5 The Economics of Marx: Tools of Analysis

Marx bases his economic analysis not on individuals but on the social relations between them, so that his ultimate concerns are people in society and the process of social change. Humans differ from animals in that they change their environment which is not solely determined by nature. Labour is the means whereby natural conditions are transformed; initially it focusses upon the provision of subsistence, but in industrial economies more hours are worked than are necessary for survival. The basis of material progress is the surplus time beyond that required for subsistence, which can be used in leisure or to generate additional production. These considerations suggest that labour is the active creator of wealth and that its allocation is crucial for development. Consequently Marx believes that the purpose of economics is to explore the relations under which the surplus is produced and its use controlled. A reformulated labour theory of value is the foundation of his attempt to uncover these relations.

MARX'S REFORMULATION OF THE LABOUR THEORY OF VALUE

Most late eighteenth- and early nineteenth-century economists in Britain held some variant of the labour theory of value. Ricardo (1817) stated its central proposition as follows: 'the value of every commodity is (in perfect competition and at equilibrium) proportional to the quantity of labour embodied in it, providing that this labour is used in accord with existing standards of productive efficiency (the socially necessary amount of labour)'. This quantity is measured in labour hours, with different qualities of work reduced to a single standard by the time taken to acquire a skill. The labour embodied in a commodity includes that required to create subsidiary goods entering into its production, while capital is defined as the
product of past, stored-up labour. Ricardo used the term 'value' synonymously with 'price' and thought that commodities exchange at prices which reflect the relative amounts of labour embodied in them.

However, the labour theory of value encounters problems if used in this manner to determine relative prices. The orthodox critique of Marx follows Bohm-Bawerk (1896) in arguing that Marx did not satisfactorily derive prices from labour values. The major difficulties of Ricardo's theory are these:

(i) It provides a complete explanation only under perfect competition, since in other market structures relative prices vary with the degree of monopoly and the excess profit thus attained.

(ii) It encounters obstacles when labour is heterogeneous. It accounts for skill variations by the time taken to acquire them through training, but differential natural ability, whatever its origin, is less easily quantifiable in terms of hours. It requires additional assumptions, so that problems of measurement become severe.

(iii) Ricardo's theory underemphasises, without completely ignoring, the influence of demand. Consequently its analysis is sometimes convoluted; for example, few accept that diamonds command a high price solely because their scarcity causes a large amount of labour to be devoted to their discovery and production.

(iv) Expectations may cause the price of a good to fluctuate through speculation and stockpiling, although the amount of labour embodied in it remains unaltered. Ricardo's theory contains no account of what determines expectations and so provides at best a partial account of the price structure.

(v) Gifts of nature owned by capitalist landlords are neglected. Although different kinds of land can be physically distinguished, no general ordering in terms of fertility and locational advantage can be constructed independently of prices and profits. Landlords as a class enjoy an institutional monopoly which enables them to deduct rent from real wages even when a competitive land market exists. Therefore prices may diverge from labour values.

(vi) Applying Ricardo's theory leads to conundrums:

(a) It becomes indeterminate when a commodity can be produced by two equally profitable techniques embodying
different amounts of labour. Some capitalists use one technique and some the other, but which determines price?

(b) Potentially it yields negative values when joint production occurs. The labour time embodied in each commodity can only be derived when it is possible to produce them singly. However, if the total time embodied in a joint labour process is less than in a non-joint one, a negative value for one commodity is obtained by subtracting the non-joint labour value from the joint two product labour value.

These anomalies arise because capitalists take decisions on the basis of costs rather than labour time, so that profit maximisation does not necessarily correspond to labour time minimisation. These problems cannot be resolved without introducing an additional principle into the labour theory of value.

(vii) The time taken to produce commodities is crucial to price determination. If commodities exchange at prices proportional to embodied labour time, the annual rate of profit is lower for a capitalist whose capital is committed over a long period than for one whose capital is used up faster, even if the total labour time embodied is the same for each. The more slowly produced good must be priced higher, since otherwise capitalists will forward no funds for its production. Because commodities tie up capital for different times, prices cannot be determined solely by labour time. Where competition equalises the rate of profit on capital per time period, different turnovers modify the determination of price by embodied labour. At least two factors affect relative prices; the time that capital is fixed in a specific usage and the relative quantity of labour embodied in a commodity's production.

(viii) The time pattern taken by stored-up labour is also crucial. If the temporal structure of past labour (i.e. capital) varies between commodities, discounting is necessary to reflect the varying contribution of labour at different stages of the past, i.e. account must be taken of the greater productivity of last year's labour which produced up to date equipment compared to that of twenty years ago whose output currently approaches obsolescence. Therefore when the time structure of past labour varies between commodities, further deviations of relative prices from labour values occur.

Ricardo was aware of some of these difficulties, but made the
arbitrary assumption that embodied labour time was the most important element in price determination. His theory represents only a broad tendency, as over the long run goods embodying much labour habitually sell for more than those with little (e.g. airliners and bicycles; turbogenerators and electric kettles), while general price movements tend to conform to changes in labour values (e.g. the fall in the price of primary products relative to the price of manufactures during the nineteenth century). To obtain a more precise hypothesis of price determination, two alternative approaches are possible:

(i) to abandon the labour theory of value. Historically, this approach produced neoclassical economics, which analyses price in terms of the interaction between relative demand and relative costs. By discarding the labour theory of value and with it the notion that labour was the active agent involved in the creation of wealth, neoclassicals view production as the result of mutual cooperation between several factors.

(ii) to recast the labour theory of value in order to achieve greater precision. Marx admits that prices deviate from labour values but claims that they do so in a systematic, and therefore in a predictable, way.

Marx seeks to answer two questions. To the first, the qualitative problem of value (i.e. what social property allows commodities to be reduced to a common denominator of exchange), he argues that the value of commodities is determined by the amount of abstract labour socially necessary for their production. To the second, the quantitative problem of value (i.e. what determines the numerical ratios at which commodities exchange), he answers that prices are set by transformed quantities of socially necessary labour time. Abstract labour is defined as purposive human activity undertaken in abstraction from the specific characteristics of the jobs actually performed, while socially necessary labour occupies the time technologically required to produce a given article in the quantity demanded.

Marx believes that prices can be explained in terms of labour quantities, but certain misunderstandings must be clarified:

(i) His theory is not based on the assumption that labour constitutes the only factor of production. He recognises the role of natural resources and machinery in augmenting material wealth, and it would be inconsistent to argue that capital is
worthless while advocating its collective ownership as the key to social transformation.

(ii) His theory does not rest on the moral precept that commodities ought to exchange on the basis of the labour embodied in them. He attempts to construct an analytical tool rather than formulate a normative proposition.

(iii) Unlike Ricardo, he does not state that commodities exchange at prices proportional to the amounts of labour embodied in them. He acknowledges divergences but supplies an explanation, i.e. that many commodities must be sold at prices higher or lower than their labour values in order to yield a uniform rate of profit.

In a competitive capitalist economy the rate of profit tends to equality over all industries, because profitability differences stimulate movements of capital towards the more, and away from the less, remunerative sectors until such discrepancies disappear. But a uniform rate of profit is consistent with prices proportional to socially necessary labour time only when the organic composition of capital is equal in every industry. The organic composition of capital is the number of labour hours used up as raw materials, intermediate products and fixed capital depreciation (constant capital or C) divided by the number of hours production workers consume represented by the flow of wage and salary payments (variable capital or V). Marx considers that constant capital adds to the value of the goods it produces only the value of the labour time embodied in its own production. Variable capital possesses the unique potentiality of being able to create output of a greater value than its own; labour power not only reproduces its own value but in addition generates surplus value (S). Under non-competitive capitalism, the rate of surplus value \( \left( \frac{S}{V} \right) \) and the rate of profit \( \left( \frac{C}{C + V} \right) \) are greatest in industries where production is most labour intensive, i.e. where the organic composition of capital \( \left( \frac{C}{V} \right) \) is lowest.

However, competition operates to establish a uniform rate of profit by redistributing the mass of surplus value until the value of \( \frac{S}{V} \) in each industry offsets the differences in the capital-labour ratio. The price structure which yields a uniform rate of profit can be calculated from a series of simultaneous equations; competition brings about a fall in the prices of products using a high ratio of living labour (i.e. a low \( \frac{C}{V} \)), while the
prices of products using a low ratio of living labour (i.e. a high $\frac{c}{v}$) rise. The process continues until the rate of profit is equalised. Therefore labour values — the amount of socially necessary abstract labour embodied in a good — require transformation according to the organic composition of capital, in order to determine price. Commodity prices are exactly proportional to labour values only when their organic composition of capital is equal to the average organic composition over all industry.

The need to transform labour values in terms of the organic composition of capital does not vitiate the labour theory of value, since long-run equilibrium prices diverge systematically from labour values. With above average organic composition of capital, prices exceed labour values; for under average organic composition of capital, prices settle below labour values; and where the organic composition of capital equals the economy-wide average, prices and labour values are identical. Therefore, Ricardo's labour theory of value needs modification to provide a coherent explanation of price determination. Supply and demand movements can cause relative price changes, but Marx sees these as deviations around a norm set by equilibrium prices systematically derived from labour values.

Marx establishes a theoretical connection between the prices and labour values of commodities, but his numerical attempts to solve this transformation problem by example are unsatisfactory, because he fails to transform the labour value of inputs as well as outputs. On this basis, Bohm-Bawerk (1896) dismissed Marx's reformulation and prophesied the demise of his system, 'which has a past and a present but no abiding future'. Bohm-Bawerk failed to consider whether Marx's transformation problem can be solved by an alternative mathematical treatment. In fact it can; Bortkiewicz (1907) solved the relevant set of simultaneous equations for three sectors, while Seton (1957), a non-Marxist, demonstrated a general solution for any number of commodities (the N-product case) and provided formal proof of its validity. Such a demonstration is implicit in the equations, deriving prices from the conditions of production and the ratio of profits to wages, constructed by Sraffa (1960).

The solution amounts to asserting that under capitalism a functional relation exists between labour values and equilibrium prices expressed as:
Radical Political Economy

Price of a Commodity = C + V + \( \frac{C + V}{\sum(C + V)} \) (\( \sum S \))

where  
C = the value of used-up machinery and raw materials;  
V = the value of labour power;  
S = surplus value;  
\( \sum C + V \) = the aggregate capital (constant plus variable) employed over the whole economy;  
\( \sum S \) = the aggregate surplus value produced over the whole economy.

All items on the right of the equation can be expressed in terms of transformed quantities of embodied labour, so that a direct relationship exists between labour values and equilibrium prices of production. Divergencies between them are not random but systematic and therefore predictable. It is this assertion that distinguishes Marx's labour theory of value from that of Ricardo.

Any attack upon Marx's reformulation on the grounds of over-simplification is misconceived but a more valid criticism may be that it is an unnecessarily complex theory of price determination. However, one of its strengths is its concentration upon labour as the active creator of the material basis of life; by arguing that land, raw materials, equipment and plant merely cooperate with the labour time that is exchanged and employed, attention is directed to the forces that stimulate a rapid growth in labour's productivity. The labour theory of value and the marginalist alternative cannot be compared simply as rival explanations of relative prices since they constitute fundamentally different conceptualisations of the entire economic process.

The labour theory of value as reformulated by Marx provides a determinate account of the price structure but is complicated to use in practice. Contemporary radicals accord this topic a lower priority than do conventional economists and argue that Marx's model is better equipped to analyse the operation and development of capitalism. The labour theory of value enables a distinction to be drawn between the productivity of machinery created by past labour and the ability of its owners to appropriate part of its product as profit. In Robinson's (1942) words: 'whether we choose to say that capital is productive or
that capital is necessary to make labour productive is not very important... what is important is to say that owning capital is not a productive activity'. This distinction links directly to Marx's theory of exploitation, which incorporates capitalist exploitation into a general equilibrium theory of prices.

MARX'S THEORY OF EXPLOITATION

Marx distinguishes exploitation (extraction of surplus labour in the form of surplus value) from oppression (control of some people by others). He explains the existence of a net return to capital by the phenomenon of exploitation which is not accidental but results from the inherent logic of capitalism.

Theories of the origin of profit divide into two categories:
(i) those that regard profit as a residual from the net social product. Marx's theory falls into this category, for surplus value is seen as a costless gain for capitalists,
(ii) those that consider profit as the exchange equivalent of some specific contribution to production incurring a 'real cost' (e.g. abstinence, the bearing of uncertainty). Such theories place profits and wages on an equivalent footing by relating the structure of inequality to individual costs and sacrifices rather than to social processes.

Marxists believe that the second type of theory is inadequate, because it fails to reveal the characteristics of capitalism from which profits derive, particularly the class monopoly of ownership of the means of production. Profit could be eliminated only if complete freedom of entry to capitalist ranks exists. This requires either:
(i) that individuals are able to borrow the requisite funds at the prevailing rate of interest, or
(ii) that production can be efficiently undertaken in units possessing small stocks of capital.

The first condition is unrealistic, while the second applies only to a few trades given the existence of modern production techniques and associated economies of scale. The scarcity of individuals commanding sufficient funds for industrial efficiency maintains a positive rate of profit.

The rate of surplus value reflects the number of hours worked in excess of those required to produce labour's subsistence. This excess represents surplus value (S), while the necessary hours
constitute variable capital (V); therefore the rate of surplus value is \( \frac{\Delta}{V} \). A rise in *relative* surplus value results from a fall in V, the number of hours required to maintain workers at a constant level of subsistence. A rise in *absolute* surplus value occurs when S increases due to lengthening the working day. The rate of surplus value shows the extent to which capitalists force workers to produce beyond the amount paid in wages, which Marx defines as the degree of capitalist exploitation; the higher is \( \frac{\Delta}{V} \), the greater is the share of output taken by capitalists.

The size of \( \frac{\Delta}{V} \) depends upon:

(i) the length of the working day. Some notion of a ‘normal day’ emerges from capitalist-worker negotiations, and increasing the hours worked is the major method of extending exploitation where production is labour intensive. Such a strategy faces physical limits set by health considerations, against which capital pushed during early industrialisation until it met worker resistance through trade union activity and legislation.

(ii) the intensity of the labour process. Exploitation may be increased by extracting greater effort in the same time, for example by speeding up the pace of work, by mechanisation and by having a greater number of machines for each worker to supervise.

(iii) the proportion of the working day required for workers to produce the value of their labour power, *i.e.* necessary labour time. The rate of surplus value rises if technical progress reduces necessary labour time.

(iv) the productivity of labour. If labour’s productivity rises, while hours and intensity of work remain unchanged, the rate of surplus value increases.

To explain the existence of exploitation under capitalism Marx draws a distinction between labour and labour power. *Labour* is the source of value and can no more possess a specific value than heat can have a particular temperature. It is an activity not a commodity. On the other hand, *labour power*, the capacity to create value, is a commodity whose value like that of all others is determined by the labour time socially necessary for its production. The human attributes of each worker constitute a stock of potential labour power which commands a wage proportional to the hours needed to produce it. These comprise
the time it takes to rear, feed, clothe and house workers, and to maintain their children.

When capitalists acquire a stock of potential labour power, they can compel their employees to work longer and more intensely than is necessary to reproduce this stock. Therefore they exact more hours of labour than they pay for. Since commodities sell at a price proportional to the hours that enter into their production, a difference emerges between the value of output and of labour power, which accrues to capitalists through the mechanics of market operation. By appropriating surplus value, capital exploits labour, although it pays workers the full value of their labour power and receives from consumers the full value of the commodity it sells. The volume of profits depends upon the excess of output per unit of labour over the consumption necessary for that output.

Marx argues that labour power possesses the unique characteristic of adding to the product a value greater than its own. Profit originates from unpaid labour and such exploitation allows capitalists to enjoy unearned income, because they provide no equivalent in exchange for the commodities they receive. The operation of labour markets enables them to appropriate surplus value, given that workers own only labour power while capitalists possess means of production. Capitalism cannot exist without exploitation; if surplus value permanently fell to zero, capitalists would no longer command the resources that enable them to control the labour process.

Once labour power becomes a commodity, the unique ability of labour to confer value is sufficient to explain both production of the surplus and its appropriation by capitalists, without recourse to theories of unequal exchange. Since all products exchange at their transformed values, profit is created in production where exploitation occurs. When capitalists and workers conclude a bargain, both use the commodities exchanged; workers consume wage goods, while capitalists compel surplus labour. New commodities emerge, whose value includes a surplus value belonging to the capitalist, yet simultaneously workers maintain their labour power which they resell to obtain a livelihood. Capitalist relations are thus reproduced by a continuous process, in which capital appropriates part of the value created by labour.
Marx argues that workers obtain the value of their labour power, making no appeal to robbery, unfair pricing and restriction of production nor claiming that workers must in their weakness accept any terms imposed. These phenomena constitute additional rather than basic sources of exploitation. Marx did not rely on market imperfections to generate exploitation; he explains its existence under perfect competition, however empirically significant frictions might be. A class monopoly of ownership of the means of production is consistent with perfect competition among individual firms. Competitive exchange of labour power hides a class relation between workers dispossessed of the means of production and capitalists who own them.

Certain objections have been raised to Marx's theory of exploitation:

(i) Marx's analysis rests upon the labour theory of value, so that economists who reject this theory also reject Marx's proof of the existence of capitalist exploitation.

(ii) Schumpeter (1942) argued that, even if the labour theory of value is valid for other commodities, it cannot be applied to labour since this procedure implies that people are produced on the basis of financial calculation. As they are not, it cannot be assumed that the value of labour power is proportional to the hours that enter into its production. However, this objection fails to distinguish between labour and labour power. Labour as the source of value is an activity not a commodity and is the outcome of human relations, not produced according to the costs incurred. It is not people but labour power that is consumed and reproduced in the process of production according to the rationality of profit maximisation.

(iii) Marx's theory of surplus value is untenable on its own assumptions if applied to a stationary process. A perfectly competitive equilibrium is impossible to maintain if capitalists enjoy exploitation gains, since each would attempt to expand output in order to make greater profits. The ultimate effect is to increase the demand for labour and raise wages at the expense of surplus value until exploitation profits are eliminated. This criticism is not decisive when two additional considerations are introduced:

(a) Perfect competition is unlikely to occur in actuality, so that economies of scale, institutional frictions and credit
problems may permit exploitation profits to persist at long run equilibrium.

(b) Marx is less concerned with the stationary equilibrium which capitalism is unlikely to attain than with the dynamics of transformation in economic structures. Surplus value may be impossible to achieve at perfectly competitive equilibrium, yet be ever present because equilibrium is never established. Exploitation gains may tend to vanish without doing so in practice because they are continually recreated by the invention of new products and processes of production.

(iv) Marx accepts that the cost of reproducing labour power contains a cultural element in excess of subsistence, which provides the various forms of consumption that induce workers to accept their lot. However, he is vague about how the volume of such luxuries is determined, but implies that custom is crucial. The past level of real wages may be decisive in forming present expectations, but the logical dilemma of the determination of the original standard remains unresolved. Consequently defining the cultural element in the cost of reproducing labour power is extremely difficult. If the definition is sufficiently wide to embrace all workers' consumption it becomes a trivial tautology, but attempts at setting limitations lack a logically coherent basis.

(v) The theory of surplus value basically argues that capitalists appropriate part of the product without contributing to it, i.e. profits are unearned income. Controversy on this point is central to the debate about Marxism, but is rarely raised explicitly. Orthodox economists regard profit as the reward for abstinence from consumption and for risk taking. However, these functions command a reward because the wherewithal to wait and take risks is a scarce one that workers do not possess. In one sense this consideration justifies profit, because positive net investment is possible only if some individuals postpone consumption and receive a reward for doing so; profits are both the incentive for, and the source of, capital accumulation. But this defence of profit rests upon the assumption of privately-owned means of production, which it in to way justifies. Ultimately all theories of profit rest on the institutional fact that workers own few, if any, non-human productive resources. Therefore the debate between Marxists and non-Marxists focusses on the crucial issue of whether private property in
productive equipment, with the inequality it inherently entails, can be justified.

Recognition of these problems does not obscure the insights yielded by Marx's theory. It at least provides a precise meaning for the emotive concept of exploitation. More significantly, the surplus value concept identifies one of the central processes of capitalism—its tendency to channel the surplus towards capitalists for investment. Profits arise not because individuals abstain from luxury spending but because most of the working population produces more than it consumes. Such a gap is necessary for economic growth in any society, but under capitalism a minority class owns it and controls its use.

The theory of surplus value clarifies the relationship between capital and labour by demonstrating that, when the product is distributed, the crucial division is of labour time. The hierarchical character of the labour process is essential to maximise surplus value; the worker sells, and the capitalist buys, not an agreed amount of labour, but the potential to labour over a specific period which capitalists attempt to realise. Consequently the labour process contains a coercive element embodied in a code of industrial discipline, which employers impose upon employees in an endeavour to maximise output from the labour power which they have purchased. Through the production of surplus value, workers consolidate the power that exploits them, and perpetuate inequality. Marx's theory stresses that the key to analysis of any productive process which generates a surplus is the institutional datum of who owns and controls it. Exploitation occurs when one class possesses the means of production, thereby being able to appropriate the product of surplus labour.

CAPITAL ACCUMULATION

The working class produces an output of which it receives only a part, in the form of consumption goods. Capitalists claim the remainder as profit, which can be put to three alternative uses—saving, consumption or accumulation. Marx argues that most surplus value is inevitably used for accumulation, i.e. to create additional means of production, for two interrelated reasons:

(i) Capitalist psychology, manifested as 'the historical
mission of the bourgeoisie, tends to abstinence from hedonistic enjoyment in order to expand productive forces, so laying the basis for future abundance. Marx did not rely on this explanation but sought a compulsion sufficiently powerful to account for psychological motivations.

(ii) More significantly, capitalism can never be stationary, as it is continuously revolutionised from within by the creation of new products and new techniques which threaten the viability of existing business methods. Consequently firms are compelled to accumulate to safeguard their position. Individual capitalists face three imperatives: one, to make a profit in order to maintain their integrity — two, to guarantee future profits. For this, the most effective technology is required — three, to use this technology efficiently often involves new machinery and revised production methods. Competition thus imposes the necessity for accumulation; if one business firm consumes or saves all its profits productive equipment becomes less modern, so that its commodities embody more labour time than is socially necessary. The workforce expends the same labour time as before but produces less value. Surplus value declines and the capitalist's viability is threatened.

By compelling accumulation capitalism secures rapid economic growth. Firms are dominated by the uncertainty arising from competition and the lack of overall regulation, which impels a continuous search for profit and therefore maximum accumulation. An increasing proportion of the population is forced to sell its labour power to obtain a livelihood, placing itself under the authority of capitalists. Two related processes contribute to accumulation — the use of surplus value as additional capital and the spread of capitalist relations.

These relations need to be maintained, i.e. after each period of production there must exist those willing and able to re-sell their labour power and capitalists willing and able to buy it. Workers remain able to sell their labour power, because they are paid a wage high enough to ensure continued fitness to produce, while making good wear and tear suffered during employment. Workers remain willing to re-sell their labour power because their exclusion from ownership of the means of production precludes any other possibility of obtaining an income. Capitalists are able to hire workers out of the resources they command from past output, while they are willing to employ because they
make a profit by selling the commodities that workers produce for more than their cost.

The theory of accumulation clarifies the character of exploitation; the working class exchanges its labour power against its own past labour. By appropriating the products of stored-up labour, capitalists exercise authority in the current labour process because they use profits from previous production to acquire machinery and plant. Workers' own past activity confronts them as capital, an alien power. The threat of actual or potential competition provides the incentive to accumulate, so that Marx's overall picture of capitalism is of an economic system with an inner compulsion to expand production and raise productivity, yet ruled by certain laws inherent in its social base that ultimately limit its growth.

THE TREND TOWARDS MONOPOLY

Marx visualises accumulation as a process compelled by competition. Given the existence of economies of large-scale production and the implicit Marxist assumption that the amount of capital employed by individual businesses is governed by their own accumulation, each attempts to increase its size by re-investing profits. Since not all enterprises are equally efficient, production becomes increasingly concentrated among the more successful. Competition is waged by cutting unit costs, which depend crucially upon the scale of production, so that larger capitalists tend to drive the smaller out of business. This process is accelerated by the growth of financial institutions possessing vast quantities of investible funds.

Initially concentration proceeds at the level of individual firms through their re-investment of profits to improve productive techniques. Greater division of labour, and automation, brings a separation of processes within the factory and the need for larger establishments. The capital required for optimal efficiency increases, so that scope for independent activity by small capitalists narrows. Subsequently firms aggregate to form joint stock companies, while those retaining a separate identity attempt to establish restrictive practices. Multinational corporations which divide global markets among themselves represent the latest concentration of capital.
Competitive capitalism thus undermines its own existence by laying the basis for some degree of monopoly power, i.e. the ability to influence appreciably the supply and price of a commodity. Monopolies seek to maximise profit by raising prices and restricting output. Firms continue as rivals but price competition is largely replaced by sales campaigns founded upon product differentiation. Technical progress raises the minimum scale of investment required for industrial efficiency, so that small and medium-sized businesses are progressively excluded for lack of sufficient finance. The challenge of new competitors is lessened as industrial entry is limited to those possessing large initial stocks of capital. This phenomenon constitutes the foundation of monopoly capitalism. Ultimately even the largest enterprises are unable to provide the required investment, so that the state becomes obliged to supply funds, creating a contradiction between private ownership and the public mobilisation of finance.

During the initial stages of industrialisation, the size of capitalist firms was limited by both the availability of capital and the management capacities of their owners. These limits can be overcome by modern joint-stock corporations, which enable aggregates of wealth to be assembled that transcend the total wealth of those working in the enterprise, while vesting operational control in specialised managerial staff. The trend to monopoly changes the composition of the middle class as the self-employed become transformed into sellers of labour power; simultaneously capital accumulation promotes a new stratum between foremen and managers, consisting of engineers, technicians, and research, sales and publicity staff.

Marx's theory of concentration focusses exclusively on the size of individual capitals, while its analysis of outcomes is hampered by an apparatus which cannot deal effectively with oligopoly. However, its contributions remain substantial:

(i) To predict the advent of big business in Marx's time, when industrial models derived from the competitive Lancashire cotton trade, was in itself a great achievement.

(ii) Marx's concept of increasing concentration is vindicated by the subsequent development of imperfect competition theories, although these remain an uneasy amalgam of total and zero control situations suggesting the need for a new analytical structure divorced from exclusive concentration on the price
and quantity facets of market power, exemplified by Holland's (1975) attempt at a model of meso-economic power, i.e. a new mode of production that divorces macro policy from micro structure. The trend to monopoly creates market structures in which producers are neither pure price takers nor price makers, but the decisions of a few in aggregate determine business parameters.

(iii) The experience of more than a century supports Marx's prediction, in that a small number of large enterprises command an increasing proportion of output, employment and investment. In Britain the hundred largest firms increased their share of net output from 15% in 1910 to 20% in 1950 to 46% in 1970 and to 66% in 1980. The largest twenty firms now account for a third of total capital employed and the largest hundred for three-fifths. Furthermore the phenomenon of interlocking directorships based on extensive interpretation between industrial and finance capital means that monopoly power exceeds that suggested by industry concentration ratios. The National Institute of Economic and Social Research estimates that by the turn of the century twenty-one companies will control three-quarters of the non-nationalised sector of British manufacturing.

Similar trends have occurred in the financial and credit systems. Four of the private clearing banks (Barclays, Lloyds, Midland and National Westminster) account for 90% of total current and deposit accounts. Six firms possess one half of hire purchase business and three of these are controlled by the four biggest banks. 47% of life funds belong to the largest four companies in the British life assurance industry, while the four largest non-life insurance firms account for 60% of premium income. Moreover, twelve companies feature in the top twenty-five in both types of insurance.

(iv) Marx relates concentration to accumulation, so that the former is not only empirically related to the latter but is also part of its logic. Therefore the formation of industrial conglomerates and the social situation they create become inevitable.

The trend to monopoly implies a concentration of power, as it tends to create closer collaboration between political and business interests. The state expresses the interests not merely of the capitalist class but of the dominant monopoly groups within it.
THE FALLING RATE OF PROFIT

Marx shares the opinion of most classical economists that the rate of profit shows a long-run tendency to decline, although few sought to substantiate their a priori views by empirical data. He stresses three factors tending to reduce the average rate of profit (under-consumption, disproportionality and rising organic composition of capital), each elaborated by later Marxists.

(A) Under-Consumption
Under-consumption derives from a lack of effective demand, which prevents capitalists from realising profits. Wages fulfill a dual role as both costs and purchasing power, so that capitalists face a contradiction whereby they endeavour to cut costs at the risk of reducing demand for their products. These difficulties of realisation imply that firms require minimum labour costs for themselves but high wages to generate sales over the rest of the economy. When demand falls the first impact is usually upon profits, to which capitalists react by reducing expenses. They can only cut back on fixed capital if they can obtain purchasers, which is unlikely during a slump. Therefore wages and jobs tend to fall, which further reduces consumption and reinforces the downward spiral of depression with a falling trend in incomes, output and employment. Keynes (1936) argued that state manipulation of aggregate demand through fiscal and monetary techniques could prevent crises of realisation, but experience since 1945 suggests that this policy may create other problems such as inflation. More fundamentally, the rise in labour’s share of national income which has occurred in most western economies during the twentieth century makes it difficult to argue that under-consumption is a major cause of any decline in the rate of profit.

Consequently some modern Marxists, notably Glyn and Sutcliffe (1972), reverse Marx’s arguments by asserting that a rising labour share with consequent over-consumption causes a falling rate of profit. They believe that shrinking profits from the mid-1960s were due to a combination of intensified international competition and greater trade union bargaining power. Union strength increased quantitatively as the degree of
unionisation in Britain rose each year from 1967 to become over 50% of the workforce for the first time in 1974, and qualitatively with the maintenance of full employment between 1940 and 1970 which enabled workers to intensify wage claims due to receding fears of job insecurity. Simultaneously, fiercer international competition prevented capital from passing on all increases in labour costs in the form of higher prices to consumers.

But the Glyn and Sutcliffe hypothesis faces certain difficulties. Britain’s experience is not easily generalised to other advanced capitalist economies, because it suffered a unique low growth syndrome which generated self-reinforcing, depressive effects on investment and profitability. Moreover, declared profits may not be synonymous with those actually enjoyed; multinational corporations today account for over half of the United Kingdom’s manufacturing output and they can easily understate their income by transfer-pricing profits to overseas tax havens. Recent declines in profit are due to underemployment of capital during a recession; thus declared profits rose in the early 1970s reflation, but fell back under subsequent government attempts to depress demand. Nor do Glyn and Sutcliffe consider the different impact of union wage push on large and small firms. Union pressure to generalise the wage increases gained from large oligopolistic corporations might squeeze smaller firms' profits and reinforce the unequal competition between them. Intensified industrial concentration, and pressure for government aid to capital, could result.

(B) Disproportionality
Capitalist development is essentially unplanned, as no firm can individually control all the parameters it faces nor ever obtain perfect information about them. Corporate planning is inevitably based on partial influence and knowledge. Furthermore, even large companies are compelled to concentrate almost entirely on the factors affecting their own balance sheets, although the consequences of corporate decisions become, with the trend to monopoly, more far-reaching. A contradiction emerges within the capitalist mode of production; firms take decisions on the basis of phenomena local to them, but the impact of their decisions becomes increasingly global. Disproportionality results, i.e. imbalances between the production
plans of different sectors due to uncoordinated development. Incongruity between investment and consumption goods industries is particularly likely to occur. Disproportionality, involving contradictions between the plans of different firms, tends to exert downward pressure on the rate of profit.

Excess productive capacity often emerges from competitive, capital accumulation. Consequently funds are attracted towards alternative investment outlets such as industries characterised by small establishments and easy entry. Ultimately competition intensifies and the rate of profit becomes depressed. A further possibility is the export of capital, especially to developing countries with abundant raw materials, cheap and plentiful labour, and high profitability. Such 'imperialism' is common to dominant capitalist nations; twentieth-century U.S.A., like nineteenth-century Britain, accumulates capital in developing countries' export industries — e.g. the recent oil investments.

Disproportionality can take a variety of other forms, for example between the public and the private sector, which invest on different criteria, between manufacturing and services, and between regions. Major distortions in any of these spheres can lead to a spiral of decline and a consequent fall in profitability. The concentration of investors on short-term financial gains exacerbates these dangers; thus lucrative speculation in property development can take precedence over accumulation in manufacturing companies, with the long-run outcome of an under-development of manufacturing on which high profits in services ultimately depend.

Such problems are intensified by the fact that technical progress is staggered over time and varies in speed across different industries. Subsequent multiplier and accelerator effects heighten the difficulties of coordination. Government purchasing and financial support provides one method of compensating for the disproportion between large initial outlays on research, development and re-equipment and the long gestation period before profits accrue. Investment incentives, tax allowances and long-term state contracts maintain profits or sustain demand. Such measures mainly benefit large corporations, so that they indirectly reinforce the disproportionality between large and small firms. Moreover, government spending in general can create an imbalance in the size of the public,
compared to the private sector, while particular items (e.g. defence expenditure) may accentuate growth among advanced technology industries without reversing decline in other sectors. Therefore state activity to offset disproportionality often involves its own contradictions.

*(C) Rising Organic Composition of Capital*

Marx argues that competition ensures the use of surplus value to accelerate accumulation, which improves both the quality and the quantity of the capital stock. *The organic composition of capital*, \(\frac{C}{V}\) rises, i.e. more fixed capital is used in production relative to wages. Empirically the trend in agricultural, extractive and manufacturing industries has been towards greater capital intensity as simple tasks have been replaced by expensive interrelated machine systems. The value of labour embodied in means of production (C) increases in proportion to that created by living labour (V + S), so that *the rate of profit* \(\frac{S}{C+V}\) increases, although equalised through competition, must fall unless the rate of surplus value \(\frac{S}{V}\) rises sufficiently rapidly to offset the increase in C. However, a constraint upon the rate of surplus value exists as V shrinks in relation to S; at the extreme, when V becomes a negligible proportion of V + S, S cannot increase faster than V + S. If C grows more rapidly than V + S, the rate of profit inevitably falls in the long run. Marx argues that with increasing mechanisation the organic composition of capital rises, so that if exploitation remains constant, the rate of profit falls. Given that accumulation is inherent to capitalism, the rate of profit tends to decline over time, particularly given the likelihood of under-consumption and disproportionality occurring. But this trend is not inevitable, and Marx suggests the possibility of counteracting tendencies:

(i) Technical progress may cheapen the production of machinery, so that the value of means of production falls relative to that of living labour power. Although more machines are in use, their value (i.e. the labour time needed to produce them) is less; the aggregate value of capital increases or declines depending on whether the elasticity of demand for machinery is elastic or inelastic. Consequently no inevitable tendency for C to rise relative to V + S exists. For instance, improved chemical and
transportation techniques can reduce stocks at each stage of production and marketing, so that a rise in labour productivity may not be associated with an increase in the organic composition of capital.

(ii) Technical progress raises either the relative surplus value produced by each worker in a given time, due to higher productivity, or the absolute surplus value by increasing the intensity of work. Both influences offset the tendency of the rate of profit to fall.

(iii) The invention of new products and processes may create new opportunities to secure profit. Railway development provides a historical example, reflected in the current American belief that 'capitalism will recover from its present plight when the average family owns a helicopter'. The nature of innovation has changed; when Marx was writing, most technical progress generated similar commodities more cheaply rather than new ones, i.e. process rather than product innovations. However, the latter provide the key to sustaining capitalist expansion although often at an uneven rate.

(iv) A fall in profitability is checked when the capitalist mode of production extends into new spheres of activity or overseas markets with a lower organic composition of capital. Nineteenth-century foreign trade cheapened raw material and food costs so increasing the rate of profit. The scope for such a strategy becomes much less as capitalist relations predominate; indeed it operates in reverse when competition from developing countries compels an increase in accumulation, and thus the organic composition of capital, in advanced economies.

(v) The ability of multinational corporations to transfer price profits to their subsidiaries in low tax havens may offset a decline in the rate of profit.

(vi) The relative scarcity of capital is maintained if new demands upon productive capacity can be created. A crucial commercial function is to stimulate novel wants, as exemplified by the post-1945 expansion in the resources devoted to advertising and public relations.

(vii) The state may introduce policies designed to offset the falling rate of profit, such as wage restraint to raise profit margins, underwriting profits in advanced technology sectors, provision of funds for investment, financing part of the costs of education and training, the supply of cheap fuels and materials.
from nationalised industries, and the maintenance of aggregate demand.

Marx's theory of the falling rate of profit is logically consistent, given its assumptions that accumulation increases the organic composition of capital and that the rate of exploitation remains constant. The crucial issues are the accuracy of the assumptions and the empirical strength of the countervailing forces, which determine whether the rate of profit declines or increases with capitalist development. The notion of the inevitability of the falling rate of profit can be salvaged only if accumulation proceeds within a given state of technology, but such a framework is alien to the dynamic basis of Marxism. Moreover, the absolute mass of surplus value grows as the capitalist mode of production extends, capital accumulates and the number of wage earners grows. These circumstances could reconcile individual capitalists to a fall in the rate of profit. However, theories of the relative strength of the two sets of conflicting influences upon movements in the rate of profit remain controversial.5 Certainly belief in its inevitable decline rests on a problematic foundation.

THE INDUSTRIAL RESERVE ARMY OF LABOUR

Marx provides an analysis of unemployment distinct from that of orthodox economists. He sees it not as the result of some malfunctioning in the economic system but as an industrial reserve army of labour (i.e. a surplus of workers available, and needing to sell their labour power to the capitalist class) necessary for the profitable functioning of capitalism. The reserve army is not merely composed of the registered unemployed but of all available sources of labour such as housewives engaged in wage work, immigrants from poorer countries, part-time, sporadic and home workers. Whenever profitability declines, capital accumulation slows down while unemployment increases due to the cumulative decline in demand for labour. The slump in production, with a consequent rise in the total jobless, provides a mechanism whereby profitability can be restored. First, it drives the less efficient firms out of business, reducing competition and strengthening the market position of those who survive. Second, it weakens
The bargaining power of labour as jobs become increasingly scarce and trade unions less effective.

Therefore unemployment is not an adventitious blemish upon a capitalist economy, but plays a crucial role in maintaining its profitability. Workers' acceptance of the discipline imposed in large-scale production ultimately rests on their lack of an alternative. A failure to accept leads to dismissal, possible difficulty in obtaining another job and in any case all new jobs are subject to similar types of discipline. Factory organisation relies upon capitalists possessing a potential alternative labour supply; should the reserve army become depleted, discipline tends to break down and capitalists face difficulties in maintaining control of the labour process and the distribution of the product.

Surplus value provides the wherewithal for additional means of production, thus playing a crucial role in capital accumulation. The industrial reserve army ensures that surplus value continues to be created, because it prevents wages from being raised sufficiently to eliminate exploitation by placing workers at a permanent bargaining disadvantage. Consequently it helps to sustain capitalism, by reproducing both capitalists who own the means of production and workers who possess only their labour power. Continuous full employment undermines factory discipline and threatens economic stability. Profits rise when aggregate demand is sufficient to maintain full employment, but 'out of control' workers challenge the profit-generating mechanism itself, a more important consideration than a simple comparison of the rates of profit prevailing under different conditions. Thus full employment initially boosts, but ultimately damages, profitability by enabling workers to struggle successfully for higher wages and more control over their job environment.

Marx distinguishes three components of the reserve army of labour — the floating, the latent and the stagnant. The floating occurs in centres of industry as workers move from job to job being hired and fired in accord with changes in demand. Unemployment occurs in the process of transfer. With increasing mechanisation this stratum encompasses a larger proportion of the potential workforce. The latent reserve army arises in rural areas of industrial capitalist economies, where few job opportunities exist for those released from agriculture
by technical progress who tend to move to the cities. In the most
developed countries, such as Britain and the United States, this
latent pool is largely absorbed. New sources have been un-
covered in developing countries, from where immigrants have
been received since 1945 at a speed consistent with the
requirements of accumulation. Employment of the stagnant
industrial reserve army of labour is irregular, casual and
marginal. It furnishes to capital "a reservoir of disposable
labour power. Its conditions of life sink below the average
normal level of the working class; this makes it at once a broad
basis of special branches of capitalist exploitation".6

Marx argues that the introduction of labour-saving tech-
nology continually replenishes the industrial reserve army.
Pressure on labour supplies, and hence falling profits, provides
the stimulus for firms to substitute capital for labour in the
productive process. Competition generates a further impetus to
introduce new production techniques rapidly. When technical
progress exhibits a major capital-using bias, a higher flow of
gross investment is required to maintain a constant long-run
level of employment. If sufficient investment is not forth-
coming, an industrial reserve army is created. Thus accumula-
tion tends to reduce labour per unit of output by the
restructuring of capital and mechanisation; as capital expands,
it destroys other modes of production and releases labour for
deployment under capitalist relations.

In the initial stages of industrial capitalism the reserve army
rises with the destruction of old crafts and the displacement of
artisans by factory production. Moreover, the pool of labour
power increases as skill requirements become less; thus women
and children frequently replace men in the productive process.
When primary accumulation is completed in most sectors, the
reserve army is replenished by the constant introduction of new
techniques with a labour-saving bias. Any reduction in un-
employment tends to increase wages at the expense of profits, so
that capitalists attempt to produce the same or greater output
with fewer workers. Thus the reserve army tends to rise again.

Marx's theory emphasises that capitalist accumulation is not
a steady expansion but a fluctuating process involving ac-
quision, merger, bankruptcy and unemployment. Whether its
major prediction is relevant to contemporary capitalism?7
depends upon the effect of accumulation on the marginal
product of labour. If the marginal as well as the average product of labour increases with technical progress, the result is higher output, real wages and employment opportunities. Technological pessimism, of which Marx is an exponent, rests on the fear that experience of rising marginal labour productivity, common to most innovations by the third quarter of the nineteenth century, will not continue. Extremely labour-saving innovations would lower the marginal product of all but the initial workers employed and reduce marginal productivity at the existing level of employment, so that the number of jobs and/or the real wage will fall. Because the limit to output under capitalism is set by the profitable usage of capital equipment rather than by the full employment of labour, there is no theoretical guarantee against this outcome but equally there can be no certainty that it will in practice occur.

Experience over the century since Marx wrote has confirmed the accuracy of his expectation that capital substitutes for labour in agriculture, extraction and manufacturing. However, the aggregate Capital-Output ratio has not risen dramatically due to the growth of employment in private and public services, the majority of which (transport constitutes an exception) are labour intensive. Most of these service jobs have proved difficult to replace by capital-using innovations. This shifting distribution of employment may be halted in future by changes in the character of technical progress. Historically the discoveries exerting major industrial impact, from the steam engine to splitting the atom, essentially found new methods of using energy. Since the computer, the weight of scientific advance has altered towards processing information so that the number of workers required to collect and disseminate data is reduced. The impact of these productivity increases could be a substantial loss in jobs. The production of many items previously depending on mechanical moving parts, e.g. watches, cash registers and telephone equipment, has also been revolutionised by new technology; the workforce engaged in producing cash registers halved in both the U.K. and the U.S. as electronic machines replaced mechanical ones, while in retail distribution the computerised point of sale system that carries out stock control as well as computing the prices of goods purchased is transforming techniques. The most substantial employment implications come from the automation of office work made
possible by such machines as word processors, which could drastically reduce job opportunities for women workers 40% of whom are currently engaged in clerical jobs.

While the employment of specific groups is at risk because of labour-saving innovation, it is uncertain how many job losses will arise from this source. Barron and Curnow (1979) estimated that 16% of the U.K. workforce, four million people, will be displaced by new technology over fifteen years. Such estimates depend crucially upon such influences as market conditions, capitalist strategy, government policy, and the education and training of the labour displaced. However, it remains a strong possibility that technical progress in the immediate future could undermine the role of services in providing a refuge for the industrial reserve army of labour. Should this occur, Marx’s prognostications will carry greater relevance in the future.

THE IMMISERATION OF THE PROLETARIAT

Marx undoubtedly holds that over the course of time real wages, and hence living standards, would fall for better-paid workers and fail to improve in the worst-paid strata, not through transitory circumstances but by virtue of the inherent logic of capitalism’s operation. He wrote: ‘Along with the constantly diminishing number of the magnitudes of capital ... grows the mass of misery, exploitation, slavery, degradation and oppression’.8 Marx clearly formulates the theory of absolute impoverishment, i.e. that poverty grows with capitalist development. He argues that any rise in real wages is temporary because it sets in motion adaptive capitalist strategies such as compensatory price increases, cuts in investment, rationalisation and replacement of labour by machinery, which create unemployment and stimulate downward pressure on real wages. Mechanisation reduces the demand for skills and causes a deterioration in working conditions, while wages fail to rise with productivity.

For Marx, the industrial reserve army of labour determines real wages, so that living standards fall with capitalist evolution due to rising unemployment. Fluctuations around this trend depend upon temporary expansions or contractions in the reserve army. Marx stresses the ability of trade unions to ‘destroy or weaken the ruinous effects of the natural law of
capitalist production on their class’, but believes that workers’ bargaining power remains less than that of capitalists. The tendency for the supply of labour to exceed demand prevents wages from rising above the minimum necessary to enable employees to perform their jobs. These assertions appear to contradict Marx’s own model in which the cost of reproducing labour power determines wages, so establishing an absolute limit to the degree of exploitation. However, wages can be driven below the long-run cost of reproduction with the consequence of a shrinking labour force. If the trend towards monopoly and an increasing organic composition of capital generate a decline in labour demand, such a shrinkage need not create a shortage of workers and a reversal of the decline in wages.

Moreover, Marx suggests that a traditional and cultural element subject to historical change enters into the normal value of labour power. This element can be equated with the price of those luxuries which experience has incorporated into working-class living standards. Its size depends upon average productivity over the recent past, but a secular increase in the industrial reserve army exerts a downward pressure on real wages, which in the long run reduces the traditional and cultural element in the cost of reproducing labour power by lowering the volume of luxury consumption that the average worker expects. Thus the progressive immiseration of the proletariat proceeds.

Marx’s prediction of immiseration was compatible with the observable facts of his period. The behaviour of real wages in Britain during the first half of the nineteenth century is still debated, while the social costs of the industrial revolution bore heavily upon the working class and led to a qualitative deterioration in its environment. Subsequently, however, British average real wages climbed to a level that was 84% higher in 1900 than in 1850. During the twentieth century real wages have continued on an unsteady but secularly upward trend.

Marx underestimates the extent to which real wages can rise under capitalism. The issue is empirical; if capital is measured in terms of labour units, real wages must rise if technical progress produces cheaper wage goods or greater output per hour, provided that the labour force does not grow faster than gross product. Marxists are embarrassed by the falsity of Marx’s
prognosis, and various attempts to salvage his model have been devised:

(i) Some assay the impossible task of showing that material living standards have fallen since 1850.

(ii) Others claim that Marx's theory applies not to absolute, but to relative, labour income, i.e. the proportion of national output accruing to labour. Whether or not this interpretation of Marx is correct, the behaviour of relative shares is inconsistent with the prediction. In Britain the wage share has remained remarkably constant since 1870, while that of total labour income rose. During the twentieth century increases of varying magnitude in the same direction occurred in other advanced capitalist economies.

(iii) Some argue that non-material standards of living have fallen so that deterioration in the quality of life has offset the increase in real wages. Marx includes within immiseration the loss of status and craft pride, insecurity and alienation that capitalist development generates. Alienation is an integral feature of industrial capitalism's operation yet is unlikely to have increased sufficiently to outweigh the financial improvement in working-class living standards. The alienation involved in modern production is substantial (e.g. assembly lines), but a golden age free from alienation never existed. Nineteenth-century labour was heavily alienated.

(iv) It can be argued that the tendency for real wages to fall is inherent to capitalism, but that exceptional conditions since 1850 have prevented the operation of this law, so providing a closed season for capitalism. A number of candidates for this role have been proposed:

(a) Late nineteenth-century Marxists pointed to the extension of the U.S. frontier and the opening-up of new countries.

(b) It is suggested that colonial expansion enabled imperial capitalists to prevent a fall in their workers' real wages by indirectly offering them a share in the exploitation profits derived from overseas. Such modern Marxists as Sweezy (1972) analyse the unequal structure of centre-periphery relations within the contemporary international economy, which enables exploitation of less developed countries to continue.

(c) Strachey (1956) argued that in the socio-economic conditions of Marx's time the tendency of wages to fall was
overwhelming, but this trend can be offset under universal suffrage as this modifies the environment in which employers and workers bargain. The development of effective trade unions and the growth of the Cooperative Society accentuate this process. Strachey believed that the modest redistribution achieved through union and political pressure constituted strong evidence that in the absence of such activity a wage rise below productivity growth would be the probable outcome. Without working-class industrial and political organisation, Marx would have been correct but he failed to foresee the collective forces that originated within capitalism to counter its inherent economic tendencies, with the result that labour’s relative share improved modestly while workers’ absolute living standards rose. On Strachey’s formulation, political changes possess economic consequences, so that a feedback occurs between economics and politics rather than the supremacy of economic influences postulated by Marx. Whatever the merits of such an approach, it is un-Marxist in its implication that the rate of exploitation can be politically determined through a bargaining or legislative process.

Robinson (1942) attempted to modify the theory of immiseration in view of the rise in real wages during the preceding century. She argued that productivity growth places an upper limit on wage increases. Effective trade unions tend to push wages towards this limit, while monopoly power prevents a rise above it. Real wages vary with the fortunes of the class struggle between a lower range loosely set by the cost of reproducing labour power and an upper range set by the rate of profit at which capitalists refuse to reinvest. She believed that the crucial comparison is not with past living standards but between current incomes and their potential level under a different economic system, in which capitalist consumption ceases to exist because it no longer constitutes a necessary cost to induce the supply of capital. From this standpoint Marx’s theory of immiseration is not correct in its original version, but remains significant by emphasising how capitalism operates to deprive workers of part of their potential income in the form of capitalist consumption.
ALIENATION

Marx's theory of alienation lies outside the scope of economics as conventionally defined, but it has recently stimulated significant research—for example by Braverman (1974) and Friedman (1977). In Marx's terminology alienation occurs when humanity is unfree; people do not consciously control their conditions of existence, because their own productive powers are independent determinants of their behaviour. Capitalism expands commodity production and creates capital as a dominant power whose requirements constitute the source of exploitation, due to the exclusion of a majority from ownership of the means of production which are fragmented into competing units.

All transactions are reduced to a cash nexus, as each capitalist is compelled to maximise surplus value through exploitation of labour. Human potentialities and aspirations are realisable only by the market acquisition of goods and services, so that social interaction takes place through inanimate quantities. Each person responds to cultural requirements through the medium of commodity prices and quantity of commodities, which are merely manifestations of the capacity to produce; thus producers are controlled by their own collective ability instead of directly determining their environment through conscious regulation. Technical progress either liberates or enslaves, depending on how it is applied and on whose authority. In practice, however, production largely consists of people servicing machinery, and most workers, whose jobs are not intrinsically creative, seek satisfaction in leisure pursuits.

In every mode of production labour and inanimate resources combine to generate output, but the specific manner in which this union is achieved distinguishes different socio-economic formations. Under capitalism they unite via the wage contract whereby workers submit to the control of capitalists or their hired managers during the productive process. Once such contracts are completed labour becomes subordinate in the industrial hierarchy, working with materials to produce commodities it does not own.

Alienation is reflected in the consciousness of capitalist
society. Marx's theory of commodity fetishism analyses the mechanism through which people perceive the economy as operating independently and ruling them in an arbitrary and uncontrollable manner, so failing to appreciate that they are governed by tendencies resulting from the structure of social relations. Moreover, the existence of classes is hidden by the individualisation of market operations. Thus contemporary disquiet over collective action by workers indicates the way such behaviour jars with the dominant ideology of free exchange between individuals. So long as capitalism appears the natural order, individualistic theories seem not only obvious but also, in their essentials, just. The consciousness of the ruling class provides each epoch's central concepts which rationalise its specific interest in universal terms. On this basis Marx is critical of bourgeois freedom (i.e. the absence of constraints on individual action) as the highest form of liberty. In contrast he argues that people are free to the extent that they consciously control both nature and their social conditions of existence in accord with their historically developing needs.

All are alienated under capitalism but since its root cause is located in the specific relations of production that determine the organisation of the labour process, alienation is greatest for the proletariat. Workers' humanity is devalued by their subordination to the material objects they produce, which are appropriated by the capitalist, while labour power becomes a commodity whose job environment is beyond its control. The division of labour increases total output by reducing productive tasks to simple operations, but in separating manual from mental work it narrows both. As workers become appendages of machinery, capital dominates labour and stands opposed to it as an autonomous alien power. Employment is not an expression of humanity nor a means of developing the potential for conscious creativity but an activity, frequently degrading or boring, undertaken to obtain a livelihood. Neoclassicals see 'disutility' as a necessary cost of supplying labour power but Marx believes that people require a 'normal portion of work'. Self-realisation is frequently achieved through aims self-posed and obstacles surmounted, i.e. labour as freedom contrasted to repulsive labour externally imposed. The need for free time to pursue creativity applies to all and is not the specialised province of minorities. Thus Fromm (1965) argued that wor-
kers' alienation springs from lack of control over the products, instruments and conditions of their labour.

Braverman (1974) noted the uncertainty which labour power presents to capitalists because its performance is affected by the subjective feelings of workers. Management seeks to reduce this variability through its control of the labour process; a principal strategy is separating the conception of tasks from their execution, a process which reduces the skill required from most workers. Thus the current organisation of production tends to constrain rather than stimulate creative potentialities; for example, Blackburn and Mann (1979) found that the labour market in Peterborough, not a depressed English town, offered little opportunity to exercise skill. Such deskilling was an unconscious feature of early capitalism, yet became accelerated and systematic with the development of twentieth-century scientific management. The pioneer of this movement, Taylor (1911), argued that management is limited and frustrated whenever labour retains any decision-making powers within the workplace. The first principle of his system is to gather and develop knowledge of labour processes, the second is to concentrate this knowledge as the exclusive property of management, and the third is to use such a monopoly to control the execution of each stage of production.

Under capitalist social relations humanity exists contrary to its potential of being in conscious control of its own activity, so that the abolition of capitalism is a necessary but not a sufficient condition for overcoming alienation. Marx argues that revolutionary action to abolish bourgeois property relationships will arise from the conditions that create alienation, because these also generate class conflict and contradictions within the economy. Capitalism creates the possibility of a free society by developing human capacity to dominate nature through the creation of wealth, so providing a basis for the 'universal development of individuals'. People can only control social relations by knowledge, which develops when they become universal producers. Then the economy ceases to be a mystery confronting individuals as a system of independent forces. Only the proletariat has the power, interest and capability to transform society; it possesses the power because it forms a majority, the interest as its economic and social position deteriorates, and the capability since its own organisations
approximate increasingly to those of socialism. Industrial unrest and class struggle spring from deeper roots than financial conflicts, important through these are, for they derive from the straining of humanity to be free. Wage demands often compensate for lives wasted, time lost and freedom alienated. Such unsatisfied impulses promote the development of radical needs.11

In addition to the common orthodox response of neglect, a number of objections to Marx’s theory of alienation are advanced:

(i) A defence of capitalism can be constructed from the propositions of neoclassical welfare economics, yet these are inapplicable to actual variants of capitalism except on restrictive assumptions that are not empirically plausible or even approximate to reality. Neoclassical analysis rests on three main propositions; it assumes that actors’ preferences are exogenous, that actors are rational and that interactions take place in an environment characterised by perfect knowledge.

Belief that preferences are exogenous to the operation of the economy conflicts with sociological research and everyday experience, yet neoclassical welfare theory assesses the efficiency of economic structures in terms of their fulfilment of preferences. Theoretical recognition of the socially endogenous nature of preferences undermines such logic, for efficiency can be evaluated only if the standards of judgement (preference structures) are independent of what is being judged (economic structures). Marx’s theory of alienation is not open to this objection.

The second assumption, rationality, is also problematic, partly because it is untrue of important areas of economic activity and partly because the concept itself is tautological (as can be seen if one tries to find a case of someone not attempting to maximise expected utility). Moreover, neoclassical mechanisms of rational orientation are confined to particular behaviour patterns which result in individual exchange. These are not, however, the forms that rational action takes in certain crucial economic spheres. Only by incorporating the specific social relations of capitalism can rationality be analysed when it is neither individualistic nor exchange-orientated, but these relations are data which neoclassical theory neglects. Its
consequently limited definition of rationality is unsuitable for studying the actual operation of economies.

The assumption of perfect knowledge is crucial to the neoclassical paradigm; as Blaug (1968) noted, 'its fundamental theorems rest upon the assumption of perfect certainty'. This is sometimes explicitly stated, but usually is left implicit. It is a useful simplification when studying economies which change slowly or are isolated, but is dubious for analysis of a capitalist economy. The basic organization of capital into a multitude of autonomous competing units creates uncertainty which operates through the expectations of capitalists. Its significance arises when analysing processes which move economies away from equilibrium.

(ii) Such works as Popper (1945) and Berlin (1958) incorporate possible answers to Marx's theory of alienation. Berlin's defence of the negative concept of freedom against the positive definition of Marx is invalid, because it regards ideas as independent forces possessing an autonomous momentum of their own. Therefore they become divorced from the socio-economic structures that provide their historic role and can be manipulated into any causal factor that subjective opinion requires. Pursuit of positive freedom is believed to culminate in totalitarianism, so that bourgeois freedom and its capitalistic context are defended by a flimsy negative argument. Popper's similar reasoning encounters the same objections.

(iii) Marx's concept of alienation rests on a view of what humanity has the potential to become which many, e.g. Aron (1965), regard as unattainable. Differing views on this topic constitute a crucial value judgement when assessing Marx's theory, but to classify it as insignificant on this ground implies that alienation is a universal aspect of the human condition in industrial societies. To admit otherwise attributes some validity to Marx's critique. Thus Hymer and Roosevelt (1972) argue that, if the market provides a model to justify capitalism on the grounds of its apparent freedom, actual conditions of work furnish its critique (coercion, inequality etc.) as well as clues to an economy enjoying a non-possessive, non-individualistic organisation of production. Lindbeck (1977), denying this point, confuses the social relations specific to capitalist exploitation with technological forces inherent in modern industry. He also confuses authority during productive activity
with the coordination of complex processes; both are managerial functions under capitalism, but only the latter necessarily occurs under all modes of production.

Marx's categorisation of social relationships is superior to that of neoclassical theory because it relates to historically specific stages of capitalism, while only limited and unsatisfactory refutations of his concept of alienation have appeared. The concept lends itself to further research on the nature of the production process. The labourer's work is involuntary, so that each day involves a struggle between capital and labour; capitalists attempt to get workers to perform tasks they would not voluntarily choose, and workers try to resist. Marx analyses capitalist production in terms of this conflict, showing the forms of resistance deployed by workers and the pressures exerted by capitalists to maintain control. Orthodox economics hardly touches upon these problems, but their detailed discussion can be found in the literature of corporate organisation, industrial relations, industrial sociology and psychology, where they are usually approached from the standpoint of control. One of the tasks for radicals is to reverse this approach and develop counter-organisation strategies, particularly as the frontier of job control between employers and employees in the workplace is continually shifting under the impact of markets, technology and group power. When workers possess some ability to regulate the labour process, they thwart efforts to realise the full productive potential of their labour power. Management endeavours to undermine such job regulation by asserting its control, not only in a formal sense but by dictating each step of the labour process including standards of performance.

THE TRADE CYCLE

Capitalist development has been uneven over time, yet Marx was the first economist to recognise the existence of the trade cycle rather than analysing crises in isolation. The perception of cyclical oscillations was in itself a major pioneering achievement. Thus Schumpeter (1942) concluded that 'in Marx we find practically all the elements that ever enter into any serious analysis of business cycles.' However, he possesses no simple theory but looks at a range of influences, while stressing the role
of accumulation and the reserve army of labour in promoting immiseration. Logically this process could occur at an even rate, but while Marx describes the cycle in detail, he never welds his hypotheses into a coherent explanation of why the underlying contradictions of capitalism manifest themselves in endogenous, periodic cyclical fluctuations. He argues that increasing socialisation of production magnifies the intensity of crises and creates a cycle of wider amplitude. Prior to the final breakdown of capitalism when its evolution disrupts its institutional framework, it operates with heightened difficulty and displays fatal symptoms. Therefore Marx integrates recurrent crises, as the harbingers of eventual collapse, with secular trends. However, without additional hypotheses, the ultimate causes of breakdown cannot be responsible for cyclical fluctuations since the two phenomena may exist separately; at most, periodic depressions contribute to a finally untenable socio-economic situation.

Marx perceives the weaknesses of Say’s (1803) law, which held that supply creates its own demand so that a deficiency of aggregate purchasing power can never occur in a world of scarcity. He argues that, while every sale is a purchase, use of money permits a time lag between them, i.e. no seller is compelled to purchase immediately. Commodity production and money separate sales from purchases so that crises become possible although not inevitable, arising when there is an imbalance between purchases and sales (i.e. some of the revenue derived from sales is not used to buy other commodities but is hoarded). For Marx, the rate of profit, the key motivational variable in a capitalist economy, is a crucial determinant of this imbalance. If capitalists fail to achieve expected profitability, they tend to reduce output; purchases and sales become unbalanced as they seek to hoard rather than employ productive resources. Consequently overproduction, unemployment and slump are not aberrations but frequent occurrences, because commodity production in a monetary economy contains the possibility of crises.

These possibilities become actualised when changes in profitability initiate a slump. Marx emphasises disproportionality, under-consumption and a rising organic composition of capital as influences generating a falling rate of profit, but stresses the volatility of demand for investment goods as a primary
initiating factor while the uneven time pattern of depreciation causes considerable fluctuations in expenditure. Therefore the source of crises is located in a disequilibrating process of accumulation. Maldistribution of income creates further problems as workers' consumption is limited by poverty, and capitalists' consumption by the necessity to re-invest. Accumulation is a function of profit expectations which depend upon consumer demand, so a limitation of the latter curbs the long-run output of capital goods. Crises put on trial the existence of capitalism by demonstrating that its social relations restrict production and become a barrier to further developments of the human capacity to transform nature.

During the early stages of capitalism depressions tend to be deep but short-lived, since a fall in real wages due to a rise in the industrial reserve army of labour often induces a swift recovery. As the accumulation of capital progresses, booms and slumps magnify. Crises facilitate major structural changes for expectations of profitability improve when many capitalists are bankrupted and costs lowered. Consequently production is reorganised and new techniques are introduced. Upswings require increasing profits and expanding markets, but these phenomena undermine themselves in the long run, because any rise in the rate of profit leads to a fall in labour's income share while simultaneously productive capacity grows and exceeds purchasing power. Booms collapse from the attempt to maintain former profit levels in the face of an increased capital stock. Conversely, crises restore the conditions for profitability by destroying capital values.

Certain phenomena are essential for the smooth expansion of a capitalist economy: adequate supplies of compliant labour, growing markets, and a balance between different sectors so that no industry constrains the expansion of others and hence of the system as a whole. Crises may result from labour shortage and class struggle, from limited demand, from the emergence of one or more sectors as a bottleneck, or from all simultaneously. The ultimate cause of depression is that capitalism contains no mechanism to ensure that the necessary conditions for continuous expansion are maintained.

A faltering in the rate of profit due to lack of effective demand could originate either in capitalists failing to spend all or part of profits or in workers failing to spend all or part of wages, but in
practice the latter is unlikely. Wages are used for maintenance; individual workers save but others borrow, so that for the working class as a whole saving and borrowing are approximately equal and a sharp fall in workers' propensity to consume is improbable. For capitalists the reverse is true; most profits are spent not on personal consumption but are invested in the hope of generating further profit. Therefore capitalists will not spend their incomes unless it appears profitable to do so. Under-consumption, disproportionality and over-accumulation can create the conditions under which non-spending decisions occur. Random shocks are a continual threat to profits, but a more fundamental problem is the tendency for accumulation to undermine the conditions for profitable production so that capitalists fail to invest because of dissatisfaction with future prospects.

Marx's trade cycle theory has limitations, partly because it is set within the problematic context of a tendency for the rate of profit to fall. No precise location of the upper and lower turning point is provided, while the relationship between under-consumption, disproportionality and a rising organic composition of capital remains unexplored. Moreover, Marx never systematically demonstrates that capitalists are unable to use the state to reduce the amplitude of the cycle. He implies that they will not, but provides no proof that the task is technically impossible nor that it is politically impossible for the capitalist class to initiate or support such policies. Indeed his emphasis on capitalists' rationality, the concentration of capital and the significance of class struggle suggests that the development of state anti-cyclical measure is likely.

Marx adumbrates the most important causes of cyclical fluctuations and in assessing his theory it should be remembered that modern orthodoxy cannot provide a satisfactory explanation of the trade cycle's historical course. This is one of the most complex issues in economic theory, since such crucial variables as investment, profits and expectations are difficult to specify precisely. Moreover, Marx's achievements are impressive, for example his refutation of Say's Law, emphasis on endogeneity and periodicity, the key roles attributed to the rate of profit and deficiency in aggregate demand, the particular volatility of investment and the significance of money as the least uncertain store of value. His theory relates closely to
modern neo-Keynesian developments and recent empirical evidence in arguing that instability in the demand for means of production is crucial; investment demand produces a boom, but when it declines, maldistribution prevents a rise in consumption sufficient to absorb the resources previously employed in producing capital goods.

MARX'S ECONOMIC SYSTEM: AN OVERVIEW

'Let us imagine two persons; one who has learned his economics only from the Austrian School, Pareto and Marshall, without ever having seen or even heard a sentence of Marx or his disciples; the other one who, on the contrary, knows his economics exclusively from Marx and the Marxists and does not even suspect that there may have been economists outside the Marxist School. Which of the two will be able to account better for the fundamental tendencies of the evolution of Capitalism? To put the question is to answer it.

But this superiority of Marxian economics is only a partial one. There are some problems before which Marxian economics is quite powerless, while "bourgeois" economics solves them easily. What can Marxian economics say about monopoly prices? What has it to say on the fundamental problems of monetary and credit theory? What apparatus has it to offer for analysing the incidence of a tax or the effect of a certain technical innovation on wages? And (irony of fate!) what can Marxian economics contribute to the problem of the optimum distribution of productive resources in a socialist economy?

Clearly the relative merits of Marxian economics and of modern "bourgeois" economic theory belong to different "ranges". Marxian economics can work the economic evolution of capitalist society into a consistent theory from which its necessity is deduced, while "bourgeois" economists get no further than mere historical description. On the other hand, "bourgeois" economics is able to grasp the phenomena of the every-day life of a capitalist economy in a manner that is far superior to anything the Marxists can produce. Further, the anticipations which can be deduced from the two types of economic theory refer to a different range of time. If people want to anticipate the development of capitalism over a long period a knowledge of Marx is much more effective than a knowledge of Wieser, Bohm-Bawerk, Pareto or even Marshall (though the last named is in this respect much superior). But Marxian economics would be a poor basis for running a central bank or anticipating the effects of a change in the rate of discount' (O. Lange, 1935).

If ever the whole is more than the sum of the parts, this dictum applies to Marx's economics. He sees class conflict as marking all stages of human society until productive capacity is developed to the point where only the internal operation of capitalism prevents the removal of social struggle. Therefore
capitalism destroys its own foundations. Such a dynamic perspective, stressing the fundamental contradiction between socialisation of production and private appropriation in which collective interdependence is harnessed to the search for profit, provides the basis for future theory by looking at economics as a process each stage of which determines the next. It thus occupies a different conceptual world from the comparative statics of orthodox textbooks. Marx considers that capitalism creates conflicting internal forces which ultimately produce a qualitative structural transformation, the key to which lies in the mode of production.

Stored up labour enters into an exchange with living labour on a legally equal footing, but the former is dominant in practice because capitalists possess the power to control society's productive apparatus, which is the creation of past labour appropriated by earlier capitalists and inherited or bought by present ones. Therefore the crystallisation of past labour takes the form of privately owned means of production. Operating in a market economy, these owners must extract a profit from their transactions in order to maintain their position, and the ultimate source of profits is living labour. Marx argues that under capitalism workers build a world that does not belong to them, which includes the entire legal and cultural superstructure controlled by the possessing class.

The property relations of capitalism are crucial to its nature and functioning, with competition between the bourgeoisie compelling accumulation. Capitalism is not some direct expression of a universal economic impulse but a historically concrete form taken by the general need for material production; it exhibits a particular form of rationality in pursuit of unlimited acquisition. It develops humanity's wealth-creating abilities, thereby establishing the precondition for freedom, but its contradictions derive from its organisation as a system of production geared to capital accumulation rather than to consciously meeting needs. Incompatibility between social production and private appropriation arises; the former derives from progressive extension of the division of labour, and the latter from property relations. The development of productive forces is inhibited by the consequences of private ownership, as illustrated in the occurrence of crises of overproduction when resources stand idle despite the existence of unfulfilled needs.
Some of the tendencies prophesied by Marx failed to materialise (e.g. the rising organic composition of capital and immiseration), but his essential point that the volume and composition of output is determined by the requirements of capital rather than social needs remains intact. Analysis of capitalism based on its class relations calls into question its existence and poses, if only implicitly, an alternative. Moreover, by taking sociological data and historical developments as the foundation for economic theory, Marx treats social institutions and events of the past as key variables not as exogenous influences in the arguments that generate hypotheses. His concepts of accumulation, concentration and the trade cycle are central contributions to economic thought, while his vision of the economic process as a dynamic sequence rather than as a static allocative mechanism is the framework within which most recent theoretical developments have occurred.

Marx fails to prove conclusively that capitalism necessarily breaks down, since some of the essential transitional stages have not taken place, while even if all materialised breakdown would not be inevitable. Furthermore, the subsequent emergence of socialism constitutes a distinct phenomenon, since other possible consequences of breakdown exist (e.g. chaos); certainly, in the event of capitalist collapse, distinct action will be necessary to achieve socialism. Marx does not provide a detailed account of the operation of a socialist economy, but concentrates on the conditions of its emergence, i.e. the presence of giant units of industrial enterprise that facilitate socialisation and the emergence of an organised yet exploited proletariat who take control and inaugurate a classless society. Thus the inherent contradictions of capitalism produce its self-destruction, when the expropriators are expropriated and workers take over the accumulated capital.

Marx sees the revolutionary overthrow of capitalism by a class-conscious proletariat as the agency for the realisation of people's humanity. The proletariat's dehumanised condition makes such a solution inevitable; capitalism increases control over nature and forms the working class into an agency whose organisation through trade unions is a harbinger of socialist relations of production (i.e. conscious cooperation). Proletarian revolutionary activity constitutes a new form of consciousness which is institutionalised across society under
socialism. Capitalism increasingly generates, through the inherent logic of its operation, the social structures and productive power which can only be fully realised in a socialist economy. Marx suggests that the decline of laissez faire, the passing of Factory Acts, the emergence of joint stock companies and the development of trade unions were nineteenth-century indicators of this trend, each reflecting a partial awareness of what collective action can achieve.

Therefore Marxism is orientated towards achieving the ideal of human freedom. The gap between what humanity currently is and what it could potentially become is to be bridged by conscious action. Marx's economics contains original and penetrating insights but also some questionable propositions central to his theory of proletarian revolution. Socialist movements remain crucial to humanity's future while contemporary capitalism exhibits internal contradictions which might precipitate its demise, yet Marx's specific model provides only partial guidelines for revolutionary action in the late twentieth century. Modern radicals need to think for themselves and act on their own analysis, if their theory and practice is to possess the required relevance. Nonetheless the usefulness of Marx's general approach and criticisms of capitalism can hardly be over-exaggerated. His stress on the pivotal role of capital accumulation and technical change makes him currently relevant in a way that none of his contemporaries and few of his successors can ever be.

NOTES

1 It is not necessary that people who labour to produce the surplus should also control it. In no past or contemporary society has this been the case; the existence of a surplus provides the opportunity for one class to live off the product of another class's labour. Thus society divides into two groups, the controllers and the producers of the surplus.

2 Burkitt and Bowers (1979) calculated that labour's share of the gross national product in the United Kingdom rose from 55·3% between 1910 and 1914 to 78·3% in 1976. They also demonstrated that a similar trend took place in other advanced capitalist nations.

3 Holland (1975) discussed transfer pricing in detail.

4 It should be noted that Marx's theory of the falling rate of profit does
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not rely on neoclassical explanations, such as the operation of diminishing returns or the initial exploitation of the most profitable investment opportunities. These acquire significance in static rather than dynamic analysis.

5 See, for instance, Howard and King (1975) or Fine and Harris (1979).


7 Marx was certainly correct in the context of his time, because the progression of capitalist, at the expense of pre-capitalist, enterprise released more labourers from the non-capitalist units than could be absorbed into the capitalist sector, owing to the difference in productivity between the two sectors. As long as capitalism grows through a shrinkage of pre-capitalist modes of production, labour supply tends to exceed demand. Eventually demand for labour tends to accelerate beyond supply due to capitalist accumulation; labour becomes scarce, wages rise at the expense of profits and a crisis develops. Falling profitability slows down the rate of accumulation and reduces the demand for labour at a given accumulation by increasing the organic composition of capital. Therefore the reserve army of labour is eventually recreated.


9 Sohn-Rethel (1978) develops this point.

10 Over 85% of the jobs performed in Peterborough required less skill than their occupant would use in driving a car to work.

11 A concept thoroughly explored by Heller (1974).

12 Thus Lindbeck (1977) argued that problems of industrial disputes and work methods are connected more with technology and large-scale organisation than with the capitalist mode of production.