Contents

1
Accumulation and Crisis: Marxian Controversies

Introduction

The controversies within Marxian economics over the causes of capitalist crises and the issue of effective demand provide a fertile terrain in the study of the dynamics of growth and crisis. Despite the different language and theoretical categories that inform Marxian economics, the issues and problems that the leading theorists had encountered still resonate with the modern concerns of mainstream economics since the publication of Keynes's *General Theory*. Indeed, it is quite astounding just how these controversies have withstood the test of time and continue to inform the contemporary discourse. The debates sparked by the publication of Rosa Luxemburg's *Accumulation of Capital*, appear to have prefigured the theoretical issues that had tempered the Keynesian revolution in modern economic thought.

Marxian economics views capitalist crises as inherent and necessary characteristics of the market economy. These crises take several forms: (1) the disproportionality between the different branches of production, (2) crises of the realization of surplus value into profit, which can act as a catalyst for a general financial panic, and (3) the tendency for the rate of profit to fall in the long run. The latter implies the eventual demise of capitalism. Since this prediction has failed to materialize, Marxian economics has lost much of its legitimacy. However, this does not mean that Marxian economics is irrelevant. It might simply mean that since the time of Marx, capitalism itself has been transformed. After all, it was the Keynesian revolution that ultimately rescued capitalism from crisis and collapse in the 1930s. Since the turn of last century, capitalism has evolved into its present monopoly stage of development, which signifies that the central problem that confronts the system is the "absorption" of a rising economic surplus, rather than a falling rate of profit (Baran & Sweezy, 1966).

In this chapter we will explore some of the controversies within Marxian economics over the dynamics of growth and crisis. Marx's original theory of the tendency for the rate of profit to fall will be critically examined as well as the schemes of reproduction in Volume 2 of *Capital*. The debates over the problem of markets, sparked by Rosa Luxemburg's *Accumulation of Capital*, will be revisited. Finally we will examine the later contributions of Baran and Sweezy to these perennial controversies.

1 The law of value revisited

Before we explore the laws of motion, which characterize the Marxian dynamics of growth and crisis, the natural point of departure involves no less than a revitalization of the Marxian theory of value. The law of value is based upon the appropriation of surplus value. The central problem for Marx was to develop a theory which explained the origins of surplus value. Under the conditions of generalized commodity production, Marx contends that surplus value is a function of labor power, which is performed above the socially necessary labor-time required to produce commodities and is appropriated by the owners of the means of production. Realized in its various historical forms as profit, rent, interest, dividends, etc., surplus value acquires a logic of its own and the incessant struggles waged over its distribution and appropriation constitute the very logic of class struggle.

Whereas simple commodity production is merely an idealized expression in which values exchange for their equivalents in terms of simple use values, generalized commodity production is based upon the realization of exchange value. Simple commodity production can be defined by the general formula C–M–C in which commodities (C) are both the starting point and end result of circulation. In stark contrast, generalized commodity production is the sine qua non of capitalism, which is characterized by the circuit M–C–M′ where money (M) undergoes a metamorphosis into capital (M′). In other words, surplus value is transformed into profit. The mediation of money acquires a seemingly independent power and presupposes a more advanced stage in the development of capitalism. Under the conditions of generalized commodity production, the process of exchange increasingly determines the *real* limits of production and enlarged reproduction. Use value constitutes a universal end of productive activity, independent of historical forms of social organization. Under capitalist relations, however, exchange value in order to realize surplus value, becomes the sole and compelling motive of production itself.

The incessant tensions and contradictions generated between the use value and exchange value of commodity production constitute the root causes of capitalist crises. A crisis occurs when there is a violent rupture between the use value and exchange value of generalized commodity production. The social character of production previously concealed beneath the "phenomenal" form of exchange value now comes to the forefront. Crises are therefore an inherent feature of the capitalist mode of production. Capitalist crises possess a dual character: on the one hand there emerge recurrent crises of overproduction and relative disproportion between the different branches of production, on the other hand there is always the possibility that these crises could assume the form of a generalized crisis of *realization*.

> The real barrier to capitalist production is capital itself. It is that capital and its self-expansion appear as the starting and closing points, the motive and the purpose of production, that production is only production for capital and not vice versa, the means of production are not mere means for a constant expansion of the living process of the society of producers … The means – unconditional development of the productive forces of society – comes into conflict with the limited purpose, the self expansion of the existing capital. The capitalist mode of production is, for this reason, a historical means of developing the material forces of production and creating an appropriate world market and is, at the same time, a continual conflict between this its historical task and its own corresponding relations of social production. (Marx, 1978, Vol. 3, p. 250)

2 The tendency of the rate of profit to fall

In classical Marxian terminology, the general formula for capital is $c+v+s$, in which c denotes constant capital (means of production), v denotes variable capital (labor power) and s represents surplus value (unrealized profit). In this simple formula, the rate of surplus value can be calculated as a ratio to variable capital (s/v). The rate of profit, however, is expressed as the ratio of surplus value to total capital [$s/(c+v)$]. From this formula, Marx introduced the critical concept of the *organic composition of capital*. In other words, an increase in the constant component of capital relative to the variable component (c/v) induces a rise in the organic composition of capital. In Marx's own words:

> The composition of capital is to be understood in a two-fold sense. On the one side of value, it is determined by the proportion in which it is divided into constant capital or value of the means of production and living labour-power, the sum total of wages. On the side of the material, as it functions in the process of production, all capital is divided into means of production and living labour-power. This latter composition is determined by the relation between the mass of the means of production employed, on the one hand, and the mass of labour necessary for their employment, on the other. I call the former the *value composition*, the latter the *technical composition* of capital. Between the two there is a strict correlation. To express this, I call the value composition of capital, in so far as it is determined by its technical composition and mirrors the changes of the latter, the *organic composition of capital*. (Marx, 1978, Vol. 1, p. 574)

Accordingly, Marx highlights the crucial distinction between *absolute* and *relative* rates of surplus value. The former can be defined as an increase in the intensity of exploitation in terms of increasing the working hours or an increase in the physical tempo of the labor process. The latter implies a rise in the technical composition of capital as machines and technology are introduced in order to improve labor productivity. Compelled by competitive forces, capitalists can increase profitability by substituting capital for labor. Hence, technical progress in the Marxian schema is always labor-saving.

A rise in the organic composition of capital will induce a fall in the average rate of profit. It is precisely this *tendency* of a falling rate of profit, which forms the theoretical basis of the Marxian theory of crisis and has fuelled controversy since the publication of *Capital*. Every growth cycle, or phase of capital accumulation, carries with it the *possibility* of crisis. In this context, the fall in the rate of profit will be determined by a rising capital/labor ratio in relation to a specific profit/wages ratio. In order to prevent a decline in the rate of surplus value, capital would need to either (a) increase the absolute rate of exploitation, or (b) increase investment in the means of production by improving labor productivity. If we assume a constant rate of surplus value, then a rise in the organic composition of capital induces a fall in the average rate of profit insofar as it is only the variable component of capital that yields surplus value, whereas profit is measured in terms of total capital.

In the long run, a rise in the technical composition of capital inevitably reduces the value composition of capital. Expressed in its mathematical formula, the falling rate of profit, r, can be calculated as $r = e/(d + 1)$, where e is the rate of exploitation and d is the social organic composition of capital. In the process of capital accumulation, d will inevitably rise as c expands in proportion to v. Although the organic composition of capital rises, the rate of profit falls as a result of a rise in the capital/output ratio: "This continual relative decrease of the variable capital vis-à-vis the constant, and consequently the total capital, is identical with the progressively higher organic composition of the social capital in its average" (Marx, 1978, Vol. 3, p. 212).

The latent tendency for the rate of profit to fall will only manifest itself if it is not counteracted by a corresponding expansion in the rate of surplus value. These countervailing forces operate as the threshold historical conditions in the process of capital accumulation. In Volume 3 of *Capital*, Marx identifies six countervailing tendencies:

1. *Cheapening the elements of constant capital*: An increase in the organic composition of capital may lower the value of constant capital thereby offsetting the tendency for the rate of profit to fall.

   > In short, the same development which increases the mass of the constant capital in relation to the variable reduces the value of its elements as a result of the increased productivity of labour, and therefore prevents the value of constant capital, although it continually increases, from increasing at the rate as its material volume, i.e. the material volume of the means of production set in motion by the same amount of labour power. In isolated cases the mass of the elements of constant capital may even increase, while its value remains the same, or falls. (Marx, 1978, Vol. 3, p. 236)

2. *Increasing the intensity of exploitation*: This can be achieved either through the prolongation of the working day or by reducing wages through the mechanism of the reserve army of unemployed labor. Increasing the intensity of the labor process can also accelerate the rate of absolute surplus value.
3. *Relative overpopulation*: The strategic mechanism, which arises from relative overpopulation, is the reserve army of labor. The ebbs and flows of capital accumulation during the early stages of industrialization are conditioned by the reserve army of labor, which regulates the level of wages and its proportion in relation to profits. Indeed, the Marxian schema is similar to the type of predator–prey model developed by Goodwin (1982). A large pool of unemployed or the existence of a large rural population will act as a means of dampening wages in the industrial sector.[1]

4. *Foreign trade*: During the colonial era, raw materials were acquired more cheaply from the colonial regions by exploiting a relatively inexpensive and abundant labor force, which cheapened the elements of constant capital. Colonialism and foreign trade therefore acted as an outlet, which counteracted the tendency toward a falling profitability in the metropolitan centers.
5. *An increase in the stock of capital*: This is especially relevant under the conditions of monopolistic competition in which the degree of the concentration and centralization of capital allows the mobilization of large reserves of capital and the emergence of economies of scale and scope, which increases the mass of surplus value. In other words, the law of increasing returns is set in motion.[2]
6. *The depression of wages below the value of labor power*: This category can be included in that of raising the intensity of exploitation.

The dynamics of capital accumulation cannot be depicted in the neoclassical sense as a prosaic, linear movement toward a steady state of full employment equilibrium. To the contrary, its volatile, cyclical motion can more accurately characterize the process of accumulation. Marx was the first classical economist to emphasize these cyclical dynamics. At a given moment in the business cycle, a crisis of overproduction is hastened and has its immediate origins in the investment cycle. The volume of investment becomes too large in relation to a falling profitability. Whereas Keynes captured this tendency in the short run, referring to it as the falling marginal efficiency of capital, Marx grasped the long-run tendencies of a falling rate of profit. A falling rate of profit will sharpen the competition between individual capitalists, especially in those sectors of the economy experiencing a severe overproduction crisis. "The antagonism between each individual capitalist and the capitalist class as a whole, then comes to the surface, just as previously the identity of their interests operated in practice through competition" (Marx, 1978, Vol. 3, p. 253).

A paradox emerges during a cyclical slump: either the rate of return of investment cannot realize expected future profits, or it is not sufficient to overcome the problem of the lack of effective demand. It follows that "crises are always but momentary and forcible solutions of the existing contradictions. They are violent eruptions which for a time restore the disturbed equilibrium" (Marx, 1978, Vol. 3, p. 249). The supreme paradox of this recurrent state of irrationalism manifests itself when the private ownership of the means of production comes into conflict with the existing social relations of production. "Centralisation of the means of production and socialisation of labour at last reach a point where they become incompatible with their capitalist integument. This integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated" (Marx, 1978, Vol. 1, p. 715). If the revolution is not consummated and capitalist relations are restored once again, then the problem of the expanded reproduction of the system is encountered. "Now however the question is where will the workers and capitalists obtain their articles of consumption and the capitalists obtain their means of production, how will the finished product meet all of these demands and enable production to expand?" (Lenin, 1967, p. 52). As long as the rate of exploitation can be intensified either absolutely or relatively, the process of capital accumulation will continue on an expanded scale.

The movement of capital from one sphere of production, which has experienced a falling rate of profit to other branches of production with a relatively higher rate of profit, creates the tendency for the equalization of profit in the economy as a whole. Competition is the driving force behind this tendency. In this sense, the concept of the "prices of production" constitutes the empirical foundation of the theory of value. From a strictly logical standpoint, the average rate of profit is derived from surplus value in which values are transformed into "prices of production." Beyond this ceaseless fluctuation of prices and insofar as surplus value is transformed into profit, the general law of value asserts itself as a complicated and approximate average of the sum total of existing values.

> What competition does not show, however, is the determination of value, which dominates the movement of production; and the values that lie beneath the prices of production and that determine them in the last instance. Competition, on the other hand shows:
> 1. The average profits, which are independent of the organic composition of capital in the different spheres of production and therefore also of the mass of living labour appropriated by any given capital in any sphere of exploitation;
> 2. The rise and fall of prices of production caused by changes in the level of wages, a phenomenon which at first glance completely contradicts the value relation of commodities;
> 3. The fluctuations of market-prices, which reduce the average market-price of commodities in any given period of time, not the *market-value*, but to a very different market price of production, which diverges considerably from this market-value. All these phenomena seem to contradict the determination of value by labour-time as much as the nature of surplus value consisting of unpaid surplus

> labour. *Thus everything appears reversed in competition*. [italics added] (Marx, 1978, Vol. 3, p. 209)

The law of value thus acts as the center of gravity insofar as it mediates an equilibrium between the distributions of labor within different branches of production. This can be defined as the *magnitude* of value, which functions as a regulatory mechanism in the distribution of labor between different organic compositions of capital. Marx refers to this aspect as the *quantitative* dimension of value. Conversely, from a purely *qualitative* standpoint, the law of value exhibits a social relation between wages and profits, or between capital and labor. In other words, it reflects the productive intercourse between people rather than between things or objects, as the classical economists were habitually prone to fall into.

Consequently, the law of value inherits a twofold nature: the quantitative aspect concerned primarily with the *magnitude* of value, on the one hand, and the qualitative form defined as a social relation, on the other hand. This fundamental distinction is based upon the commodity fetishism characteristic of capitalist relations, which is viewed in orthodox economics entirely from the standpoint of exchange value rather than from the use value of commodity production. Concrete and abstract labor correspond respectively to this twofold movement of value and its transformation into the prices of production.

Without the incessant turnover of capital investment, existing plant and equipment would be rendered obsolete. However, in order to increase the rate of surplus value in a relative magnitude, necessarily implies the progressive socialization of production through mechanization and economies of scale. Capitalists are compelled to transform a portion of realized surplus value into constant capital, which is divided into fixed and circulating capital so that the cycle is repeated. "The periodical depreciation of existing capital – one of the means immanent in capitalist production to check the fall of the rate of profit and hasten accumulation of capital value through formation of new capital – disturbs the given conditions within which the process of circulation and reproduction of capital takes place, and is therefore accompanied by sudden stoppages and crises in the production process" (Marx, 1978, Vol. 3, p. 249). On the one hand, a recovery of investment spending carries with it a reaction in the form of a crisis of overproduction, which could hasten a prolonged slump. A prolonged slump as it swells the ranks of the unemployed, however, acts as a catalyst in the restoration of the rate of profit insofar as wages fall and investment in new plant and equipment is curtailed. In the final analysis, overproduction appears at the very moment of the cycle when the gulf between the creation of surplus value and its realization widens. The emergence of a generalized glut and excess capacity signifies the saturation of existing markets and the exhaustion of future, potential investment outlets. "A crisis appears as a catharsis as well as retribution: as a sole mechanism by which, in this economy, equilibrium can be restored, once it has been extensively broken" (Dobb, 1973, p. 103).

It can be surmised that an increase in the technical composition of capital (technological progress, economies of scale, labor-saving techniques, etc.) will increase the ratio of constant capital relative to variable capital and induce a fall in the general rate of profit. From a historical perspective, however, the evidence suggests that this tendency has not asserted itself. In an authoritative but neglected study, Gillman (1957) concludes that a rapid increase in the organic composition of capital did actually occur from the second half of the nineteenth century until the First World War. This period was characterized by the transformation of small-scale industry into large-scale mechanization of industry and the rapid migration of the workforce from traditional agriculture to industry. These years before the outbreak of the First World War, had experienced a growing prosperity; the ostensible "golden era" of burgeoning Victorian affluence. However, the system of laissez faire also bred vicious and often violent slumps and recurrent crises. As the organic composition of capital steadily rose, a falling rate of profit, most notably during the 1890*s* depression, began to assert itself, which led to two profound developments. On the one hand, the increased concentration of capital prefigured the rise of monopoly capital. On the other hand, the increased centralization of capital hastened the rise of finance capital, which would soon occupy the commanding heights of the economy (Hilferding, 1981). Gillman sums up the general conclusions from these empirical observations: "While Marx's law of the falling rate of profit applies to capitalism in its stages of rapid development and mechanization, it gradually ceases to apply and asserts itself but feebly as industry becomes fully developed and fully mechanized" (Gillman, 1957, p. 59).

Indeed, it would seem to be counterintuitive to suggest that a relative rise in constant capital would lead to a fall in the rate of profit. Marx's original theory appears to be informed by the Ricardian law of diminishing returns. From a historical standpoint, however, the law of increasing returns has been set in motion with the introduction of new technologies and techniques, the emergence of large-scale production and the evolution of oligopolistic competition as the dominant modes of capitalist accumulation. Consequently, under monopoly capital, there has been an increase in aggregate profits. The problem is therefore one of effective demand: how does the system dispose of the increasing surplus value? The issue of markets and the *realization* of surplus value becomes the central problem that confronts the monopoly stage of capitalism. This theoretical issue informed Rosa Luxemburg's critique in the *Accumulation of Capital* early last century and remains one of the most insightful and controversial contributions to the debates within Marxian economics.

3 Simple and expanded reproduction

In Volume 2 of *Capital*, Marx develops a complex two-sector model in the exchange relations between the consumer goods sector and the capital goods sector. The causes of capitalist crises are attributed to the problem of the disproportionality between the two main sectors of the economy. In the case of simple reproduction in which the social surplus is consumed, total social product is equivalent to:

Department 1: $c + v + s$
Department 2: $c + v + s$

If we express values in the two departments of production, total social product would be:

1: $4000c + 1000v + 1000s = 6000$
2: $2000c + 500v + 500s = 3000$
$= 9000$ total social product

In department 1, the $1000v$ and $1000s$ are produced as means of production but also represent the wages of the workers and the consumption of the capitalist class. In order to obtain the means of production in department 2, there must be an equivalent exchange with the $1000v$ and the $1000s$ in department 1 (workers' and capitalists' means of consumption). This means that department 1 exchanges $1000v + 1000s$ for $2000c$ in department 2. Capitalists and workers in their respective departments consume the rest. The $4000c$ in department 1 is consumed productively and reconstituted as constant capital, while the workers and capitalists of that department consume the $500v$ and $500s$ in department 2. Hence the equilibrium condition under simple reproduction is[3]

$$C2 = V1 + S1$$

where C2 is the constant capital produced in the consumption goods sector (department 2), V1 denotes variable capital and S1 represents surplus value in the capital goods sector (department 1) respectively. In this closed system, the possibility of crisis cannot occur because the entire surplus is consumed and all markets are assumed to clear. Simple reproduction embodies an abstraction, or the ideal conditions necessary for the reproduction of the means of production and means of consumption. If population increases, economic growth must be capable of producing value in direct proportion in order to achieve the conditions of steady state. Any social surplus that is generated will be directly absorbed into mainstream social consumption.

> Simple reproduction on the same scale appears as an abstraction inasmuch as on the one hand, the absence of all accumulation or reproduction on an extended scale is a strange assumption in capitalist conditions, and on the other hand, conditions of production do not remain exactly the same in different years (and this is assumed). (Marx, 1978, Vol. 2, pp. 398–9)

Expanded reproduction, on the other hand, is a dynamic process by which investment expands production and drives the process of capital accumulation. Using Marx's own schemes, Appendix 1A provides a more detailed exposition of the process of expanded reproduction. Marx poses the problem of how the capitalists in the consumption goods sector can dispose of their commodities. If the circuit of productive capital ceases to realize surplus value into profit, the expanded reproduction of capital will be interrupted and trigger a generalized crisis. However, the crisis is not necessarily caused by a lack of effective demand because the exchange between the two main departments of production also reveals the distribution of income between workers and capitalists. Accumulation could proceed without a rupture in the sphere of exchange as long as consumption constitutes the sole motive of production. Yet this case would correspond to simple commodity production for use values. The critical rationale of capitalist production, however, is the realization of surplus value into money capital, that is to say, the maximization of profit rather than the fulfillment of social needs. In Marx's own words:

> The problem that confronts us directly is this: how is the capital consumed in production replaced in value out of the annual product and how does the movement of this replacement entwine with the consumption of the surplus-value by the capitalists and of the wages by the labourers? (Marx, 1978, Vol. 2, p. 397)

The object of Marx's reproduction schemes is to analyze the process of accumulation inasmuch as the expansion of department 1 creates the real limits to capital accumulation in department 2. Having established this condition, department 1 is seen as the driving force in the dynamics of expanded reproduction. If, however, department 1 expands production, the problem of realization could be encountered. Since capitalism is founded upon the appropriation of surplus value, its continued reproduction involves the progressive capitalization of its accumulated surplus value. Quite apart from the portion of surplus value that is consumed unproductively by the capitalist class, a proportion must be capitalized and reinvested in the means of production in order to increase output.

> According to Marx, accumulation is possible, realisation is possible, expanded reproduction is possible. However these processes do not run smoothly, but complete themselves in contradictions, both those that reveal themselves in the permanent variations of the capitalist system, and the others, which express themselves in violent convulsions. In the final analysis, the process of capitalist reproduction itself represents an expanded reproduction of capitalist contradictions. (Bukharin, in Tarbuck, 1972, p. 203)

4 The problem of effective demand

Rosa Luxemburg argues that Marx's reproduction schemes constitute a closed system and as soon as some of the restrictive assumptions are removed, the problem of the realization of a growing surplus of production in department 2 is encountered. This is necessarily the case if one assumes a rise in the organic composition of capital induced by technical change. Luxemburg therefore argues that the system is dependent upon a *third market* to absorb the social surplus. She identifies this third department as the noncapitalist sector. In other words the problem of effective demand occupies the center stage. Marx's model merely reinstates Say's law in which supply is assumed to create its own demand.

> So the surplus product of department 1 and 2 must be bought – by whom? On the above showing, there will have to be an "effective demand" outside 1 and 2, merely in order to realize the surplus value of the two departments, just so that the surplus product can be turned into cash. Even then, we should only have got to the stage where the surplus value is further to be employed in the process of enlarging reproduction, in accumulation, and even larger demand

> must be expected in the future, a demand which is again to come from outside the two departments. Either the demand for the surplus product will therefore have to increase annually in accordance with the rate of increase of accumulated surplus value or – vice versa – accumulation can only proceed in so far as the demand outside 1 and 2 is rising. (Luxemburg, 1971, pp. 137–8)

When one views the entire process of accumulation from the standpoint of the numerous individual capitalists in both departments, it becomes evident that if capitalist A from department 1 converts his surplus value into money capital, capitalist B in department 2 is deprived of the ability to reconvert constant capital into productive capital. Consequently we would expect a deficit in the process of reproduction as a whole. Under simple reproduction, the formation of surplus money capital in the hands of capitalist A in department 1 will represent an "underconsumption," or a deficit in the hands of capitalist B in department 2. It therefore seems that from the premise of simple reproduction, permanent underconsumption tends to dominate its movement. This logic leads Luxemburg to argue that the problem of enlarged reproduction, viewed as a closed system, cannot provide a solution for the additional source of money capital required for accumulation. Marx attempts to resolve this dilemma by assuming that the production of gold occurs in department 1 and provides the additional money capital for the purposes of either hoarding (saving) or investment. Gold embodies both the universal equivalent of exchange value and also takes the form of a commodity as it enters into the process of circulation. Yet Luxemburg remains unconvinced and contends that the solution cannot be found in the additional source of money capital but should be found in the sphere of effective demand. Effective demand, in turn, implies the problem of realization. Luxemburg argues that the problem, which had eluded Marx's efforts to discover the source of that additional money required for expanded reproduction, was the fact that the reproduction schemes form a closed system. The solution lies outside the two main departments.

> Once accumulation has been established for some time, when increasing amounts of value are thrown upon the market in every period of production, buyers of these additional values cannot fail to become a problem. And on this point the preferred solution breaks down. For that matter, it was never more than a seeming solution; *not a real one*. On closer scrutiny, it fails us even at the precise instant that it appears to have smoothed the way for us. For if we take accumulation just at

> the very moment of its emergence from simple reproduction, the prime condition it demands is a decrease in the consumption of the capitalist class. No sooner have we discovered a way to expand reproduction with the means of circulation already at hand, than we find previous consumers trickling away at the same rate. [italics added] (Luxemburg, 1971, p. 146)

However, Luxemburg is incorrect when she assumes that consumption alone mediates production. Her assumptions appear to be based on the schema for simple reproduction. The simple fact remains that capitalism does not produce for the sake of satisfying social needs (i.e. use value), nor is this its compelling motive. Its primary motive from the standpoint of the individual capitalist is the production of surplus value in order to realize profits. The problem of effective demand can be resolved on the basis that expanded reproduction calls forth additional workers and the concomitant increase in additional wages, which increases the level of effective demand. In this sense, there is a fallacy of composition: what is rational and optimal for the individual capitalist (i.e. the expansion of output) may not be socially optimal in terms of effective demand. Hence, there emerges the problem of relative over-production. Money only serves as a means of exchange, or as a "veil over barter" between the two main departments of production. Consequently the problem resides at the very core of the theory of value, namely, the paradox between use value and exchange value. The function of gold can be grasped from this dual character.

> The division of the pure commodity function of gold from its money function finds its main and fundamental expression in the fact that the product of the gold-mining industry appears on the one hand as a raw material for industrial ends, on the other hand, is converted into money and functions in the quite specific form of a general commodity equivalent. (Bukharin in Tarbuck, 1972, p. 184)

An important objection to Luxemburg's three-sector model is that it assumes a constant rate of investment. In reality, this is far from the truth as the unpredictable fluctuations of the business cycle demonstrate. Moreover, according to Sweezy (1946), it is not possible to sell to noncapitalist consumers without also having to buy from them. Capitalist expansion into these precapitalist regions cannot be sustained until the historical conditions for the rise of generalized commodity production have come into being. Otherwise the circuit M–C–M′ ceases to function. The logical conclusion of Luxemburg's position is that capitalism will inevitably collapse as soon as these noncapitalist markets are exhausted. In other words, a "breakdown" tendency is inherent from the moment that a world capitalist market is more fully developed and capitalism encounters a *permanent* crisis. Indeed, the conception of a third market as the "engine" of capital accumulation, appears to contradict the law of value itself. Surplus labor power ceases to be the source of surplus value.

Let us reconsider the premises from where the Marxian schemes of reproduction acquire their theoretical content, quite apart from their historical form of development. Marx assumes that there are two conditions required for accumulation on an enlarged scale (Vol. 2, Ch. 11). First, the volume of capital must be sufficient under the given technical conditions either to expand constant capital or to accumulate for the purpose of hoarding (saving), until favorable conditions for investment appear. Second, production merely for the sake of reproduction (i.e. recapitalization), has its immediate origins in past accumulation and is not simply the moment of transition from simple to enlarged reproduction: "The money on the one side then calls forth extended reproduction on the other because the possibility of it exists *without* money. For money in itself is not an element of real reproduction" (Marx, 1978, Vol. 2, p. 494). Hence, the aim of expanded reproduction is not the expansion of money capital, as Luxemburg assumes, but the increase in real output. Yet money assumes a latent form of potential money capital as it enters into the circuit of productive capital. This is precisely the unique condition that differentiates the capitalist mode of production from other economic systems and therefore carries with it the possibility of realization crises: "Conditions which change into so many conditions of abnormal movement, into so many possibilities of crises since a balance is itself an accident, accruing to the spontaneous nature of this production" (Marx, 1978, Vol. 2, p. 499).

Kalecki (1990a) provides a succinct solution to the problem of effective demand posed by Luxemburg. The problem is not so much the existence of a "third market" but is the result of excess capacity induced by a fall in the rate of investment. Kalecki assumes that the rate of accumulation (i.e. net investment) is 4 percent per annum and that the means of production and labor are fully utilized. Depreciation is 3 percent per annum (i.e. gross investment is 7 percent); there is a constant share of gross profits (including depreciation) in the national product and constant ratios in the distribution of capitalist consumption and gross investment. It follows that given the constant share of gross accumulation in the national product, income (wages and capitalist consumption) would increase by the equivalent rate of 4 percent. Under the conditions of full capacity utilization, the problem of effective demand would cease to exist.

Accumulation therefore proceeds on the basis of past expectations of profits and returns to investment. However, if these conditions change (i.e. an exogenous shock, a shift in future expectations), and the rate of gross investment declines to only 6 percent, the problem of effective demand will manifest itself. In other words, the ratio of investment to the stock of capital falls by one-seventh (14 percent). If the proportion of capital invested to that consumed by capitalists remains constant, the fall in investment will curtail the demand for wage goods and thus workers' aggregate income by a corresponding 14 percent. The multiplier effect of a fall in effective demand will further induce a decline in investment and income. It can be surmised that expanded reproduction assumes full employment equilibrium but as Keynes highlighted in the *General Theory*, this is not the natural state of the capitalist system. The irony is that Luxemburg was one of the first theorists to identify the problem of effective demand but was misguided in that expanded reproduction is not necessarily driven by the search for "external" markets in the noncapitalist sector.

Baran and Sweezy (1966) developed a novel argument in terms of the problem of effective demand. In the absence of price competition under the conditions of oligopolistic rivalry, there is a tendency for the social surplus to increase. In stark contrast to Luxemburg, the main problem confronting monopoly capital is not so much the realization of surplus value but the disposal or the "absorption" of the economic surplus. The surplus is defined as: "The difference between what a society produces and the costs of producing it" (Baran & Sweezy, 1966, p. 9).

> For monopoly capital generates not only profits, rent and interest as elements of the economic surplus, but conceals an important share of surplus under the rubric of costs. This is due to the ever-widening gap between productivity of the *necessary productive workers* and the share of the national income accruing to them as wages. (Baran & Sweezy, 1966, pp. xix–xx)

The mechanism by which this growing surplus is absorbed includes armaments spending, the "sales effort" (e.g. advertising, marketing) and other elements of "wasteful" state expenditure. Hence, quite contrary to the neoclassical myth of Pareto optimality in the efficient allocation of resources, monopoly capital resembles the mercantilist era of trade monopolies. When viewed from the standpoint of the growing social surplus devoted to unproductive consumption, the parallels are indeed striking. To be sure, far from the rate of profit falling as the original Marxian orthodoxy had envisaged, monopoly capital encounters a *rising* economic surplus. In order to counteract the inherent tendencies toward stagnation, the system requires outlets for the absorption of the economic surplus.

The lack of effective demand is therefore a problem of rising labor productivity spurred by technical innovations, which set in motion the law of increasing returns and a rising social surplus. Yet, at the same time, the wellsprings of growth do not necessarily flow into higher wages. The investment of oligopolistic capital will depend on the level of effective demand, which determines the degree of utilization of their productive capacity and on their level of profits. As soon as the state of full capacity utilization is reached, the main problem that confronts the process of capital accumulation is the lack of effective demand. Despite the methodological problems involved with the articulation of the problem of "surplus absorption," the insights offered by Baran and Sweezy appear to coincide with the development of the monopoly stage of capitalism. The original Marxian doctrine of a falling rate of profit under the conditions of a competitive capitalism and a rising organic composition of capital ceases to have any real empirical validity.

Conclusion

In stark contrast to the prevailing neoclassical treatment of the dynamics of growth and crisis, Marxian economics offers very important insights into the workings of the capitalist economy. Indeed, the critical issue of recurrent crises is completely ignored in conventional neoclassical theories of growth. In the idealized world of general equilibrium, these recurrent crises are either impossible if one assumes Say's law, or are the product of anomalous "exogenous shocks." Marxian economics, by contrast, suggests that these crises are endemic and are a natural consequence of the inherent anarchy of the market. The Marxian framework continues to provide invaluable contributions to our understanding of the dynamics of growth and crisis. To be sure, growth and crisis are simply opposite moments in the dialectical movement of capital as a whole. As long as the market continues to govern economic life, these crises will continue to reappear. The real problem, however, is to develop a coherent theory that can explain the causes and distinguish the various historical forms that these crises tend to assume.

Appendix 1A Expanded reproduction

Using Marx's original schemes of expanded reproduction in Volume 2 of *Capital*, we can derive the following values:

1: $5000c + 1000v + 1000s$
2: $1430c + 285v + 285s$ = total social product of 9000

It is assumed that the ratio of variable capital to constant capital is constant at 1 : 5 and that there is no technical progress. It is also assumed that capitalists reinvest 50 percent of their surplus value and consume the other 50 percent. After the first round of accumulation, total capital set in motion is:

1: $5000c + 1000v$
2: $1430c + 255v$ = 7715

If we assume a rate of surplus value of 100 percent, then total social product is:

1: $5000c + 1000v + 1000s$
2: $1430c + 285v + 285s$ = 9000

If capitalists in department 1 reinvest 50 percent of their surplus value (500*s*), the other 1500 in department 1 (worker and capitalist consumption) must be exchanged for consumption goods in department 2. Hence, the total social product is:

1: $5000c + 1000v + 500s$
2: $1430c + 285v + 285s$ = 8500 (500*s* is capitalized)

However, for the equilibrium condition $2c = 1v + 1s$ to be fulfilled, 70*s* of department 2 must be transformed in order to set in motion the accumulation of capital in department 2:

2: $(1430c + 70s) + 285v + 215s$

In order to generate 70*s* as constant capital, a variable capital of 14 is required (i.e. the ratio of *c* to *v* is 5 : 1) from 1:

2: $(1500c + s) + (285v + 14s) + 201s$
Or 2: $(1500c + s) + 299v + 201s$

When the capitalists in department 1 reinvest their 500*s* at a ratio of 5 : 1, we have the following:

1: $(5000c + 417c) + (1500v + s + 83v)$
2: $(5000c + s) + 299v + 201s$

However, the equilibrium $1v + 1s = 2c$ is not satisfied and an additional 83 is deducted from the surplus value in department 2 to enable v and s of department 1 to be exchanged for consumption goods:

1: $5417c + 1583v + s$
2: $1583c + 299v + 118s$

Once again, a proportion (5 : 1) of v is set in motion, which equals 17 and is deducted from $2s$:

1: $5417c + 1583v + s$
2: $1583c + 316v + 101s$

The final round represents an expanded reproduction of capital:

1: $5417c + 1083v = 6500$
2: $1583c + 316v = 1899$ $\quad = 8399$ capital value

$500s$ is consumed unproductively in department 1 and 101 (2000 − 1899) is consumed unproductively in department 2. Consequently, the cycle began with 7715 capital values and ended with an increased 8399. Expanded reproduction has therefore increased the total capital value by 684.

Index