’ cases. Economic investigation, they maintained, should proceed in a manner analogous to research in a scientific laboratory. Some allowance had to be made for the fact that economic analyses were conducted in controlled experimental conditions. The ideal situation could be simulated, however, through the formulation of abstract models of the economy's behaviour in which the frictions and intricacy of the real world were neglected. Admittedly, such formal systems could claim to be no more than approximations. Nevertheless, they were defended on two principal grounds. First, the central need of an economic process; and secondly, they provided a benchmark against which the performance of the flesh-and-blood economy could be measured.

This modus operandi lent itself readily to the use of mathematics in economic analysis and particularly to the application of the differential calculus. Even so, most of the mathematical apparatus of the economic debate did not altogether satisfy Malthus's appeal in the early decades of the century for a standardized set of definitions in the discipline. Each thinker retained his personal idiom and manner of his own choosing. Nevertheless, findings that could be reported in mathematical notation did lend an aura of universality to the subject. Moreover, the same logic, and the same arguments, could be interpreted as saying that all who participated in market transactions were rational calculators. Instead, they sought merely to establish that argument - even if, at times, the price of consistency was detachment from close contact with real problems.

The era of neo-classical economics differed from that of its predecessors in yet another respect. For the first time, economic theorizing at a high level became a thoroughly international activity. By contrast with classicalism - the overwhelming bulk of the contributors to which were British - insights of fundamental significance to the formal treatment of neo-classical problems were generated by nationals of many countries. While the defects of the English economy were undeniable, the new disciplines of economic growth and development, economics became more universal and more scientific in its claims - and less dismal in its conclusions.

Alfred Marshall and the Framework of Neo-Classical Economics

Among the Anglo-Saxon neo-classical pioneers, Alfred Marshall was a giant without rival. An examination of his analysis - despite noteworthy distinctive features - is appropriate for the purposes of setting out the central properties of neo-classicism. Though his thought was organized around a tight theoretical core, he chose to present it in a deceptively simple style. He held economics to be the study of man 'in the ordinary business of life' and that its findings should be accessible to a wide public audience. This attitude largely explains the consignment of his subtler contributions to theory to the obscurity of footnotes and appendices. Unlike most of his neo-classical contemporaries he maintained that mathematics explained all phenomena. His own inclination towards formal clarification of his own thought, were unnecessary to - and might even hinder - the communication of his findings.

1. ALFRED MARSHALL (1842-1924)

Throughout his adult life, Marshall occupied academic positions. Apart from four years as the Principal of the University College of Bristol and a brief period as a Fellow of Balliol College, Oxford (where he taught political economy to candidates for the Indian Civil Service), he was associated with the University of Cambridge. As chair of the London School of Economics, he worked to ensure that it was not a private club for the rich, but rather an engine for the discovery of concrete truth. This engine, as we employ it today, is largely Marshall's creation. He put it in the hands of his pupils long before he offered them a role in the running. He handed it as a paper. He was an infinitely painstaking one. Marshall - to the considerable annoyance of his ablest pupil - was reluctant to commit his ideas to print before they had been fully developed and before their relevance to practical problems had been established. On this trait of his master, John Maynard Keynes later commented:

Economists must leave to Adam Smith alone the glory of the Quarto, must pluck the day, fling pamphlets into the wind, write always sub specie temporis, and achieve immortality by accident, if at all.

Moreover, did not Marshall, by keeping his wisdom at home until he could produce it fully clothed, mistake, perhaps, the true nature of his own speaking? It is not a great many worlds seem to be derived from the discovery of concrete truth, but an engine for the discovery of concrete truth. This engine, as we employ it today, is largely Marshall's creation. He put it in the hands of his pupils long before he offered them a role in the running. He handed it as a paper. He was an infinitely painstaking one. Marshall - to the considerable annoyance of his ablest pupil - was reluctant to commit his ideas to print before they had been fully developed and before their relevance to practical problems had been established. On this trait of his master, John Maynard Keynes later commented:

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Though Marshall's place in history rests primarily on his contributions to economic analysis, his work also served the purpose of the practical investigations that was to illuminate practical problems. In his own career his social concerns found direct outlet in his participation (either as a member or as an expert witness) in the wide variety of commissions dealing with monetary questions, taxation, and the relief of the poor.

2. THE APPROACH TO THE ANALYSIS OF PRICE

For Marshall - as well as for other contributors to the formulation of neo-classicism - thought was oriented primarily to inquiring into the system's impact on the behaviour of consumers and producers. Throughout the discussion it was assumed that men acted rationally in pursuit of their own advantage. Consumers were held to seek maximum satisfaction; similarly, supply of production to maximize profits was the natural inclination of entrepreneurs. The economic debate did not altogether satisfy Malthus’s appeal in the early decades of the century for a standardized set of definitions in the discipline. Each thinker retained his personal idiom and manner of his own choosing. Nevertheless, findings that could be reported in mathematical notation did lend an aura of universality to the subject. Moreover, the same logic, and the same arguments, could be interpreted as saying that all who participated in market transactions were rational calculators. Instead, they sought merely to establish that
Man cannot create material things. In the mental and moral world indeed he may produce new ideas; but when he is said to produce material things, he really only produces utilities; or in other words, his efforts and sacrifices result in changing the physical arrangement of matter to adapt it better for the satisfaction of wants...

It is sometimes said that traders do not produce: that while the cabinet-maker produces furniture, the furniture-dealer merely sells what is already produced. But there is no scientific foundation for this distinction. They both produce utilities, and neither of them can do more.

Similarly, classical notions of productive and unproductive labour were eliminated:

We may define labour as any exertion of mind or body undertaken for the achievement of a particular end. Should the individual be prepared to offer more of this kind of work, the price of it would fall; whereas the price of food or clothing, for example, could not expect to acquire more land, labour, or capital for its purposes unless it was prepared to outbid other claimants for those resources.

This argument about the terms on which the services of land, labour and capital would be made available for production was reinforced by another consideration. In general it was presupposed that alternative uses of the various factors of production were available. Any individual buyer of these services would, therefore, be prepared to compete with others, and was not necessarily constrained to one particular use; for example, could not expect to acquire more land, labour, or capital for its purposes unless it was prepared to outbid other claimants for those resources. The point at issue was described more formally in terms of 'opportunity costs' - i.e. costs in the form of the income the supplier of services was obliged to forego when committing himself to one activity, thereby excluding other activities. It was not as if the services of land and labour were in some sense consumed in the neo-classical tradition, however, that this argument depended on conditions of full employment; otherwise some suppliers of productive services might have been unemployable altogether. In such a situation the 'opportunity costs' of employment would be zero.

These considerations provided the raw materials from which a market supply curve could be constructed. Inasmuch as it could normally be assumed that firms could obtain greater quantities of the necessary productive inputs (labour, land, and capital) only at increased cost, it followed that they could be expected to expand their offerings of outputs only when higher prices made this course of action worthwhile. In short, it was postulated that firms normally operated under conditions in which the addition of one productive input to total costs associated with producing additional units be one (i.e. marginal costs) was rising. This conclusion was further buttressed by the view that the addition to the total product obtainable from adding a unit of some productive input was decreasing as the input was increased. In the neo-classical scheme the former primacy of labour in the explanation of costs was completely eliminated. With his twin concepts of supply and demand, Marshall had the relevant tools with which to undertake this shift in the structure of costs, but the production of satisfactions. The measure of value was what the public would buy. Services, fully as much as material goods, could pass this test. Indeed, the whole debate about marginal non-material distinctions could be dismissed. Marshall stressed this point when he wrote:

...good management is shown by so adjusting the margins of suspense on each line of expenditure that the marginal utility of a shilling's worth of goods on each line shall be the same. And this result each one will obtain by constantly watching to see whether there is anything on which he is spending so much that he would gain by taking a little away from that line of expenditure and putting it on some other line.

This type of argument had been latent in economic discussion since the days of Benthamite utilitarianism. The only novelty in its application to neo-classical problems lay in the explicit introduction of the concept of marginal utility. Just as the notion of diminishing returns had been hit upon simultaneously by a number of writers in the early nineteenth century, so also here a concept of marginal utility formulated independently (and at about the same time) by a number of neo-classical economists: Jevons in England, Menger in Austria, and Walras in Lausanne. Marshall though he is most intimately connected with the innovation could not support his case with published evidence. Characteristically he had chosen not to release his findings until they could be presented in a form intelligible to a lay audience.

This approach to the demand side of price formation had an important consequence: it swept under the carpet some of the organizing concepts of demand. To modern writers it is characteristic of classical theory that value could be attributed only to tangible objects. By contrast neo-classical economists insisted that the point of an economic system was not the production of commodities, but the production of satisfactions. The measure of value was what the public would buy. Services, fully as much as material goods, could pass this test. Indeed, the whole debate about marginal non-material distinctions could be dismissed. Marshall stressed this point when he wrote:

rationality as a behavioural postulate provided a realistic basis for the study of groups of people.

This mode of reasoning can be readily observed in Marshall’s formulation of the concept of demand. As he interpreted it, ‘demand’ referred to the relationship between quantities demanded and prices. Normally it could be expected that with a sufficiently low price, the purchase of the particular good at lower prices than at higher ones. For each good a whole range of price and quantity combinations was conceivable. These combinations could be graphed diagrammatically as a schedule (or curve) by representing price on a vertical axis and quantity on a horizontal axis. This view, of course, contrasted sharply with the classical interpretation of demand. Within a classical framework of reference this term was construed largely in a ‘logicalist’ sense:

i.e. to refer to the quantities of goods required for particular purposes. It was on this basis that classical economists could assert that population growth would increase the ‘demand’ for subsistence goods (or of the quantum of subsistence goods required by the economic system). The effect of increasing population would be to sweep under the carpet some of the organizing concepts of demand. In the main the dominant classical assumption had been that the tastes of the bulk of the population (i.e. of the working class) were fairly rigid and the more pessimistic proposes for the prospects for suppressing population growth rested on this presupposition. Nor had classical writers stressed the point that quantities demanded would vary in response to changes in market prices. Their sights were too closely centred on the forces influencing the ‘natural price’ of commodities to make this question central to their analytical programme.

In neo-classical economics, the determination of market prices became the problem and the concept of demand as a schedule of price-quantity relationships was the solution. The construction of such a schedule proceeded in two stages. The first concerned individual consumers and rested on a notion labelled as ‘diminishing marginal utility’. In the market-economy maintained, in order to acquire satisfactions (or utilities) from his purchases. The amount of satisfaction obtainable from a unit of a commodity was closely related, however, to the number of units acquired. With the addition of each extra unit, it could be expected that the total satisfaction (i.e. the additional or marginal utility) would decline. The rational consumer would thus be prepared to pay less for the last unit than for the preceding ones and a reduction in price would be necessary to induce him to buy more.

The full derivation of a market demand curve for a specific commodity involved a further step. The demand schedules of individual consumers had to be consolidated. The price-quantity relationships likely to prevail in the market as a whole would then be derived. The consumers, however, that such a construction presupposed that a number of conditions remained unchanged: in particular, the tastes of consumers, their money incomes (through which their desires could be translated into effective demand) and the prices of other goods. Variation in any of these conditions would shift the demand curve to a different position.

But this was not the end of the story. In a practical situation consumers have more than one good to choose from. If they were to maximize the utility obtainable from a given income they should adjust their spending pattern to ensure that their total satisfaction was achieved whilst the alternative allocation of their expenditures. The optimum result would be obtained when the last penny spent on any of the goods in question added an equal amount to total satisfaction. Otherwise, a different allocation of expenditure would increase the consumer’s total satisfaction. As Marshall expressed this proposition:

...good management is shown by so adjusting the margins of suspense on each line of expenditure that the marginal utility of a shilling’s worth of goods on each line shall be the same. And this result each one will obtain by constantly watching to see whether there is anything on which he is spending so much that he would gain by taking a little away from that line of expenditure and putting it on some other line.

A price above the equilibrium would produce, a situation in which sellers would be prepared to charge a price higher than that which would induce him to buy. The resulting disappointments of sellers would, under competitive conditions, lead to reductions in the offer price to a level at which the market could be cleared. Conversely, a sub-equilibrium price would produce frustrations for some potential buyers who were ready to pay more than the market price. In which competitive bidding would push the market price towards equilibrium. Marshall likened these two curves to the blades of a pair of scissors and observed that the shadow of the upper or the under blade of a pair of scissors that cuts a piece of paper, as whether value is governed by utility or cost of production’.

To modern readers acquainted with the microeconomics section of a standard textbook the Marshallian account of price formation may now

Muhammad Firmans (University of Indonesia - Accounting)
appear to be too familiar - perhaps even too self-evident - to require extensive defence or justification. At the time of its formulation, however, it was a considerable innovation: Not only was it a major departure from the classical and Marxian definitions based on demand, but it was also constructed to counter over-zealous reactions against classical approaches on the part of some early neo-classicists. Jevons, for example, had asserted that utility and demand considerations alone were sufficient for an adequate explanation of price. Marshall rejected both the classical and cruder neo-classical positions. Demand (based on utility) and supply (based on costs of production) were both indispensable to the explanation of market prices.

One further analytical consequence of Marshalian procedure deserves mention. From this perspective the distinction upon which so much classical discussion had turned - that between value (the natural price) and the price of production - appears resolved. The seasonal fluctuation of the value of over prolonged periods was abandoned. What mattered were prices as they were determined in a competitive market process.

3. THE THEORY OF DISTRIBUTION

For Marshall and his neo-classical contemporaries the analysis of distribution was essentially a problem in the pricing of productive services. Its solution was sought along lines analogous to those followed in explaining the pricing of products. In the case of both inputs and outputs, the interaction of supply and demand established equilibrium prices. This approach was built around a three-fold classification of the basic productive factors - land, labour and capital - to each of which was assigned a unique relative share. Land was the first productive factor; Marshall suggested that organizational skill might be so regarded. In this scheme of things wages were defined as the reward for human effort. This definition, unlike the classical one, did not restrict wage payments to a working class. Salary incomes and an imputed 'wage to management' in owner-operated establishments also fell within the neo-classical framework. The interest accruing to the owners of capital was labelled a reward for waiting - i.e. for the sacrifice involved in foregoing a present consumption in favour of prospective future gains. While rents were associated with the productive services supplied by land, the classical preoccupation with who controlled the land was shifted towards the background. In the neoclassical era the site values of urban land came into prominence.

This re-definition of distributive shares the concept of profits with which the classical and Marxian traditions had worked largely disappeared. Much of the economic earlier traditions assigned to profits was now absorbed as a wage component of labour. Thus for the classical economists profit was not a common concept of profits, most (including Marshall) held that pure profits (i.e. rewards to business in excess of the normal wage of management, interest on invested capital, etc.) should be regarded as symptomatic of a temporary disequilibrium or of the existence of monopoly.

This approach to distribution represented a clear rejection of the classical-oriented scheme around which classical and Marxian models had been organized. Neoclassical theory rested on a functional interpretation of distributive shares which linked income payments to the productive contribution of the various factors. These definitions provided ammunition for a further attack on Marxian analysis. Marshall drove the point home forcefully:

It is not true that the spinning of yarn in a factory, after allowance has been made for the value of the raw materials of the thread, is the productive labour of the operatives. It is the product of their labour, together with that of the employer and subordinate managers, and of the capital employed; and it is the capital that is the product of the wages of the owners. The spinning is the product of labour of many kinds, and of waiting. If we admit that it is the product of labour alone, and not of labour and waiting, we can no doubt be compelled by irresistible logic to admit that there is no justification of interest, the reward of waiting; for the conclusion is implied in the premises.

Marshall might, of course, have added that his own conclusions followed from the premises he had chosen - premises that imparted to property shares of income a legitimacy that Marx had not been prepared to allow. Once the distributive shares had been defined, supply and demand forces in the market could be appealed to as the basis on which rewards to the suppliers of productive services were established. It was, of course, recognized that much of the work in which productive services were priced had special properties. The labour force, for example, was highly differentiated by varying skills and abilities; the market, however, could usually be relied upon to recognize and reward differences in the productive contribution of various types of labour and to establish appropriate wage differentials. In any event, classical exercises in reducing labour to a statistical unit for comparison were abandoned. The transformation of the complication of another sort. As Marshall recognized, a distinction between the accumulated stock of capital and the flow of new investments was required because the economic implications of payments to the owners of old and newly-created capital were quite different. As he saw the matter:

That which is rightly regarded as interest on ‘free’ or ‘floating’ capital, or on new investments of capital, is more properly treated as a sort of rent - a quasi-rent - on old investments of capital. ... And thus even the rent of land, rent, as a thing by itself, but as the leading species of a large genus. ...
and some old, some in the ascending and some in the descending phase. The production of such a commodity really partakes in a great measure of the nature of a monopoly; and its price is likely to be so much influenced by the incidence of the competition between rival producers, each struggling for an extension of territory, as scarcely to have a true normal level.

The availability of scale economies had consequences both for the industrial structure of the economy and for the structure of neo-classical reasoning. At the analytical level it precluded a clear and unambiguous operational definition of the supply schedule, something Marshall perceived as implications of this complication (and criticized others for their failure to do so) in the following language:

Some ... have before them what is in effect the supply schedule of an individual firm; representing that an increase in its output gives it command over so great internal economies and less creative genius, if not with less active interest in its prosperity. If it

... many commodities with their lives in which their faculties retain full vigour. And so, after a while, Nature still presses on the private business by limiting the length of the life

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or, as Marshall again emphasized the point: "There are many trades in which an individual producer could secure much increased "internal" economies by a great increase of his output; and there are many in which he could not do so, yet there are cases of the production itself might be economically increased very fast the sale could not.

5. THE PROSPECTS FOR THE COMPETITIVE ORDER

Two Marshalls - one the abstract theorist, the other the practical observer of everyday economics - were blended in Marshall's work. The abstract theorist was most conspicuous in his treatment of market structures and the competitive process. As a formal theorist Marshall saw the potential dangers in the concentration of competitive markets into ever larger units with considerable market power. But as an observer of events he argued that a number of factors tended to moderate the social and economic consequences of such concentrations. Characteristically, Marshall maintained that when analytical tidiness and descriptive realism appeared to be at odds with another ordinary observation should claim precedence. Theory might be indispensable but it also had inherent limitations. No theorist could dismiss the 'all the rest could end in the existence of a special real life' for then 'the problem is too heavy to be handled'; but he feared that if only a few aspects were selected for study, then 'long-drawn-out and laboured reactions' with regard to them become scientific toys rather than engines for practical work'.

At the descriptive level Marshall distinguished between two types of market structure. One he described as the 'special' market, a sphere in which individual firms could operate largely in isolation from immediate competitors. These circumstances might arise, for example, through geographical isolation or a 'by-product' effect, the existence of a special clientele served by a particular seller. But the 'special' market was also surrounded by a larger and more embracing 'general' market. Marshall invoked these distinctions in an attempt to reconcile the world of business behaviour with a model in which effective competition was an analytical requirement. Marshall's strategy for salvaging his competitive plan from the limits of his thinking is to make sure that his macroeconomic definition of specialization is relativized: 'As the size of the business increases, the distance between competitive prices and the average price of the particular industry must increase.'

The same factors which enabled Marshall to make the point that the market structure which is not dominated by a large number of small firms, results of a perfectly competitive system can be approximated even in a market structure which is not dominated by a large number of small firms must be considerably qualified.

Marshall's approach to the theory of the firm has left a dual legacy. Parts of his analysis have been elaborated into formal models of the equilibrium conditions generated by a regime of perfectly competitive firms. Other parts have provided the foundations for the development of the doctrines of workable competition in which it is held that the important results of a perfectly competitive system can be approached even in a market structure which is not dominated by a large number of small firms.

6. THE AGGREGATIVE STRAND OF MARSHALL'S THOUGHT

Though Marshall's attention was primarily directed to microeconomic problems, aggregative themes still occupied a place in his thought. In his view, the major microeconomic question was the determination of the general price level. Short-term fluctuations in output and employment were peripheral matters; when they occurred they were expected to be temporary and slight. His analysis of the general price level was developed around a version of the 'quantity theory of money'. The central point of the discussion of this point of doctrine had proceeded from the tautological statement that the quantity of money multiplied by the number of times it was spent in a given time period (the velocity of circulation), is always necessarily be equal to the average price level multiplied by the total number of transactions; this expression, after all, amounted to no more than two ways of viewing total expenditure.

Marshall modified this procedure by shifting the focus from the rate at which the money supply turned over to an examination of the money balances held by the community. In the hands of one of Marshall's pupils this way of viewing money was later to open up fresh analytical horizons. Marshall's own results from the use of this 'cash balance' approach however, were essentially different from those that had been reached via the 'velocity of circulation' route. He maintained that the amount of money held was regulated by the institutional arrangements of the economy and, on that basis, any price or interest assumptions could be treated as a constant. In his words:

whatever the state of society, there is a certain volume of their resources which people of different classes taken one with another, care to keep in the form of currency; and, if everything else remains the same, then there is this direct relation between the volume of currency and the level of prices, that, if one is increased by ten per cent, the other also will be increased by ten per cent.

The effect of this procedure was to reinforce the essential requirement of Say's Law: that all income would be spent. The possibility of leakages into idle balances could, for practical purposes, be ignored. Money was increasingly primary rather than secondary and, for the generation of the rate of interest rather than for any connexion it might bear to the level of interest rates. This conclusion, of course, gained additional strength from Marshall's insistence - which was in line with the neo-classical tradition - that interest rates would be established through the interaction of the supply of loanable funds (fed by saving) and the demand for loanable funds (stimulated by the activity of consumption). The principle of comparative advantage - if a country was not able to dominate in all fields - could be relied upon to produce an equilibrium between decisions to save and to invest. Should the demand for loanable funds increase, the
rate of interest would rise, making it more attractive for people to reduce consumption spending and to save.

Conversely, should the public choose to save more, the rate of interest would fall. Investors would then be induced to increase both their borrowings and their expenditures on plant and equipment. Further, this would make the capital market more buoyant, to the extent that increments to the demand for loanable funds determined the equilibrium rate of interest. The position of these curves, in turn, was established by the three forces that operated on the demand side and by the productivity of capital (on the demand side).

This line of reasoning, while supporting a Say's Law interpretation of aggregative economic activity, did not preclude the possibility of economic instability. Though no disturbances of the scale experienced in the 1930s could be left wholly outside Marshall's and his classical context, nor could they do so modest cycles of boom and bust. How were these fluctuations to be explained? In Marshall's view the main answer was to be found in the psychology of the business community. Waves of optimism and pessimism successively and reactively impinged on to it. When they did fail the bubble was pricked. Pessimism replaced optimism as the dominant mood; investment and economic activity generally would be curtailed. As Marshall described the process:

The recent history of fluctuations of general credit shows much variety of detail, but a close uniformity of general outline. In the ascending phase, credit, expectations, and belief that boldly, even to men who business capacity has not been proved. For, at such a times a man may gain a profit on nearly every transaction, even though he has brought no special knowledge or ability to bear upon it; and he may probably be induced to increase others of like capacity with himself, to buy speculatively. If he is quick to get out of his ventures, he probably makes a profit. But his sales hasten a fall in prices, while his profit is still being measured. Thus things are likely to be slight at first; yet each downward movement impairs the confidence which had caused the rise of prices, and is still giving them some support. The fall of a lighted match on some thing that smoulders... every one understands generally the causes which have kept the supply of accumulated wealth so small relative to the demand for its use, that the interest rate on balanced source of gain, and waiting therefore require little risk. Everyone is aware that the accumulation of wealth is held in check, and the rate of interest so far sustained by the preference which the mass of expectations for great provision of the important, or, in other words, by their unwillingness to wait. And indeed the true work of economic analysis in this respect, is not to emphasize this familiar truth, but to point out how much more numerous are the exceptions to this general preference than would appear at first sight.

He elaborated this point in a footnote with the words: It is a good corrective of this error to note how small a modification of the conditions of our own world would be required to bring us to another in which the mass of the people would be so anxious to provide for old age and for the contingencies, and from which the advantages of accumulated wealth in any form were so small, that the amount of wealth for the safe custody of which people were willing to pay would be greatly reduced. In other words, and in consequence even those who saw their way to make a gain out of the use of capital, would be able to exact a payment for taking charge of it; and interest would be negative all along the line. These heterodox afterthoughts did not mar the tranquility of Marshall's grand design. They did foreshadow - far more than Marshall himself could possibly have foreseen - the assault on neo-classical aggregative premises launched by Keynes in the 1930s.

7. MARSHALL ON LONG-TERM ECONOMIC CHANGE

Within the framework of neo-classical theory, long-term economic change had little place. Marshall addressed himself only briefly to the subject with a discussion of 'the secular period' of the economy. In all essential respects this time dimension was identical with the one within which classical writers interpreted economic phenomena. However, in the event Marshall could observe that the gloomier classical prognoses on the fate of the economy had not, in fact, been borne out. The stationary state had not emerged; despite increases in population, real incomes of workers had improved; capital accumulation had proceeded, but it had not been accompanied by a widespread displacement of labour. Nor had the growth in demand for foodstuffs and raw materials been a stranglehold over the economy. The expansion of international trade (and particularly the opening up of low cost sources of food supply) had been partially responsible for the outcome. Despite all this the classical economists were convinced that rents would tend to rise during the course of sustained economic expansion. In his interpretation, however, this phenomenon was associated less with the increase in the rent paid per unit of land (the demand for land) and the growth in demand for business and residential sites. Indeed, rising rents in urban situations had the more serious implications for the cost structure. The implication of high rents and low yields held out prospects for productivity improvements that would forestall a redistribution of income in favour of agricultural landowners.

Marshall's treatment of wages also departed substantially from the main classical line. He would have no part of the Malthusian 'iron laws'. On this point he followed the path charted by Mill by rejecting the view that population growth would automatically frustrate the classical expectations for real wages. It was Marshall's expectation that workers would grow in skill, energy, and self-respect and that their productivity and their incomes would be correspondingly enhanced.25 Similarly, Marshall dismissed Ricardian and Marxian anxieties about the effects of capital accumulation on employment. Much of any short-term competition between capital and labour, he contended, would be offset by the growth in demand for workers in the capital goods industries. Moreover, the cost-reducing effects of mechanization were clearly a blessing: competition could be relied upon to ensure that reductions in wages which would be shared by all segments of the community - would follow.

Marshall, of course, was on stronger ground when arguing this point than were the early classicalists. The latter had assumed that real wages would always be so close to the subsistence level that there was little room in the wage bargain for any kind of 'corrective of this error to note how small a modification of the conditions of our own world would be required to bring us to another in which the mass of the people would be so anxious to provide for old age and for the contingencies, and from which the advantages of accumulated wealth in any form were so small, that the amount of wealth for the safe custody of which people were willing to pay would be greatly reduced. In other words, and in consequence even those who saw their way to make a gain out of the use of capital, would be able to exact a payment for taking charge of it; and interest would be negative all along the line. These heterodox afterthoughts did not mar the tranquility of Marshall's grand design. They did foreshadow - far more than Marshall himself could possibly have foreseen - the assault on neo-classical aggregative premises launched by Keynes in the 1930s.

8. MARSHALL AND ECONOMIC POLICY

By his own account, Marshall was originally attracted to the serious study of economics by a desire to understand the causes of poverty and the means of alleviating it. He was convinced that: the social and economic forces already at work are changing the distribution of wealth for the better: that they are persistent and increasing in strength; and that their influence is for the greater part cumulative; that the socio-economic organism is more delicate and complex than at first sight appears; and that large ill-considered changes might result in grave disaster.

His sympathy for the sufferings of the mass of humanity had by no means diminished. But these impulses were now substantially tempered by the belief that radical remedies were not the answer to the existing situation. On the contrary, his work exhorted in practical terms that we must recognize the limitations of our control over economic processes, and that it would be better to let the existing order evolve rather than attempt to change it unwisely. In particular, he opposed a socialistic programme on the grounds that: the collective ownership of the means of production would deplete the energies of man; and he was not afraid to admit the whole that the human spirit would be affected by the very introduction of a single, unfailing service to the public good which is now relatively rare. And it might probably destroy much that is most beautiful and joyful in the private and domestic relations of life. These are the main reasons which cause patient students of economics generally to anticipate little good and much evil from socialist schemes for sudden and violent reorganization of the economic, social and political conditions of life.

While the market system as portrayed by Marshall was largely benevolent, his analysis also demonstrated that in certain situations unregulated markets could not be relied upon to yield socially desirable results. Prominent among the exceptions were the cases in which - for technical reasons - competition was inevitable. This was because it was only briefly to the subject with a discussion of 'the secular period' of the economy. In all essential respects this time dimension was identical with the one within which classical writers interpreted economic phenomena. However, in the event Marshall could observe that the gloomier classical prognoses on the fate of the economy had not, in fact, been borne out. The stationary state
recommend government intervention in those sectors of the economy in which increasing returns to scale threatened to produce industrial concentrations, even though these circumstances implied that individual firms could emerge as monopolistic competitors and that prices therefore could not be competitively determined. This problem, he contended, deserved continuing study. His general position on the life cycle of firms led him to the conclusion that the potential market power of large business units was unlikely to be abused for long.

Though he was disposed to view the market as a sensitive instrument through which an economy’s resources could be efficiently allocated, he also recognized that its performance could be improved. For this purpose, improvements in public policies were equally important. Producers and consumers, and producers and consumers could then conduct their affairs more intelligently by enhancing the rationality of their choices. Moreover, improved economic education would do much to eradicate one of the blemishes of an unregulated market system - the bouts of speculation which gave rise to harmful fluctuations.

Marshall was also prepared to entertain the possibility that governments could play a useful role in improving the allocative efficiency of markets. Would not the sum of social satisfactions be increased, he asked, if the productive resources of society were shifted in favour of lines of production subject to increasing returns and away from those in which decreasing returns prevailed? Greater outputs could then be obtained from the existing stock of resources. Governments could encourage a re-allocation of resources along these lines through appropriate taxes and subsidies. He advanced this suggestion, however, with the utmost caution, pointing out that such policies could be justified only when it could be shown that the gains in satisfactions arising from expanded outputs in the subsidized sectors more than offset the losses in utility associated with higher prices, levies, or taxes. He recognized that this criterion would be difficult to apply to practical cases.

Conceivably the introduction of maximization of aggregate utility as a goal of public policy could also be used to support recommendations for a redistribution of income. If it could be assumed that the marginal utility of money was likely to be greater for a poor man than for a rich one, it followed that society’s aggregate satisfactions would be enlarged through a redistribution from rich to poor. Marshall did not draw this conclusion. He did recommend a less systematic scheme of income redistribution for further study when he wrote of the possibilities of economic chivalry. Such a regime would tax the rich to ameliorate the distress of those still trapped in poverty.

The central nerve of neo-classical economics was the analysis of the behaviour of the market system and the mechanisms within it through which an equilibrium could be produced. Marshall occupied a commanding position in the development of neo-classical economics. Though the English tradition of neo-classicism and the sweep of his work was unmatched by other contributors to the neo-classical tradition. Variations on similar themes, however, were run elsewhere. The alternative approaches were inspired by Walras’s analysis. Walras showed that hazards which Marshall and often yielded slightly different results. The distinctive tracts of four additional strands of formative neo-classicism deserve inspection, if only in synoptic form: the contributions of the Lausanne, American, Austrian and Swedish traditions.

1. LEON WALRAS AND THE NEO-CLASSICISM OF LAUSANNE

Leon Walras (1834-1910), a Frenchman who spent his professionally most productive years in Switzerland, approached the neo-classical problem along a path quite different from the one Marshall had chosen. For Walras, rigorous, formal elegance - rather than contact with the practical problems of economic life - was the target and the approach for solving economic problems was with pure theory which he defined as ‘the theory of determination of prices under a hypothetical regime of perfectly free competition’. He aspired to give economics a scientific status comparable to that enjoyed by the physical sciences and to distil its findings into the form of mathematical propositions. Walras was equally insistent that a sharp line of demarcation should be drawn between pure and applied economics. Though not himself indifferent to policy considerations, he vigorously maintained that the status of economics as pure science should never be compromised in the interests of bringing the work of the theorist closer to reality. The problem was contrasted by Walrasian and Marshallian intellectual styles could hardly have been more marked. Walras’s career was filled with disappointments. Thwarted in his original ambition to study engineering (ironically, because he failed to satisfy the admissions board of the Ecole Polytechnique of his competence in mathematics), he meandered for more than a decade - with only meagre success - as a journalist, aspiring novelist, railway clerk, and bank employee. Meanwhile, he directed much of his leisure to the study of economics, a pursuit in which he received little encouragement in his native country. Lacking the proper credentials, he was unable to build the career he had hoped for in the French academic establishment. In 1870 fortune at last smiled. He was then appointed to the newly created chair in economics in the Faculty of Law at the University of Lausanne. While retained in Switzerland, he was appointed to a loyal position, though he did not suppress a sense of irritation with French institutions.

The prime objective of Walras’s intellectual programme was to produce an exhaustive account of the implications of a regime of perfect competition. Part of the value of this exercise, as he saw it, lay in the fact that many economists had been induced to persuade the merit of the merits of laissez-faire. ‘How could these economists’, he asked, ‘prove that the results of free competition were beneficial and advantageous if they did not know just where these results would be? at what could the men who had neither framed definitions nor formulated relevant laws to prove their point? . . . the fact that economists have often extended the principle of free competition beyond the limits of its true applicability is proof positive that the principle has not been demonstrated.’

For his purposes, perfect competition was likened to a situation in which buyers and sellers could be brought together in a massive auction ‘in such a way that the terms of every exchange are openly announced and an opportunity is given to suppliers to lower their prices and to buyers to raise their bids’. These conditions were admittedly divorced from reality, but they defined the procedure by asking: ‘What physicist would deliberately pick cloudy weather for astronomical observations instead of taking advantage of a rare period of sunshine? The same applied with abstract general cases and took up the qualifications later was too self-evident to require further comment.

The basic problem to be solved within this hypothetical regime of pure competition concerned the manner in which the prices of the various goods and outputs were determined. Marshall addressed the issue by invoking supply and demand curves in various types of markets as the basis for the determination of equilibrium prices. His procedure, however, contained an awkward ambiguity. It will be recalled, for example, that his theory of demand implied that the demand curve for a commodity would be downward sloping when incomes were constant. Whether this condition was intended to refer to money income or real income was not entirely clear. In either case it could be 'obtained - as Walras's analysis of competition was - with only the Walrasian perspective on the economic system as one in which 'no blade of grass can move without altering the position of the stars'.

As a first step toward demonstrating the possibility of a general equilibrium solution, Walras examined the case of the simplest economy conceivable. It possessed only two goods (identified as x and y) and two persons or a number of buyers and sellers of the one or the other. On this assumption, it could be argued that the supply of x and the demand for y (as well as vice versa) were interdependent because the market demand for y (or x) was derived from the incomes received by sellers of x (or y). Consistent with neo-classical procedure, it was, of course, assumed that the terms on which sellers were prepared to exchange were regulated by the marginal utilities of x and y. Through competitive bidding an equilibrium price ratio would be established.

The problem became more intricate, of course, when more than two goods were involved. In the three-commodity economy (with goods x, y and z), three price ratios could be established (x:y, x:z and y:z). One of these ratios, however, would be redundant, adding no information that could not be derived from the other two. This example illustrated a larger principle: namely, that in a multi-goods economy, the number of equilibrium price ratios was always one less than the number of goods involved in exchange. Thus in an economy with n goods, (n-1) exchange ratios would have to be determined through competitive bidding. The redundant commodity could then be regarded as a numeraire - on the one hand - in which all of the other (n-1) exchange ratios could be expressed. This standard commodity, whatever its identity, would possess all of the essential properties of money.

The Walrasian approach to the analysis of the competitive process had the considerable merit of lending itself neatly to presentation in the form of simultaneous equations which could be solved to determine an equilibrium solution. This procedure also had an important recommendation in that it emphasized the interdependence of all prices within the economic system. At the same time, Walras’s model had resolved the standard lines of demarcation between micro- and macro-theory. The activities of
households, firms and industries could not be understood in isolation from one another or when detached from the economy as a whole.

This formal analysis of conditions required to produce an equilibrium was, of course, built on two important practical restrictions. The case of an underemployment of resources, for example, was obviously inadmissible. In the whole argument rested on the assumption that full employment was the normal situation. The general equilibrium solution could be reached only when it could be supposed that all income was spent otherwise in a manner dependent between supply and demand could not be asserted. Indeed Walras’s approach can be interpreted as a logical extension of the tradition Say established when he wrote that ‘goods constitute the demand for other goods’.

Nor was Walras’s system equipped to handle the case of increasing returns to scale. If satisfaction with a popular commodity were assumed, the equilibrium prices could not be reached. Walras placed too much of a premium on rigorous and tidy solutions to resort to the tactics Marshall had adopted – an appeal to the ‘special’ and imperfect markets of the existing business world. The business world he considered would have to be operated under conditions cases could not be handled within his hypothetical régime of pure competition Walras’s scheme could still throw some useful indirect light on practical issues. It could now be explicitly stated that laissez-faire would break down under conditions of increasing returns to scale. Alternative arrangements would then have to be devised. In his comments on this problem Walras provided few details beyond noting that the public services and the ‘natural’ monopolies could not conceivably be conducted under the rules of pure competition.

He did insist, however, that additional considerations were pertinent to an assessment of the social results of competition. The outcome of the competitive process, he noted, depended on the institutional arrangement of income and property. For this reason it did not necessarily follow that the results produced were ideal, nor the only ones conceivable. Different institutional systems, he posited, intrinsically offered the possibility of perfect competition, though it might be a reasonably satisfactory allocative device in the existing order, could claim neither perfection nor immortality.

While recognizing the possibility of different modes of economic organization, Walras maintained that judgements on their merits were beyond the competence of economists as scientists. The economist could, of course, point to the existence of alternatives. But discussion of the options best calculated to serve the community’s interest fell within the realm of art and was outside the domain of scientific discourse. As citizens, economists might still hold private views about the desirability of particular institutional arrangements. Walras personally was sympathetic to some degree of government intervention, recognizing that institutional arrangements were likely to approximate perfect competition about as closely as any system imaginable.

2. JOHN BATES CLARK AND THE AMERICAN STRAND OF EARLY NEO-CLASSICISM

The American strand of neo-classicism was partly a grafting of two quite different European roots - that of German and Austrian thought (to which a substantial number of the early American academic economists were exposed during graduate study in Germany) and influences which flowed easily across the Atlantic on the English language wave. But there were also distinctive indigenous elements in the approach to economic analysis of the United States. Most important figures in this formative period managed to blend an ethical concern and a native-soil political radicalism into their theoretical systems. The towering figure of this period was the American Leonard D. White, whose work was unsympathetic to laissez-faire - declared in its original statutes that: ‘We regard the State as an agency whose positive importance is one of the indispensable conditions of human progress.’ This language, however, was soon withdrawn on the grounds that a pre-position to a policy position was unfitting to an organization dedicated to scientific inquiry.

John Bates Clark (1847-1938) was not only a giant among American neo-classicists but he was also the first genuinely original theorist of the first rank to emerge in the New World. As a young man, he followed the course recommended for students of his generation by pursuing graduate study in European universities (in Clark’s case at Heidelberg and Zurich). On his return to America, he settled into an academic career which was climax ed in 1895 by his appointment to a chair in economics at Columbia University.

Clark’s major original contribution to the sharpening of neo-classical analysis was a pioneering work on the theory of production and distribution. Two considerations influenced this concentration of his theoretical energies. One was a deep-seated moral concern which inspired him to search for criteria of distributive justice in an economic environment made increasingly complex by industrial concentrations and by the rise of labour unions. In addition, his dissatisfaction with a popular view that wage rates were equilibrium prices of income generally were determined primarily by the real income available to labourers on rent-free land stimulated him to produce an alternative analysis of income distribution.

Clark applied the tools of marginal analysis – including some of his own invention – in this project. He was changed so profoundly that he proceeded first on the assumption that conditions of perfect competition prevailed. The rational producer would then engage each of the three productive factors to the point at which the price of the marginal unit of each factor was equal to its marginal product. These production rules simultaneously determined the distribution of income among the various functional shares. In the absence of abnormal profits under perfectly competitive equilibrium the resulting distributional solution – as Clark was among the first to demonstrate – would exhaust the value of the total product, however, how much of this ending returns to scale prevail (i.e. the situation in which a doubling of the size of plant would produce no change in unit costs). It would be vitiated in the case of economies of scale that lowered unit costs.

Conditions in the real world, of course, were likely to depart from the perfectly competitive standards. Indeed, when employers enjoyed a bargaining advantage, they would probably exploit it by paying wages at rates below the value of labour’s marginal product. In Clark’s judgment, this amounted to determining the industrial distributions in a ‘plan of living that should force men to leave in their employers’ hands anything that by right of creation is theirs’. But it was also possible that tightly organized trade unions might exact – if only temporarily – wage rates in excess of labour’s marginal product. In the absence of ‘natural’ monopolies could not conceivably be conducted under the rules of pure competition.

The programme for the analysis of the practical attainability of distributive justice required, of course, an inspection of the actual competitive order and, in particular, of the implications of industrial concentrations – before it could be rounded out. Clark’s initial position was quite unsympathetic to the ethical ethos of industrial capitalism, an overriding concern of Walras as being based on lust for private gain rather than the promotion of social virtue. But if unrestrained competition was socially abusive, monopoly was likely to be even more so. Politically, he supported the promotion of producer cooperative organizations.

He later modified these views substantially. The threat of monopoly no longer loomed so large in his thoughts as, under dynamic conditions, he recognized that technical innovation could withstand the challenge of competitive pressure. In dynamic conditions, however, his rationale was based on size per se sufficiency was still necessary to establish concentrations of market power. Size per se was not sufficient for the moral ethos of industrial capitalism, an overriding concern of Walras as being based on lust for private gain rather than the promotion of social virtue. But if unrestrained competition was socially abusive, monopoly was likely to be even more so. Politically, he supported the promotion of producer cooperative organizations.

3. EUGEN VON BOHM-BAWERK AND THE AUSTRIAN SCHOOL

Between 1870 and the outbreak of the First World War, Vienna was the site of one of the most flourishing schools of neo-classical teaching. Though this tradition was marked by its association with the Austrian Stock Exchange, it was among the first to bring marginal concepts to bear on the analysis of market equilibrium - the towering figure of this period was Eugen von Bohm-Bawerk (1851-1914). In his professional career Bohm-Bawerk combined academic and official duties. He was first called from a university post to the Ministry of Finance in 1889 to work out a projected currency reform and rese to serve three appointments as the Austrian Minister of Finance. From this position he fought effectively for balanced budgets and a stable currency linked to the gold standard. Meanwhile, he maintained contact with university life, through he was able to devote substantial time to teaching and research only after resigning his ministerial post in 1904.

Bohm-Bawerk’s theoretical writings were concentrated on the nature of capital and interest. At first glance, these problems, though important, might appear to be limited in range. In fact, as he treated them, they were not anomalies. He began his analysis of held capital and interest constituted ‘the focal point about which attack and defence rally in the war in which the issue is the system under which human society shall be organized’. Indeed, as his ablest pupil has observed, the scale of the canvas on which Bohm-Bawerk painted justified describing him as a ‘bourgeois Marx’.

Bohm-Bawerk’s procedure was heavily formal and deductive. Consistent with his view of economics as an exact science, he claimed to offer a correct and comprehensive view of the nature of capital and its role in the productive process. Instead of using simple examples, he demonstrated his ideas in the context of multiproduct industries, where only a partial account. The Physiocratic interpretation of the productive process, for example, had regarded only one factor of production - land - as a scarce resource, while the marginalist account another by holding that labour was the basic productive factor. Only in neo-classical thought was capital given an autonomous status. Even so, the
existence of capital was not independent of other factors of production. In his view, it could arise only through the earlier cooperation of the two original factors, labour and land.

Nevertheless, in Bohm-Bawerk’s scheme of things, all forms of production (with the exception of the most primitive in which no implements whatever were used) were indirect. Production in the sense that we usually think of it was thus ‘capitalistic’ in nature. In terms of the method of production, which he viewed as indirect, there was nothing more or less than what he termed the costs of production that were thus important to an understanding of the nature of capital was the fact that the community was obliged to save before the capital stock could be enlarged. The basic problem in the analysis of the production process was thus one of reconciling two sets of observations: the disadvantage of restraining savings, on the one hand, against the advantages of future expansions in output, on the other. How was a solution to this problem to be reached?

Part of Bohm-Bawerk’s explanation rested on the premises of Austrian subjectivist value theory. It was assumed that economic man was motivated by the desire to maximize utility. But in this case the maximization problem had to be viewed over a span of time in which present and future satisfactions were weighed against one another. Furthermore, the fact that most men were likely to prefer the bird in the hand to the one in the bush—i.e. to over-value the present relative to the future and to underestimate the value of future wants. The other side of this coin was the willingness of those who purchased capital goods to pay for the means to acquire them. From the producer’s point of view the desirability of additional capital goods was self-evident because of the additions to output their use permitted. For this reason borrowers were enabled—prepared—to pay an interest charge. At the same time the existence of a positive rate of interest meant that the roundaboutness of the economic process and distracted attention from ‘the facts’ of the productive process would not be extended to the productive activities of the economy. Instead, the economic process would not be extended to the productive activities of the economy.

Bohm-Bawerk’s analysis was clearly at one with the general neo-classical conviction that thrift and the productivity of capital determined the rate of interest and regulated decisions to save and to invest. In his hands, however, the argument did more: it became a powerful weapon in ideological combat. If its definitions were accepted, it was both pointless and an abuse of language to differentiate— as Marx had done between various historical stages in which different rules for the conduct of the economic life applied. Any tool-using society was, by definition, ‘capitalistic’ and subject to the same universal and timeless principles. Bohm-Bawerk, in fact, wrote a lengthy critique of Marxian analysis in which he maintained that Marx’s basic error stemmed from a misguided labor theory of value. Instead, he had blinded him to a capitalistic view of the nature of capital. Though the assault on Marx took precedence, Bohm-Bawerk’s vigorous assertion of the validity and value of universal, formal categories was aimed at dispelling the group of intellectual adversities with which members of the German historical school who had maintained that abstract reasoning had little to contribute to an understanding of the economic process and distracted attention from ‘the facts’.

4. KNUD WICKSELL AND THE SWEDISH BRAND OF NEO-CLASSICISM

In a discipline that has been rich in eccentricity, Knut Wicksell (1851-1926) must rank near the top of any list of unforgettable characters. By his own admission he displayed a ‘contrary disposition’ from an early age and throughout his life he was a vigorous exponent of social conventions. When he married he spurned both church and state and simply announced that he and a remarkable woman had been ‘united’ through a union which, in varying degree, had been associated with classical and Marxian argumentation. Human volition was brought to the centre of the stage. Nevertheless, in Bohm-Bawerk’s analysis, there was no need to expect these fluctuations to be self-correcting without considerable dislocation. The indirect extensions Wicksell had established for the monetary system and its effects on economic activity via the rate of interest foreshadowed a major revolution in economic thinking which in the 1930s shook the very foundations of neo-classical economics.

Postscript to Neo-Classical Economics

The intellectual achievement of the neo-classical economists was formidable. Without doubt, the models formulated by its contributors register high on the scales of aesthetic appeal and logical symmetry. Their work, complex in detail, provided the pieces for a new model and the relationships it represented in a fashion amenable to mathematical analysis. Their approach brought new standards of rigour to economic discourse, silenced the problem of the ‘value’ at stake, put the functional role of money in a new light, and, which, in varying degree, had been associated with classical and Marxian argumentation. Human volition was brought to the centre of the stage. Economic analysis, as Wicksell clearly demonstrated, was a mirror of economic activity. Its core lay in the monetarism of the monetary system and its effects on economic activity via the rate of interest. Shaded a major revolution in economic thinking which in the 1930s shook the very foundations of neo-classical economics.
bulk of economic activity. It was, of course, recognized that certain lines of production (i.e. those subject to increasing returns) were inconsistent with these assumptions and that some form of government intervention to deal with them was justifiable. Nevertheless, it was held that in most markets consumers ultimately guided the allocation of resources and that producers could not exercise unilateral influence over prices. But if this outcome was to be beneficial, it was necessary to ensure that no resources would be involuntarily idle. From neo-classical premises, confidence that ‘full employment’ would be the normal operating condition that would flow naturally from the operation of the market system was to be expected. And so the market system would be sufficient to assure speedy correction of these abnormalities.

The appropriateness of the second of these assumptions was challenged by events in the 1930s and, at the analytical level, by the path-breaking work of John Maynard Keynes. The foundations of the first assumption began to erode. By 1932 the number of large producers, for example, was dominated by a small number of large producers (rather than by the large number of small producers that had been a characteristic of the economy) and so the market system was, in his view, only teleology. Change was not explained. Instead, neo-classical procedure worked with single assumed changes (when all obvious conditions were held constant) and at a particular aggregate level, in the absence of new equilibrium. Even the neo-classical concept of equilibrium was alleged to be spurious. Inasmuch as it rested on the assumption of rational calculating behaviour, it clashed with Veblen’s insistence that human action was more instinctive than rational. In his interpretation, human action was particularly forceful in social conduct: the instinct of workmanship and the instinct of emulation.

From this position Veblen offered both a critique of orthodox neo-classical postulates and a competing explanation of the economic process. As he saw the matter, man’s natural impulse to produce, to create, and to innovate - if allowed to express itself without restraint - would embarrass society with abundance. That fate had been averted could be explained, in part, by the existence of a large number of ‘imperfectly competitive’ monopolies that of which was to waste the abundance that human energy had produced. At the same time, a highly organized market system had mechanisms for suppressing outputs but, to the extent that the energy thus epitomized the instinct of workmanship in societies with high technologies) sought to expand output without limit. Their creative energies, however, were obstructed by business fears of spoiling established markets and of destroying capital values, and so business responded by instituting the classical proposition that output would be expanded, and so the economic process was one of expansion.

This account was clearly at odds with the mainstream of neo-classical thought. Veblen rejected all of the basic mechanistic assumptions of economic theory. If advised that consumers would normally buy more of a commodity at lower prices, Veblen would object that conditions of monopolistic competition failed to take into account that in certain circumstances, yield the opposite result; luxury goods valued as status symbols, for example, might actually be purchased in reduced quantities as their price rose and so that the expectation of continued high levels. To Veblen (an assumption underlying neo-classical distributional theory), Veblen would counter with the argument that man’s workmanlike instincts meant that he obtained positive satisfactions from productive effort. If informed that the proper area of investigation for the economic theorist was the formal analysis of the market’s allocative properties under static equilibrium conditions, Veblen’s response would be most vehement. The real issue, he maintained, was the reverse: the investigation of the destabilizing influences of changes in tastes and technology.

Veblen did much to rekindle interest in an ‘institutional’ approach to economic problems - i.e. one which largely eschews notions derived from pure theory in favour of empirical inquiries into the workings of an economy’s basic institutions. He observes research with contemporary economic problems and social conflicts may also detect echoes of Veblenian themes. J. K. Galbraith’s The Affluent Society, for example, is built on the thesis that the classical supply-demand paradigm is truly a paradigm because activity in rich societies has required producers to become taste makers in order to dispose of their abundant product.

Perhaps the most sophisticated of the later critics of the structure of neo-classical reasoning has challenged the claim that economics can achieve the status of an exact science. Much of the attack has been directed at the value judgements latent in such standard neo-classical terms as ‘equilibrium’ and ‘optimum’ and the risk that their use will prescribe what ought to be. The transition from descriptive to normative statements proceeds in such a way that it often yields no indication of the decision that was made. The natural operation of the market system had mechanisms for deriving ethical conclusions from scientific data, difficulties would not be entirely avoided. It might still be questioned whether or not the neo-classical image of an economic system which the interests of various groups were harmonized constituted an accurate characterization of reality. Some critics have maintained that unfortunate effects have stemmed from the neo-classical preoccupation with efficiency in production and economic growth. But many economists who have worked on these matters has diverted attention from distributional considerations and from divergences in the interests of various groups within society.

Despite these dissent there can be no doubt that the neo-classical economists attained a high standard of formal elegance. Their choice of central focus precluded a sharp inspection of two major economic issues - i.e. the role of long-term capital formation and that growth and development. The limited attention they gave to these matters was deficient. But the apparatus of reasoning cementing their ideas together has a utility which transcends the usual domain of economic thought. The neo-classical mode of thought has been constructed as providing the basis for a

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generalized logic of choice with much to offer to those charged with planning national defence strategies as well as to businesses.

CHAPTER 8

THE ECONOMICS OF KEYNES’S GENERAL THEORY

Between the two World Wars, the economic environment of most industrial countries was shaken by a crisis of unprecedented dimensions. Unemployment mounted to record levels and was stubbornly persistent. With it came a wave of social discontent. In England, the crisis began in 1920, and continued with little interruption through the 1930s. Depression conditions were later in reaching the United States, but when they arrived with the 1929 crash, their force was greater. Clearly, it was not ‘normalcy’ to which the Western world had returned.

The fabric of Western industrial communities was deeply rent by these events. In Britain, the general strike of 1926, which was bred in social hostility, generated still more. Later, when the bread lines and queues for the dole lengthened in the United States, unemployed veterans of the First World War were marching on the Irish capital demanding that they were ‘forgotten men’. Amid these symptoms of distress many reflective persons were led to ask whether or not the Marxian prognosis about the future of industrial capitalism, which had been largely written off as falsified by history in the heyday of late nineteenth-century capitalism, might not have been so far wrong after all.

The orthodox tradition in economic thinking was unprepared to deal with this situation. The framework of the neo-classical mentality had been organized around the assumption that full employment was an economy’s normal operating level that deperates from it only under minor shocks. When lapses did occur - the economic system itself would generate the necessary remedies. In the 1930s, this image of the functioning of an economic system failed to be very far out of line with reality. Not only had idleness in the labour force and in plant capacity reached unusual proportions but there was little to indicate that this distressing situation was correcting itself.

Despite the chasm separating the assumptions of neoclassical aggregative analysis from the world of events, economists schooled in the neo-classical tradition were not at a loss to offer an explanation for these abnormalities. The persistence of unemployment could be accounted for by rigidities within the economic system that stalled the mechanism for adjustment to full employment equilibrium. Two types of rigidities figured prominently in the discussion of the times. Perhaps the most important was the inflexibility of wages arising from the influence of trade unions. From this perspective the insistence of organized labour on strict adherence to negotiated minimum wage scales was held to be socially irresponsible. The system’s normal response to unemployment, it was maintained, called for wage reductions which would, in turn, encourage employers to hire more workers. Were it not for the obstructionism of trade unions, the economy would begin to climb the path back to full employment.

A rigidity of a second type was also viewed as thwarting the self-adjusting properties of the economic system. In this case, the responsibility was placed at the door of the business community, or at least part of it. More specifically, it centered on the conduct of industry, in particular large-scale industrial enterprises - had achieved a position in which they could exercise a substantial degree of control over prices. In the conditions of industrial organization of the inter-war period, fewer and fewer enterprises were price-takers accepting passively the prices established by unregulated markets, and more and more had the power to be price-makers. Elements of monopoly in the system reduced the flexibility of prices and augmented the ability of sellers to resist pressures to reduce prices when demand slackened. This line of explanation gained great currency in the early 1930s with Germany that regarded F.W. von Hayek as immoral, and impractical. His outspoken attack on the work of the conference in a book entitled The Economic Consequences of the Peace made them both an international figure and persona non grata in British official circles for nearly two decades.

Behind the scenes, most Western governments were groping for fresh approaches and solutions. The distress that was bred in the Great Depression and too urgent to be ignored. But a carefully worked out strategy for attacking the economic malaise was lacking. Some halting steps in the right direction were taken. Britain experimented with public works programmes, though on a modest scale, as job-creating devices. In the United States the Roosevelt administration, which had come into office pledged to balance the budget and to stimulate real level of public expenditure, took bold initiatives in using public works programmes to stimulate the economy. These daring experiments were refreshing departures from the traditional wisdom, but they had no analytical foundation and as a result the absence of a solid theoretical diagnosis of the economics of unemployment no rational means were available to distinguish promising policy remedies from the panaceas offered by cranks and crackpots.

Much of the historical significance of Keynes’s General Theory of Employment, Interest and Money, a work that broke sharply with the orthodox tradition. The book’s analytical approach to economic policy in the past three decades has, in large measure, been shaped by Keynesian economic analysis.

1. JOHN MAYNARD KEYNES (1883-1946)

Throughout the greater part of his adult life, Keynes was associated with King’s College, Cambridge. But his career was not that of a cloistered academic. Upon completion of his undergraduate studies in 1905, he joined the Civil Service and was assigned to the India Office. His first published works in dealing with economics were to become the product of this experience. For a brief period before the First World War, he returned to Cambridge to take up a college fellowship, but shortly thereafter he was called back to public duties as an adviser to the Treasury. In this capacity he accompanied the British delegation to the Paris Peace Conference. He resigned this post in June 1919, in protest against the terms of settlement Germany he regarded as both immoral and impractical. His outspoken attack on the work of the conference in a book entitled The Economic Consequences of the Peace made them both an international figure and persona non grata in British official circles for nearly two decades.

In 1940 Keynes re-entered public service as a principal economic adviser to the government. During the darkest days his main preoccupation was with the stabilization of the British economy in the war years. He next turned to the task of national income analysis he had forged proved to be invaluable. Later his attention shifted to post-war reconstruction of the international economy. The establishment of two institutions - the International Monetary Fund and the International Bank for Reconstruction and Development - owes much to his inspiration and to his powers of persuasion as a negotiator. Even the most abbreviated sketch of Keynes’s life would do the man less than justice if it should fail to mention another facet of his interests. A distinguished bibliophile and patron of the arts himself, he was anxious that the arts should be adequately supported and that they should be accessible to a wide audience. His initiative was instrumental in the creation of the Arts Council.

As a literary craftsman, Keynes was also an artist in his own right. The quality of his prose is alone sufficient to assure him a unique place in the economists’ hall of fame. This skill has been recognized by no less competent a critic than T. S. Eliot, who wrote of him: ‘In one art, certainly, he had no reason to defer to any opinion: in expository prose he had the essential style of the clear mind which thinks structurally and respects the measure of words.’ The quality of the man is reflected in a toast he once offered to his fellow economist whom he described as ‘the trustees, not of civilization, but of the possibility of civilization’.

2. THE ANALYTICAL PROBLEM OF THE GENERAL THEORY

Keynes’s principal work focused on one central issue: the determination of long-run national income and employment in industrial economies on the cause of economic fluctuations. Earlier schools of economic thought had given little systematic attention to this problem. The classics were too preoccupied with problems of short-term instability; in any event - apart from the post-Napoleonic war years - the matter was not of major significance.
in their day and age. Marx came closer to Keynesian concerns but his work was always overlaid with the pre-judgement that the downfall of capitalism was inevitable; in his view widespread fluctuations were the result of an incurable malignancy within the capitalist system. Though some neo-classical writers made reference to "industrial fluctuations" and to the "inconstancy of employment", they were far more interested in the forms of fluctuations particular to their country and the output of the economy as a whole. Moreover, they were persuaded that full employment was the long-run equilibrium position toward which the economy naturally gravitated and their analysis was built on this premise.

Even before his doubts about neo-classical presuppositions had crystallized, Keynes held to the view that 'in the long run we are all dead'. As his thought took shape in the General Theory, economic analysis was reconstructed to bring short-period aggregation problems to the centre of the stage. The microeconomic level of questions around which the neo-classical tradition had been organized were pushed toward the wings. At the same time, Keynes was at pains to dissociate his position from the Marxist contention that capitalism was doomed. The Marxian system had been discredited, and if reforms were made in time. An unregulated capitalism, however, was incompatible with the maintenance of full employment and economic stability.

Keynes had moved part way towards this conclusion in the mid-1920s with the recognition that conventional laissez-faire was inadequate to the increasingly complex problems of industrialized societies. But his thought was then still in the mould of Marshallian neo-classicism. The writing of the General Theory in the early 1930s was, as he described it, 'a struggle from habitual modes of thought and expression' - a struggle made more difficult because 'I myself held with conviction for many years the theories which I was trying to demolish...' His purpose was to reflect the awareness that the speculative factor in the real economy - the sensitivity of investment demand to movements in the interest rate - the interest in which he was trying to deal with the analytical furniture, the presuppositions, of what he referred to as 'classical theory'. Keynes held to represent 'the way in which we should like our Economy to behave. But to assume that it actually does so is to assume our difficulties away.

While Keynes declared war on the aggregative strand of the neo-classical tradition, it did not mean that he was to abandon economics. Apart from expressing reservations about its postulates on the degree of competition and their relevance to the prevailing market structure, he largely by-passed this component of the neoclassical model.

3. THE ATTACK ON SAY'S LAW AND THE INTERPRETATION OF MONEY

Keynes saw clearly that the mainstay of orthodox confidence in the self-adjusting properties of a market system to a full employment equilibrium was the neo-classical version of Say's Law and he made this strand of theory a primary target of criticism. As originally formulated, Say’s Law had distinguished between ‘general’ and ‘partial’ overproduction; the former was held to be impossible, while the latter - though it could occur - could not persist in an economy in which there were no significant impediments to the mobility of productive resources.

Subsequent re-interpretations of Say’s Law (and particularly the version implicit in latter-day neo-classical thought) could be translated into the proposition that all income would be spent. In other words, there would be no important role for the income component of demand. In standard neo-classical reasoning this conclusion was held to be self-evident. But after all, he in his right mind would accumulate idle funds in substantial volume when, by lending them, he could add to his income? Consumption expenditure was the main object of economic activity. Rational economic agents could only be induced to restrain their consumption - i.e. to save part of their income - when offered a reward in the form of a rate of interest for so doing.

Around these postulates the whole structure of neo-classical thinking about savings, investment and the aggregate demand-supply equation was built. The economy was expected to respond positively to higher rewards for saving; an increase in the rate of interest would swell the volume of loanable funds. Borrowers, on the other hand, would adjust the quantity of loanable funds for which they were prepared to pay as the rate of interest changed; at low rates of interest the quantity of loanable funds demanded would be augmented and at high rates, curtailed. The rate of interest was interpreted as a sensitive mechanism for producing an equilibrium between saving and investment. In turn, this equilibrium insured that the proportionate income not spent on consumption goods would be spent on investment goods.

This line of argument was further reinforced by the standard neo-classical interpretation of the role of money. In this view the primary function of money was as a medium of exchange. It was sought for the command over goods and services that it provided. But money per se was sterile and lacked any other intrinsic value. It was both fungible and widely divisible and closely inter-related with the judgement that hoarding was irrational. Money was economically interesting only as it was spent and circulated through the economy. As long as the predominant features of the economy were the versions of the quantity theory of money worked out by neo-classical economists.

Keynes’s assault on the Say’s Law tradition centred on this analysis of money. He set about the task by reversing the perspective from which money was viewed. Whereas neo-classical writers looked first at money in market situations, Keynes chose to look at what market situations were for money. The primary question to be answered was: how and for what reasons is the community induced to hold the stock of money that exists at a given moment? Obviously, required to conduct transactions, to hoard as a speculative device to lubricate the wheels of commerce and to provide a reserve against contingencies. These motives for holding money were thoroughly compatible with neo-classical thinking. But the quantity of money is also another reason for holding cash - the speculative motive for liquidity. This concept was essential to the opening of space for the analytical innovations of the General Theory.

Why should anyone wish to hold money in excess of the amounts required for transactions and precautionary purposes? Suppose that he had obtained an income he might have gained as a lender? Keynes’s reply rested on the inverse relationship between interest rates and the capital values of paper assets. The essentials of the philosophy he had in mind was not to be clearly understood through attempts to reconstruct the Marxian system on a consensus (a type of government debt issue familiar in Britain, though not in the United States). As a stable and perpetual bond the consol is convenient for purposes of illustration because it permits the general principle to be established without the complications presented when debts with differing maturity dates enter the picture.

For purposes of argument, let us assume that a 3 per cent consol has been issued at a par value of £100; i.e. the holder is assured of £3 per year per £100. The fixed rate of interest under this consol would be 3 per cent. As the price of the bond is inversely related with the judgement that hoarding was irrational. Money was economically interesting only as it was spent and circulated through the economy. As long as the predominant features of the economy were the versions of the quantity theory of money worked out by neo-classical economists.

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explanation of the determination of an equilibrium between the supply and demand for money called for an answer to the question: what factors would induce the public to hold the available stock of money? 

In working out a solution to this puzzle, Keynes built further on the foundation laid by his revisionist interpretation of the motives for holding money. He argued that the public was prepared to hold cash, he maintained, governed by two factors: the level of national income and the rate of interest. The community clearly required a certain stock of money to transact its business, and precautionary savings were required were likely to vary with the level of economic activity. In all probability, rising national income would swell these components of the demand for money, and falling national income would diminish them: the public might also demand money for speculative reasons. Balances held in this form amounted to hoarding and their size was likely to be influenced primarily by the rate of interest and expectations of future changes in the rate of interest. At high rates of interest the community was likely to prefer income-yielding assets to idle balances. At low rates of interest, on the other hand, hoarding might be preferred as a safeguard against possible capital losses.

An example may be helpful in conveying the Keynesian argument on the mechanics of this process. Let us suppose that the monetary authorities increase the supply of money (say by buying government securities held by the banks or by the public and thus increasing the money balances of those who formerly held these securities). How would a new equilibrium position be reached? In the absence of a change in national income there would be no reason to expect a change in the amount of money the public would be prepared to hold for transactions and precautionary purposes. Presumably, many of those who received increased money balances in exchange for government securities would prefer to hold income-yielding assets rather than idle balances. However, the supply of such assets would be bid up; simultaneously, the effective rate of interest would be depressed. Lower rates of interest would reduce the reward for parting with liquidity. This process would, in turn, serve to release the working capital of the community to hold an enlarged quantity of money. Through this process of interaction between interest rates and the supply of money a new equilibrium would be established at which the increased supply of money could be absorbed into the system.

This interpretation of the determination of interest rates completely scuttled the orthodox neo-classical view that interest rates were established by the interaction of the demand for and supply of loanable funds. The Keynesian argument held that the rate of interest was primarily a real phenomenon determined by, and one, moreover, detached from the real factors of thrift and the productivity of capital to which the neo-classical mind had linked it. This position further implied that the rate of interest could no longer be invoked as the delicate mechanism for equilibrating intended saving and intended investment. These relationships played no part in the determination of the rate of interest itself. Saving and investment might respond to changes in the rate of interest but they were not its primary determinants.

In addition this analysis implied that the independence of the monetary authorities to influence interest rates might, in periods of depression, be severely restricted. The Central Bank could continue to expand the supply of money. But if the increment simply swelled idle balances, no reduction in interest rates would ensue as for an economic system with its legs locked into what Keynes described as a 'liquidity trap'. This situation might arise for institutional reasons quite independent of the intentions of the parties directly involved. For example, in periods of depressed demand, involuntary banks may thus find themselves holding idle balances in substantial volume as excess reserves. While it is still possible for banks to acquire earning assets (such as government securities) with idle reserves, this course may not be desirable if the market prices of fixed-interest assets are already high and interest rates low. Financial institutions, no less than the public at large, may choose to protect themselves against capital losses by hoarding for speculative reasons.

5. THE KEYNESIAN ANALYSIS OF SAVING AND CONSUMPTION

With his monetary theory of interest Keynes unhinged saving and investment from their neo-classical meanings. He was therefore obliged to supply some new conceptions to explain the determination of these two variables. Only after this manoeuvre had been satisfactorily executed was he prepared to consider the problem of the determination of national income. In neo-classical thought, the rate of interest had been regarded as the primary regulator of the volume of saving. This is not to say that a neatly segmented rate of interest affected national income as an influence on saving. But this relationship was given little attention and, within the framework of their thought, for ample reason. National income, after all, was regarded as a rather stable variable, fluctuating only on a relatively small scale and providing for temporary full employment. Fortified by this presupposition, it appeared to be more pertinent to concentrate attention on the rate of interest. Once Keynes had thrown open the horizons of his analysis, the traditional argument was not only cut adrift but even reductio ad absurdum - indeed it was perhaps the least likely of a range of possibilities - the emphasis assigned to income and to the rate of interest in the interpretation of savings decisions was reversed.

The level of income became the crucial determinant, while the rate of interest was cast in a secondary role. Keynes’s decision to tie the theory of savings more closely to the level of income had more than this analytical relevance. It was also argued that this interpretation allowed a more realistic account of the behaviour of savers than did the neo-classical explanation. Few people, he maintained, were highly sensitive to interest rate changes in their decisions of ‘interest to-day’, he argued, ‘rewards no genuine sacrifice, any more than does the rent of land.’ In his view, people sought first an acceptable level of consumption and only secondarily a level of saving, in the sense of being more than sufficient to cover consumption requirements. Saving was thus a residual, varying in amount with changes in the level of income. Few people were likely to be influenced by changes in the rate of interest when allocating their income between consumption and saving.

An important corollary was attached to this part of Keynes’s argument. Not only was the level of income the most forceful influence on the volume of saving but - as income rose - saving was likely to rise both absolutely and as a proportion of income. Expenditures on consumption, though still rising in an absolute sense, would rise proportionately less, so also did they lie at the core of his investment analysis. On this basis Keynes could assert that investment expenditures were the primary regulator of the volume of saving. This is not to say that expectations were unimportant. Keynes himself recognized the importance of expectations. But if the increment simply swelled idle balances, no reduction in interest rates would ensue as for an economic system with its legs locked into what Keynes described as a ‘liquidity trap’. This situation might arise for institutional reasons quite independent of the intentions of the parties directly involved. For example, in periods of depressed demand, involuntary banks may thus find themselves holding idle balances in substantial volume as excess reserves. While it is still possible for banks to acquire earning assets (such as government securities) with idle reserves, this course may not be desirable if the market prices of fixed-interest assets are already high and interest rates low. Financial institutions, no less than the public at large, may choose to protect themselves against capital losses by hoarding for speculative reasons.

...the richer the community, the wider will tend to be the gap between its current yield and its potential production; and therefore the more obvious and obvious the defectiveness of the economic system. For as a proportion of the community's total income will be prone to be consumed by far the greater part of its output, so that a very modest measure of investment will be sufficient to provide full employment; whereas, however, in a small community with ample opportunities for investment if the saving propensities of its wealthier members are to be compatible with the employment of its poorer members.

6. THE DETERMINATION OF INVESTMENT

In the neo-classical tradition, as we have seen, decisions to save and to invest were interpreted as determined by the same influence: the rate of interest. It could thus be argued that the economic system, by its nature, would be in static equilibrium once an automatic equilibrium between saving and investment Keynes shattered the symmetry of this argument by severing the link between saving and the rate of interest. Decisions to save and to invest, he maintained, were largely independent of one another and often undertaken by different groups of people for quite different reasons. If the rate of interest now largely dropped out of the account of saving it still remained an important determinant of investment expenditure. Keynes accepted much of the neo-classical approach. His argument presupposed that the volume of private investment would be governed largely by two considerations - the cost of borrowing and the anticipated rate of return. If expected net yields exceeded the cost of capital (i.e. the rate of interest) then capital expenditures would be worthwhile; on the other hand, should the rate of interest exceed expected rates of return, spending on plant, equipment, and inventories would not be undertaken.

This element of continuity between the Keynesian and neo-classical systems should not mislead us. It was an entirely new approach that Keynes took to the interpretations of the expected rate of return on investment (in Keynes’s terminology, the marginal efficiency of capital). At first glance it might appear that he simply placed a conscious emphasis on the link between the rate of interest and the classical notion of the marginal productivity of capital. In part, he had this relationship in mind; as the capital stock grew (other things being equal), he argued that returns would tend to fall. But his concept also embraced another matter relevant to the analysis of investment decisions - the expectations of entrepreneurs. Keynes insisted that the most important confusion concerning the meaning and significance of the marginal efficiency of capital has ensued on the failure to see that it depends on the prospective yield of capital, and not merely on its current yield.

Throughout his work Keynes assigned much more weight to the influence of psychological factors on the economic process than had his neo-classical predecessors. Just as he was critical of the orthodoxy of liquidity preference, so also did they lie at the core of his investment analysis. On this basis Keynes could assert that investment expenditures might not be undertaken even when conventional calculations of returns indicated them to be profitable. This might occur if entrepreneurial expectations were bearish. Fears of capital loss might then deter outlays which, on paper, appeared to be attractive.

It will be recalled that neo-classical writers commented on the waves of optimism and pessimism in the business community and their effects in the discussions of cyclical fluctuations. These disturbances, of course, were always assumed to be confined within narrow limits. No cases of extreme and stubborn unemployment had then been experienced and there was little reason on the part of the community to adopt Keynes’s view. Keynes saw the problem quite differently. Once he had established that the equilibrium level of income was subject to a wide range of variation it was possible to argue that entrepreneurial temperament was both volatile and highly important to the behaviour of the economy. Indeed the marginal efficiency of capital was so much a matter of expectations that the shifting moods of the business community might easily swamp the rate of interest’s influence on investment expenditure.
This phenomenon highlighted one of the central policy concerns of Keynesian analysis. High levels of income were likely to generate savings in substantial volume. If full employment was to be achieved, investment expenditure on a sufficient scale to match the increased number of savings would be necessary. There was little basis for confidence, however, that investment spending in the amounts required for full employment would be undertaken on a private initiative. As capital accumulated, the marginal rate of return would be expected to decline unless the offsets provided by technological progress were forceful. Moreover, it could not safely be assumed that substantial increases in investment could be induced by monetary measures designed to lower the costs of borrowing. In the circumstances of a depression, bearish entrepreneurial expectations might neutralize those effects of savings in interest rates. An active monetary policy to push interest rates down was still desirable. But it was important to recognize the limitations of this procedure. Should the situation of the multiplier be approximated, monetary measures would be incapable of reducing interest rates.

In short, conventional techniques of economic policy were insufficient to remedy the deficiency of aggregate demand. A more active role for government as a spender was called for if prosperity was to be restored. Keynes maintained:

While, therefore, the enlargement of the functions of government, involved in the task of adjusting to one another the propensity to consume and the inducement to invest, would seem to a nineteenth century publicist or to a contemporary American financier to be a terrific encroachment on individualism, I defend it, on the contrary, both as the only conceivable mechanism of avoiding the destruction of existing economic forms in their entirety and as the condition of the successful functioning of individual initiative. For if effective demand is deficient, not only is the public hand upon the resources intolerable, but the individual enterpriser who seeks to bring these resources into action is operating with the odds loaded against him.

7. KEYNESIAN ANALYSIS AND THE DETERMINATION OF AGGREGATIVE EQUILIBRIUM

Though so fundamentally different in many important respects, Keynes and the neo-classical writers spoke in unison in their definitions of aggregate equilibrium. In both traditions the necessary condition was an equilibrium between intended saving and intended investment. Neoclassical economists maintained that this equilibrium was achieved through alleged automatic adjustments. The individuals, having severed the direct connexion between saving and the rate of interest, was obliged to offer an alternative account of the mechanisms for the determination of equilibrium.

Stated in its simplest form, Keynes’s alternative solution linked the mechanism of adjustment to variations in the level of income. Neoclassical writers, of course, had largely neglected this relationship as within the framework of their thought, national income was subject to fluctuations only within rather narrow limits. For Keynes, on the other hand, a wide spectrum of equilibrium income positions was possible. The pertinent question was: at what level would equilibrium in the national income be established?

Keynes’s development of this problem drew upon the concept of the multiplier first formulated by his Cambridge colleague, R. F. Kahn. The essential of the multiplier argument could be illustrated in a simple example. Let it be assumed that an initial equilibrium between intended saving and intended investment is disturbed by the decision of investors to spend more on plant and equipment. What adjustments would take place?

Clearly an increase in investment expenditure would add to total income. But the achievement of a new equilibrium would require saving to rise by as much as investment had increased. This condition could be satisfied when income had risen enough to generate the required increment in saving. How much would income have to grow before equilibrium was restored?

The multiplier concept permitted a theoretically precise answer to be given. If, for example, the community saved one-third of its incremental income and correspondingly increased its demand for goods, total investment would be increased by one-third the amount of the increase in investment spending. In other words, changes in investment had a multiple effect on income. The mechanics of this process can be illustrated in more everyday terms. An increase in investment expenditure will generate higher total demand and call for more workers and more raw materials in the industries producing capital goods. As a substantial part of the additional expenditure by workers and suppliers of raw materials is likely to be spent. Additional rounds of spending and re-spending are thus likely to follow. In this manner the stimulation of increased investment radiates throughout the economy, raising income and employment.

The magnitude and timing of the increase in national income touched off by a rise in investment expenditure would, of course, be affected by a number of factors - among them, the lags between the receipt of income and its expenditure. Obviously a considerable time period would be required before the full force of expanded expenditure could be felt. In the meantime, the space and magnitude of the rise in income might also be dampened by leakages from the expenditure stream. Part of the additional spending, for example, might be reported as personal income and spent on consumption goods. To that extent, the stimulus to domestic income and employment would be weakened. Though the multiplier does not operate quite as tidily in practice as it appears in theory, it highlights relationships that are vital to an understanding of economic fluctuations.

Keynes used the multiplier concept to explain the manner in which the level of income was determined and to emphasize the crucial importance of investment expenditure to recovery from depression. The same analytical arguments could be applied to consider the effect of government expenditure on the economy. In such circumstances, an increase in investment would still have multiplier effects but only an increase in money income would then be produced. Prices might, in fact, drift up, but a real output could not be augmented to match the increase in demand.

Later theoretical writing has integrated the Keynesian multiplier scheme with a concept known as the ‘acceleration principle’. Whereas the multiplier is concerned with the connexion between changes in investment and subsequent changes in national income, the acceleration principle refers to the manner in which increases in income and consumption may also stimulate investment and give rise to further rounds of income expansion. This line of analysis is perfectly compatible with the argument of the General Theory. Theoretically, Keynes did not make use of it. J. B. Clark, writing in 1916, had spelled out the basic structure of the accelerator mechanism. Keynes may perhaps be excused for his failure to draw upon this insight in the 1930s. His concern was then with the problems of a depression economy. In such circumstances, the accelerator is unlikely to have a forceful impact until income has risen enough to wipe out idle plant capacity. So long as excess capacity exists in the sector of demand generated by rising income can be satisfied without additional investment to augment productive capacity.

Keynes's analysis of the determination of aggregative equilibrium opened an entirely new vista for economic investigation and inquiry. For the first time income was presented as a primary variable in the system of economic activity that was subject to extreme fluctuations. The prominence assigned to changes in national income in the Keynesian theoretical system gave quite a different orientation to the study of business cycles.

The treatment of the rate of interest in the Keynesian model provides a significant case in point. Keynes denied that it had much influence on decisions to save and consume, but it did not follow from this conclusion that the rate of interest bore no connexion with saving. He maintained that:

…the influence of moderate changes in the rate of interest on the propensity to consume is usually small. It does not mean that changes in the rate of interest have only a small influence on the amounts actually saved and consumed. On the contrary. The absolute level of interest and the rate of interest on the amount actually saved is of paramount importance, but is in the opposite direction to that usually supposed. For even if the addition of the larger future income to be earned from a higher rate of interest has the effect of diminishing the propensity to consume, nevertheless we can be certain that a rise in the rate of interest will have the effect of reducing the amount actually saved.

The resolution of this apparent paradox can be seen when one considers the nature of the Keynesian argument on the determination of aggregative equilibrium. Investment can be influenced by changes in interest rates. Thus, a fall in rates of interest stimulate activity, national income would grow via the multiplier process. Higher levels of income, in turn, would reduce a larger rate of saving. Therefore, for the establishment of a new equilibrium at increased levels of investment and income. A connexion between interest rates and saving was thus retained, but in a manner far removed from the one thought of in a simple argument against the gold standard. In the Keynesian formulation the causal linkage was indirect, running from interest rates to investment, from investment to aggregate income, and from aggregate income to actual saving.

8. THE KEYNESIAN THEORY OF EMPLOYMENT

In the discussion thus far, much has been said about the determination of national income, but nothing directly about the level of employment. As its title indicated, the General Theory was intended as an analysis of employment in the first instance. Quite clearly variations in the level of economic activity have a major impact on employment and unemployment. But Keynes was fully aware that the relationship between national income and employment demanded specification. Though for labour was difficult to establish precisely. In his search for leverage on this problem he introduced the concept of the wage unit.

As an analytical device, the Keynesian wage unit has much common with the manoeuvres performed by those classical economists who attempted to measure the value of goods in terms of labour. They were obliged to explain how various grades and skills of labour could be reduced to a common denominator. Normally, they treated an hour of unskilled labour as the basic unit of wage measure. The wage unit of a skilled worker was, however, a much more remunerated skill.12 The unit of work was then adjusted to encompass average wage rates of members of the labour force whom the market rewarded more highly could be expressed as a multiple of the standard unit. In most classical accounts, however, this technique was not free of internal contradiction.

Keynes adopted a similar procedure for purposes of relating the volume of employment to national income. Differentiation within the labour force could not be accomplished by a single wage unit. This work was done by persons possessing the more highly remunerated skills.14 Keynes was on more secure logical ground in this exercise than were the classical economists. The latter went at a loss to find a harmonious combination of skills without appealing to valuations assigned by market place. This introduced supply and demand considerations into an argument which

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was supposedly based exclusively on physical inputs. Keynes, who had no interest in searching for a criterion of value independent of the market, was not troubled by this complication.

This procedure, though logically sound, was still not ideal. Empirically the relationship between changes in income and changes in employment has been found to be not so tight. The reason most conspicuously when employment is reckoned (as it commonly is in popular discussions as well as in official statistics) in terms of the number of persons employed.

In the event that Keynesian analysis can be linked more reliably to changes in income. For practical purposes this technique of measurement—i.e. in terms of the number of hours of work employed—was sufficiently accurate. None of the employment statistics presently gathered lend themselves to a wage unit type of measurement without enormously time-consuming adjustments.

9. THE IMPLICATIONS OF THE ANALYSIS FOR ECONOMIC POLICY

Keynes's work had clearly assaulted the main props to confidence in the usual instruments of economic policy. The major policy weapon in the orthodox arsenal—i.e. monetary controls—could now be seen to be too blunt to be fully effective. As the argument of the General Theory had demonstrated, the power of the monetary authorities to influence the rate of interest (and thereby to affect investment spending) was limited. It was most seriously handicapped, of course, during periods of depression. When the liquidity trap emerged, the rate of interest could be pushed no lower. While the monetary authorities could add to the supply of money, they were unable to control the demand for money.

But this was not the only point at which reliance on monetary policy was attacked. No less important was the Keynesian argument that highly volatile expectations had to be faced. Theoretically, a government could maintain full employment if economic stability were to be achieved, it was imperative to assign a much more active role to fiscal policy. By contrast with orthodox views holding that governments should operate with balanced budgets, Keynes called for deliberate deficits to swell aggregate demand. He recognized, however, that public expenditure financed by borrowing would have favourable effects on total demand only to the extent that a net increase in total spending was thereby accomplished. Should projects launched by governments merely displace those that would otherwise have been undertaken by the private sector, the intended growth in total spending would not be realized. Furthermore, he was well aware of the resistance his recommendations were likely to encounter. Some types of non-conventional measures might be more acceptable, though less beneficial to society as a whole.

The results of a programme of wage reduction would, of course, be happier if real wages did not fall—i.e. if output prices fell by at least as much as money wages. This outcome was doubtful in view of the subjective factors which have exercised, by far the greatest, the influence of wage reductions. Price cutting was likely to have depressing effects on expectations and would increase the real burden of outstanding debt. Investment on the scale required to restore full employment might thus be discouraged.

10. THE LARGER CONSEQUENCES

The message of the General Theory was sharply critical of unregulated laissez-faire. Most neo-classical theorists, it will be recalled, expressed reservations about the circumstances in which unchecked market arrangements could be counted on to yield socially desirable results. Their anxieties, however, were usually associated with the consequences of government interventions. The usual remedy of competitive behaviour could not be expected to apply to these situations and a case could be made for public regulation or ownership.

Keynes's critique of laissez-faire rested on quite different foundations. The burden of his argument was to demonstrate that an unregulated market system was likely to be chronically unstable and incapable of assuring the full utilization of productive resources. Not only did his analysis demonstrate the need for active government intervention in the economy, but it also proclaimed that thrift was not necessarily a social virtue. Indecision when resources are scarce inevitably contributes to a collapse of confidence...To a public schooled in the puritan ethic, this insight was not easy to grasp.

It is not remarkable that these unconventional views should have been misunderstood when first expounded. Some critics regarded Keynes's doctrines as dangerously radical and as a threat to the perpetuation of a capitalist order. A considered judgement of the content of Keynes's work suggests quite the opposite conclusion. Revolutionary though the General Theory was in its approach to economic analysis, the policy recommendations derived by it were largely consistent with conventional considerations. Keynes hoped that the essential features of the capitalist system could be preserved. But its virtues could be safeguarded only if the social unrest generated by mass unemployment could be eliminated by adequate reforms. Keynes was convinced that it was essentially a fair weather system. It was capable of remarkably productive performance when conditions were favourable, but it was also inherently unstable. Governments had a major responsibility for regulating the economic climate in ways that would permit the market system to achieve its full potential.

In large measure Keynesian teaching has been absorbed into economic thought and policy in most Western countries. Indeed, the adoption of a Keynesian approach by major governments has been accompanied by a fall in the factors responsible for the high degree of stability exhibited by economies in the years since the Second World War.

Postscript to Keynesian Economics

The central focus of Keynes's pathbreaking work was on the determination of national income, with particular reference to the circumstances of deep depression. This preoccupation has prompted some commentators to challenge the accuracy of the title of the General Theory and to contend that Keynesian analysis is really the economics of a special case. Keynes himself lent support to this interpretation when, in the concluding pages of that work, he wrote:

Our criticism of the accepted classical theory of economics has consisted not so much in finding logical flaws in its analysis as in pointing out that its central assumptions never satisfied the conditions under which the model cannot solve the economic problems of the actual world. If our central controls succeed in establishing an aggregate volume of output corresponding to full employment, then as nearly as is possible, the classical theory comes into its own again from this point onwards.

For once Keynes claimed too little. In a formal sense it is correct that circumstances of full employment reinstate the postulates of neo-classical analysis and dissolve the unique feature of the Keynesian model, i.e. the possibility of a liquidity trap based on hoarding. Nevertheless, Keynesian analysis cannot accurately be described as exclusively the economics of unemployment. The problems of a full-employed system can also be instructively analysed with the macro-economic tools he forged.

In his post-1945 General Theory Keynes did not turn his tools on the micro-economic problems which might arise from the adoption of a Keynesian macro-economic analysis. Though Keynes ruptured the neo-classical analytical system, can quite rightly be regarded as less comprehensive and inherently a fair weather system. It was capable of remarkably productive performance when conditions were favourable, but it was also inherently unstable. Governments had a major responsibility for regulating the economic climate in ways that would permit the market system to achieve its full potential.

In at least two respects, however, there is substance to the charge that the analytical structure of the General Theory is more partial than general. In the first place the scope of this work was deliberately restricted to a time span of six to nine months. For this reason it was appropriate for Keynes's purposes to consider only one aspect of investment expenditure—namely its short-term effects. This at the expense of the longer-term effects of investment spending on the economy's stock of productive assets. Secondly, the General Theory, when viewed as an analytical system, can perhaps best be regarded as more comprehensive than the other master models because of its neglect of micro-economic analysis. Though Keynes ruptured the neo-classical symmetry between micro- and macro-economics, he provided no integrated analytical reconstruction to replace it. Around both of these issues a substantial debate has subsequently revolved.

The first of these analytical omissions has largely been taken care of by the growth models developed by Professor Evsey Domar in the United States and by Sir Roy Harrod in Britain. These schemes are built on Keynesian conceptual foundations and have the virtue that a full employment level of economic activity has been achieved, what conditions must be satisfied if it is to be sustained? This problem is addressed by examining the dual properties of investment expenditure: on the one hand it generates income through the Keynesian multiplier; on the supply side it augments productive capacity. If full employment is to be maintained in the long run, the overall aggregate supply must be achieved. With a few simplifying assumptions and a bit of algebraic manipulation, it can be demonstrated that the
equilibrium rate of growth in national income equals the ratio of saving to income divided by the ratio of capital to the value of output.

These formulations - which are clearly of Keynesian parentage - have been widely used in discussions of planning for economic growth in a number of countries. In the United States this apparatus has supplied the framework of the underlying projections for growth in gross national product prepared by the President's Council of Economic Advisers. Similar procedures have been used by the British National Economic Development Council. Much of this same type of analytical framework has also been extended to long-term planning operations in parts of the underdeveloped world. Among the countries which have devised ambitious long-term development plans are India and Nigeria. In a number of these countries the rate of interest is cast for planning purposes has owed much to the apparatus provided by post-Keynesian growth models. Once a targeted rate of growth in national income and product has been established and estimates of the likely values of the capital-output ratio and of the saving-income ratio have been worked out, this type of model provides criteria against which the consistency of various components can be checked.

In a similar vein Keynes’s kit of aggregative concepts has provided the point of departure for much of the discussion of inflationary tendencies exhibited by a number of advanced economies since the Second World War. While Keynesian notions of aggregate savings, investment, and consumption have been common to most of these analyses, many economists have sought to move beyond a simple explanation of inflation in terms of excessive aggregate demand. Several competing schools have emerged which attempt to link the behaviour of the aggregative variables to nodes of unanchored market power. One, for example, pins the main responsibility for upward pressures on prices to organized labour, arguing that wage union bargaining pushes up costs which are passed on to consumers through increased prices; another traces the trouble to the prevalence of monopolistic sellers who possess the ability to administer price increases. On these points, Keynesian economics per se - by virtue of its neglect of micro-economic relationships - has nothing fresh to contribute.

Keynes's failure to provide a systematic link between macro- and micro-economics has left an opening for a neo-classical type of counter-attack. Much of the ensuing controversy has centred on the analysis of the rate of interest, the theoretical lynchpin of Keynes's most revolutionary innovations. What is now labelled as the 'neoclassical synthesis' attempts to reinstate the rate of interest as a sensitive regulator of economic activity, though the argument is now more subtle than in the days before the General Theory challenged Say's Law. In the up-dated version the equilibrating tendencies of the rate of interest embrace the relationship between changes in capital values of paper assets and decisions to consume. A person who observes an appreciation in the value of his portfolio as interest rates fall, it is maintained, is likely to spend more freely than he would otherwise have done.

This phenomenon, in turn, might more than offset tendencies for idle balances to accumulate (and for a liquidity trap to emerge). Keynes dealt with this line of criticism with the argument that the impact of interest rate variations on consumption was likely to be too limited and too delayed to forestall substantial fluctuations in economic activity. Moreover, when fluctuations occurred, the remedies of fiscal policy would be much more effective than those of monetary policy. The neo-classical revivalists do not, of course, maintain that substantial underemployment can never exist. Instead it is asserted that the market system is sufficiently sensitive to assure full employment so long as wages and prices are perfectly flexible. In the world in which we live, this requirement would be extremely difficult to satisfy. Indeed the mere attempt to give it reality might have highly destabilizing consequences. However appealing the logical symmetry of the neo-classical system may be, its applicability to real problems is limited.

In most Western economies Keynesian theory has laid the intellectual foundations for a managed and welfare-oriented form of capitalism. Indeed, the widespread absorption of the Keynesian message has in large measure been responsible for the remarkable degree of economic stability in the Western world during the past two decades and for the significant re-orientation in attitudes toward the role of the state in economic life. It is not yet clear whether the extension of a Keynesian analytical framework to the underdeveloped economies will have consequences equally as fortunate. Keynes, of course, fixed his own sights on the problems of highly organized industrial economies and, even in this setting, his central concern was with short-period stabilization at full employment. Many of the special problems of the underdeveloped parts of the world can be brought into clearer focus with other types of models. In fact, some of the extensions of the Keynesian aggregative reasoning - such as those suggesting that all important economic problems in the underdeveloped countries will solve themselves if the ratio of net investment to national income is raised above a critical minimum percentage - have detracted attention from prevalent institutional rigidities and from the long-term consequences of unprecedented rates of population growth. After all, a Keynesian aggregative framework is not ideally suited for close contact with questions dealing with efficient resource allocation or with long-period dynamic growth.

Keynesian theory has accomplished a great deal - but it is by no means the last word on the subject of aggregative economics. In the three decades since the publication of the General Theory, its findings have been embellished, refined, and modified. The economists who have undertaken these tasks have paid to Keynes the highest tribute any theorist can ever expect: the questions they have attempted to answer are the ones he inspired.

Epilogue

The house of economic theory has many mansions. In this book we have considered the structure of four of them. Future generations, no doubt, will witness the building of new additions. Nevertheless, the structures already available provide ample room for adaptation to problems quite different from the ones their original designers had in mind. Those who undertake such re-modelling, however, will be well-advised to be alert to the strengths and limitations of the structures with which they are working. Progress in economic thinking may come as much through the refinement of existing intellectual systems - and through an informed awareness of the properties of the various theoretical systems - as through the formulation of entirely new ones.

While the major ‘master models’ offer a variety of perspectives on the economic process it is important to recall that the pioneers in each of these traditions shared a distinguished attribute. All of them took up their pens in a mood critical of established institutions or patterns of thought. If some of their doctrines were later appropriated to justify the status quo, such complacency was alien to the innovators. It was this grand tradition that Keynes had in mind when he once described economics as a ‘dangerous science’. 