

An Introduction to the History of Crisis Theories

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Introduction

This paper is about the history of crisis theories. Broadly speaking, the term "crisis" as used here refers to a generalized set of failures in the economic and political relations of capitalist reproduction. In particular, the crises we seek to examine are those towards which the system is internally driven, by its own principles of operation. As we shall see, it is in the nature of capitalist production to be constantly exposed to a variety of internally and externally generated disturbances and dislocations. But only at certain times do these "shocks" set off general crises. When the system is healthy, it rapidly revives from all sorts of setbacks; when it is unhealthy, practically anything can trigger its collapse. What we seek to examine is different explanations of how and why the system periodically becomes unhealthy.

I Reproduction and Crisis

Consider how peculiar capitalist society is. It is a complex, interdependent social network, whose reproduction requires a precise pattern of complementarity among different productive activities: and yet these activities are undertaken by hundreds of thousands of individual capitalists

who are only concerned with their private greed for profit. It is a class structure, in which the continued existence of the capitalist class requires the continued existence of the working class: and yet no blood lines, no tradition, no religious principle announces who is to rule and who is to be ruled. It is a cooperative human community, and yet it ceaselessly pits each against the other: capitalist against worker, but also capitalist against capitalist and worker against worker.

The truly difficult question about such a society is not why it ever breaks down, but why it continues to function. In this regard, it is important to realize that any explanation of how capitalism reproduces itself is at the same time (implicitly or explicitly) an answer to the question of how and why non-reproduction occurs, and vice versa: *in other words, the analysis of reproduction and the analysis of crisis are inseparable*. This is true whether or not a particular theory makes this connection explicit.

In the history of economic thought, we can distinguish three basic lines of analysis about capitalist reproduction. First, and most popular, is the notion that capitalism is capable of automatic self-reproduction. It may be smooth and efficient (neoclassical theory), or it may be erratic and wasteful (Keynes), but it is self-equilibrating.

Above all, there are *no necessary limits* to the capitalist system or to its historical existence: if left to itself (neoclassical theory) or if properly managed (Keynes) it can last forever. Naturally, this has always been the dominant conception in bourgeois theory.

The second position takes the opposite tack: here, it is argued that/ by itself, the capitalist system is incapable of self-expansion. It must grow to survive, but it requires some external source of demand (like the non-capitalist world) in order to keep it growing. This means that its reproduction is ultimately regulated by factors outside of the system: the limits to the system are external to it. The different schools of underconsumption, including Marxist ones, have their origin in this line of thought.

Lastly, there is the position that, though capitalism is capable of self-expansion, the accumulation process deepens the internal contradictions on which it is based, until they erupt in a crisis: the limits to capitalism are *internal* to it. This line is almost exclusively Marxist, and includes both "falling rate of profit" and "profit squeeze" explanations of crisis.

Each of the above positions implies a corresponding notion of crisis, why they occur and what they imply. We will therefore examine each in turn.

II Capitalism as Automatically Self-Reproducing

In what follows we will discuss the *laissez-faire* and Keynesian traditions of orthodox theory in separate sections.

A. The Laissez-Faire Tradition

Unfortunately we are all too familiar with the notion of capitalism as a self-regulating, smooth, efficient and harmonious system. From its beginning in Adam Smith's "Invisible Hand" to the impotent elegance of modern general equilibrium analysis this one conception has dominated bourgeois theory. The fundamental contradiction of all human existence is said to arise from the insatiability of human wants in the face of the limited availability of physical resources.¹ The insatiable greed of capitalism is thus transformed into an attribute of Human Nature; its insane plunder of our planet is therefore only "natural," the inevitable outcome of a battle within Nature itself. Human Nature meets Physical Nature. In this way greed, competition and selfishness are eternal: there is nothing we can do about them, no

way we can eliminate them. In fact, on this basis capitalism is presented as that social set of rules which automatically permits the freest expression to the above "intrinsic" human drives. Moreover, since it represents the optimal institutional solution to an eternal "natural" conflict, capitalism remains eternally optimal. It has no limits other than some unimaginable mutation in Human Nature or some unimaginable destruction in Physical Nature. Leave it alone, and capitalism will reproduce itself smoothly, efficiently and probably forever. So the story goes.

Since the system is viewed as self-regulating, the process of regulation tends to be ignored. Thus, the dominant tendency within this problematic is to concentrate on either static or balanced growth equilibria. In this way the impression is given that the adjustment process itself is negligible. Indeed, this strategy is quite necessary, since the notion of a prolonged adjustment process is a threat to the concept of equilibrium and hence to the cherished optimality of the system.

Even so, crises occur anyway. This tends to make economists resentful, at times quite surly. Nonetheless, their ideological function require them to (periodically, at least) deal with the question of crises.

Economists who study the history of empirical phenomena are inevitably impressed not only with the frequency of crises but also with their apparent regularity. In the U.S., for example Wesley Clair Mitchell counts fifteen "crises" within the 110 years from 1810 to 1920, while Paul Samuelson lists seven "recessions" in the thirty years from 1945 to 1975.² In between was the Great Depression which lasted almost ten years!

There are basically only two ways to absorb this evidence into the main body of theory without permanently damaging it. First and foremost, it can be argued that in principle crises need never occur; that they do in fact occur may then be attributed to factors which are external to the normal functioning of capitalist reproduction. *Through no fault of its own*, the system is periodically disrupted by crises. In this tradition we find crisis blamed either on Nature (sunspots, crop failures in general, etc.) and/or on Human Nature (psychological cycles of optimism and despair, wars, revolutions, and political blunders).³

But the regularity of crises proves hard to pin on sunspots or consumer bio-rhythms, while the one-shot explanations like wars and political blunders are just not adequate to explain apparently cyclical phenomena. Consequently we get

the concept of the *business cycle*; it represents the other basic way to absorb the phenomena of crises into orthodox theory. Within this concept, the system is still viewed as being self-regulating: only now the adjustment process is seen as being cyclical rather than smooth. Various factors internal to the system's operation give rise to self-generating cycles, so that self-reproduction has an internal rhythm.

It is important to note that in orthodox theory a cycle is not a crisis. In order to be consistent with the overall theoretical structure, cycles must be viewed as being essentially "small fluctuations," second order variations which *at first approximation* one may justifiably neglect. In this way the cyclical nature of the adjustment process does not represent a limit to the ability of the system to reproduce itself.

The branch of orthodox economics known as business cycle theory is a *combination* of these two basic approaches. Regular, non-violent fluctuations are internal to the system: contractions and expansions are part of the normal business cycle. Violent or prolonged expansions and contractions, however, arise from external factors originating in Nature and Human Nature, factors which either turn a cycle into a crisis, or precipitate one entirely on their own. Crises, therefore, remain outside the normal process of capitalist reproduction.

In spite of its yeoman service, business cycle theory has always occupied a minor role in laissez-faire economics. Its subject matter was too dangerous, its history too tainted by anti-capitalist sentiments, for it to be comfortably integrated into the main body of theory. With the advent of Keynesian economics, however, this changed. We shall see why shortly.

B The (Right) Keynesian Tradition

We have so far been speaking of the "laissez-faire" tradition within bourgeois theory, since this has almost always been the dominant one. But the massive worldwide collapse of capitalism during the Great Depression dealt this tradition a staggering blow. The collapse itself was "easily" explained by the faithful in a variety of ways similar to those described above: what was inexplicable was the fact that the system did not seem to exhibit any tendency to snap back to "normal" full employment equilibrium. Even by official (conservative) estimates unemployment in the U.S. hovered around ten million people in 1939 — a full ten years after the "Great Crash."

As the Depression dragged on, as social unrest deepened, laissez-faire theory fell increasingly into disrepute and Keynesian theory rapidly took its place.

Keynes attacked the orthodox notion that "supply determined its own demand," for it was this notion which led to the conclusion that capitalism tended automatically to, more or less, fully utilize the available labor force and means of production. Instead, in his analysis the level of investment spending planned by capitalists is the crucial factor in determining the level of output and employment. But investment plans depend to a significant extent on the anticipation of profits, on the "expectations" and "animal spirits" of capitalists. Two major conclusions follow from this. First, since "expectations" are notoriously volatile, capitalist reproduction is likely to be quite erratic. Second and even more important, there exists no automatic mechanism within capitalism which would make capitalists plan just the right amount of investment so as to assure full employment. It should be noted, however, that the system is presumed to be *automatically* self-equilibrating: it is just that the equilibrium does not preclude persistent unemployment or inflation.

The so-called Keynesian Revolution was an ambivalent one, however. Much of the "deep" structure of Keynes' analysis was the same as that of the orthodoxy he attacked:⁴ the division of society into producers and consumers (not classes) the same basic view of human nature, the crucial importance of psychological "propensities" and preferences, the role of supply and demand, and above all the general reliance on equilibrium analysis. It is no wonder then that a portion of the orthodoxy was able to absorb Keynes into a new version of bourgeois theory. Conceding that there was indeed no *automatic* mechanism to make capitalist reproduction smooth, efficient and crisis free, the neoclassical Keynesians (Bastard Keynesians, as Joan Robinson calls them) turned to the State as the mechanism which would bring to life the society pictured in the laissez-faire parables. If the State did its job well, it would manipulate aggregate demand so as to maintain near full employment with little or no inflation; with this modification, "the rest of the doctrines of the (orthodoxy) could be revived."⁵

Since economic fluctuations are an admissible part of Keynesian theory, business cycle theory becomes a much less dangerous branch of economics. Indeed, since the State in principle *can* eliminate fluctuations, it becomes imperative to

study cycles and crises in detail in order to know how to counter them. Consequently, a great wealth of information about crises has sprung up since the so-called Keynesian Revolution.

Not surprisingly, Keynesians tend to see the erratic and violent history of capitalist accumulation as a series of errors in "policy." Their views on the current crisis are no exception.

Keynes also generated another branch of followers, the so-called left Keynesians, among whom the leading figure is Joan Robinson. Her views, along with those of Michael Kalecki and Joseph Steindl, will be discussed in the next section.

III Capitalism as Incapable of Self-Expansion

From the very beginning, the laissez-faire vision of a harmonious, crisis-free capitalism has been bedeviled by an equally old and equally persistent notion of capitalism as being inherently incapable of accumulation. The internal forces of the system, it is argued, can at best reproduce it at some stationary level: but as stagnant capitalism soon degenerates. Competition sets each against the other, yet because there is no growth no one can gain except at the expense of someone else. Capital is set against capital, worker against worker, and class against class. Either the antagonisms become too intense and the system explodes, or else it decays into a society (like China of old) in which a tiny ruling elite rests on a base of mass poverty and human misery. In either case, a non-accumulating capitalism will not last long.

Interestingly enough, this countervailing argument begins from the same initial conception as the theory it attacks. Orthodox theory has always insisted that the ultimate goal of all capitalist production is to provide for consumption: that which is not consumed now is plowed back into production in order to provide for future consumption. Either way, it is consumption which rules the roost. In the dark glass of underconsumption theory, this same notion becomes a weapon in the attack on capitalism. Throughout the long and complex history of this branch of crisis theory, the following argument appears again and again: yes, the ultimate regulator of all production is indeed consumption, currently or in the future; however, capitalist production responds not to need but to purchasing power, not to demand but to "effective" demand (i.e. demand backed by money). And such is its contradictory nature, that if left to itself it is incapable of generating sufficient

effective demand to support accumulation. The intrinsic mechanisms of the system, in other words, tend to point it towards a stationary state: it requires some external source of effective demand — external, that is, to its basic mechanisms — in order to continue growing.

A. The Concept of the Demand Gap

Over the past 150 years, there have been many attempts to specify the exact nature of the underconsumption problem. In spite of the variety of formulations, however, it is quite striking how constant is the notion that the demand for consumer goods is the ultimate regulator of overall production.

Suppose we divide all social production into two major branches or "Departments." Department I produces producer goods (raw materials, fuel, plant and equipment, etc.), while Department II produces consumer goods and services (food, clothing, entertainment, etc.).

The basic tenet of underconsumption theory then, is that the demand for consumer goods and services determines not only the production level of Department II (consumer goods), but also that of Department I (producer goods). Output in the producer goods industry is ultimately regulated by the input requirements of the consumer goods industry: the demand for producer goods is therefore "derived" from the demand for consumer goods.

Notice that this does not merely say that the output of Department II influences the output of Department I, and vice versa. It says something much stronger, namely that the causation is primarily one way, that Department II is the leader and Department I is the follower.

Parallel to this notion is a conception of circulation as a process whereby society's product is *shared* out between workers and capitalists. Thus, out of the total social product, part of it is conceived of as being the replacement of the inputs used up in producing it, and the remaining part, the *net* product, is thought of as being available for "distribution" among workers and capitalists.

A similar breakdown is made on the income side. Out of the sales of all firms, an amount of money is said to be set aside to replace money expended for producer goods used up during production. The rest is the net operating income of the firms which is divided into wages and profits. This net income, what orthodox economists call net national income, is the source of effective demand for the net product.

Net production has two sides, therefore. On the one hand we have goods and services and on the other we have net money income, which equals wages plus profits: supply on one side, and effective demand on the other.

We can now state the basic problem of underconsumption theory. Workers generally spend all their wages. They therefore "buy back" a portion of the net product, at its normal price. But since workers never receive the whole of net income, they can never buy back the whole of net product. *Workers' consumption always leaves a "demand gap;" moreover, the lower the share of their wages, the greater the "demand gap."*

At this stage in the analysis the surplus product still remains to be sold, and capitalist income — profit — still remains to be expended. If these two could match up, all of the product would be sold and the "demand gap" completely filled. But under what conditions will this happen?

The early underconsumptionists tended to visualize the *net* product as being composed solely of consumer goods. Given their fundamental premise that the output of Department I is regulated by the input requirements of Department II, they easily fell into the idea that in any period of time the output of Department I is just sufficient to replace the inputs used up by the system as a whole. This means that although the total social product is made up of both producer goods (Department I) and consumer goods (Department II), the net product (the total minus the replacement requirements) consists solely of consumer goods. *

From this point of view, after workers spend their wages to "buy back their share" of the net product, we are left on the one hand with a surplus product in the form of consumer goods, and on the other hand with the unexpended profits which form capitalist "income." It therefore follows that the "demand gap" will be filled only if capitalists spend *all* their profits on personal consumption. *But then there can be no investment, hence no growth, no internally generated accumulation.*

This does not mean that capitalists will not try to accumulate. What it in fact implies is that the attempts of the class as a whole to accumulate will be self-defeating. After all, in the cut-throat competition of one capitalist against another, the

size of a capitalist's assets are an important index of power. And one important way to increase in size and power is to save, invest and thereby grow. So capitalists will keep trying to accumulate. Imagine, therefore, that we begin from the initial situation pictured above, in which Department I produces just enough producer goods to maintain the productive capacity of the system, and Department II produces an amount of consumer goods which are completely "bought back" by workers and capitalists consuming all their income.' Now suppose that the next time around capitalists spend only *part* of their profits on consumer goods; the rest they invest by buying producer goods, hiring workers, and setting up firms in Department I and/or Department II.

A curious thing happens at this point. Let's say that total profits amount to \$200,000, which the capitalist class at first spends entirely on personal consumption. Now suppose they cut back their consumption to \$150,000, and the remaining \$50,000 they invest by using \$30,000 to buy producer goods (from the inventories of Department I) and \$20,000 to hire workers (out of the reserve army of the unemployed). The net drop in consumer demand is only \$30,000, since the drop in capitalist consumption demand is partially offset by the extra consumption of the newly hired workers. Nevertheless, demand for consumer goods does drop, so that sales in Department II will fall which in turn means that its own demand for producer goods will fall, thus decreasing sales in Department I. Yet, the very act which led to all of this has simultaneously *expanded* productive capacity in general. Their attempt to expand capacity has therefore made redundant not only the extra capacity they have added but also a part of the capacity which existed before. Inevitably this must cause them to retrench. Internally generated accumulation negates itself.

Since expansion occurs gradually and takes time to complete, one can imagine that it takes a while for the lack of "effective demand" to make its effects felt, and another while for the contraction which ensues to work itself out. The consequence of the attempted accumulation would therefore be a boom followed by a bust, with zero net accumulation over the cycle. This, according to the logic of underconsumption theory, would be the expected behavior of a capitalist economy left to itself.

Cycles of boom and bust are no strangers to the history of capitalism. At the same time, however, the study of history makes it abundantly

* The net product is that part of the total product over and above that necessary to maintain the productive system. If we subtract workers' consumption from it, we get that part of the total product over and above the maintenance requirements of the productive system and of the workers who operate it: it is the surplus product.

clear that these cycles are accompanied by tremendous secular growth in actual capitalist economies — a fact which stands in sharp contrast to the intrinsically stagnant capitalism implied by underconsumptionist logic. Invariably, therefore, underconsumption theories have had to resort to "exogenous" (i.e. external) factors to explain this great contrast between history and theory. In the next two sections, which deal with the history of pre-Marx and post-Marx underconsumption theories, respectively, we will see what an important position these external elements occupy.

B. Conservative and Radical Underconsumption Theories

In the preceding section I have attempted to present both the essential logic behind underconsumption arguments and the implications which follow from this logic. In doing so I have used modern conceptual tools such as Marx's two Departments and Kalecki's aggregate supply and demand analysis. But these concepts are relatively new, and quite naturally the argument does not appear in precisely this form in the actual history of underconsumption theory. In fact, what is quite striking about this history is that while the notion of a "demand gap" appears throughout, the corresponding implication about the impossibility of self-sustained capitalist accumulation is seldom grasped. Particularly among the non-Marxian theories, this implication is assiduously avoided. It is a difficult position indeed to live and write in the 19th century, during a period of almost explosive capitalistic growth, and have your theory tell you that growth is not intrinsic to capitalist production.

Convinced of the soundness of their basic position but either unaware of or unwilling to accept its full implication, the early underconsumptionists almost universally adopted the position that *too much* accumulation would cause a crisis. They would begin by assuming that the economy was growing at some "sustainable" rate. Following the logic I have outlined in the preceding section, they would then assume that capitalists cut back this consumption and invested the amount so saved in additional producer goods and workers. Thus, while investment had expanded productive capacity, the net cut back in consumer goods demand and its subsequent effect on producer goods demand resulted in underutilization of even the capacity which had existed before. "Too much saving" had led to a slump.*

But what their logic actually implied was that

any saving would lead to a slump, a fact that was soon pointed out by their opponents. In his excellent study entitled *Underconsumption Theories*, Michael Bleaney summarized the dilemma of the early underconsumptionists:

The general position of these writers was that there is a limit above which the rate of accumulation becomes dangerously high, threatening to precipitate a slump. But the logic of the argument as they develop it is that this limit is in fact a zero rate of accumulation, as is effectively pointed out by Chalmers. Thus they are caught in a trap, in which either they must draw back from the brink and discard part of their results, or they must openly state the absurdity of their conclusions.

The first major economist to land himself in this dilemma was Thomas Malthus (1820s). True to the underconsumptionist tradition, Malthus argued that it is the demand for consumer goods which regulates production, so that only a certain rate of growth was "sustainable." Of course, given the logic of his argument and the conclusion implicit in it, Malthus was never able to say just what this "sustainable" rate of growth was. Nevertheless, he did emphasize that (too much) saving would mean that capitalist consumption would not fill the demand gap left by workers, so that crises of overproduction (underconsumption) were distinctly possible in capitalism. In Malthus' hands this tendency towards underconsumption became a reactionary apologetic for feudal landowners, whose high living and conspicuous consumption was presented as a welcome counterbalance to the tendency of capitalists to (over) save. (Malthus is also famed for his attack on the working class through his so-called laws of population. Then, as now, these brutish "natural laws" were never meant to represent the behavior of the "civilized" ruling classes.)

Simonde de Sismondi was a contemporary of Malthus who also saw a tendency toward underconsumption within capitalism. Once again, we find here the argument that the level of consumption regulates overall production, so that production can grow only as fast as consumption grows. But capitalism restricts the consumption of the masses by keeping them in poverty; the workers are too poor to buy back their own product (here

* The underconsumptionists did not envision any Keynesian discrepancy between planned saving and planned investment. Capitalists plan both, and what they save is invested, not hoarded. Hoarding does not play a major role in underconsumption theories, as Bleaney (*op. cit.*, pp. 50-51) points out.

again the ubiquitous demand gap). Moreover, as capitalism develops, income distribution becomes more and more unequal, so that consumption of the masses grows more slowly than overall wealth (the gap widens). In Sismondi, therefore, not only does a tendency to underconsumption exist, but if *also gets worse as capitalism matures*. Over time crises get worse, and competition among nations for external markets gets more fierce.

Unlike the reactionary Parson Malthus, Sismondi was a radical who was deeply impressed by the suffering of the peasants and workers under capitalism. In his time he stood at the head of what Marx called petty-bourgeois socialism, which struggled against the cruelty and destruction engendered by capitalism and sought to reform it so as to ameliorate these conditions. Sismondi himself championed radical changes in income distribution in favor of peasants and workers, and looked to the state to carry these and other economic reforms out.⁸

Both Malthusian and Sismondian schools of underconsumption mention external markets as sources of consumption demand. In Malthus this is only a passing reference; in Sismondi, however, foreign markets are an important outlet for domestic overproduction, and he sees increasing international rivalry as arising out of the worsening underconsumption problem. Of course, in order for international trade to be a solution to this problem, a given nation must export more to others than it imports from them. This is obviously impossible for the world as a whole. If all trade is confined to capitalist spheres only, then foreign trade is *internal* to the world capitalist system and offers no escape from the underconsumption problem. Sismondi consequently does not present foreign trade as a general solution to the problem.

Between the time of Sismondi (1850s) and the time of J.A. Hobson (1900s) came the great watershed in capitalist history which marks the beginning of the Age of Imperialism. In the years between the 1870s and 1914, for instance, European foreign investments rose over 700%, much of it going to the so-called Third World. It is therefore not at all surprising that by the 1900s foreign trade, through imperialism, began to appear to be a solution to the problem of underconsumption. After all, if one conceives of the world in terms of the imperialist capitalist nations and the underdeveloped Third World, it becomes possible to also imagine this Third World absorbing the excess savings of the developed capitalist countries — either directly in the form of foreign

investments, or indirectly in the form of commodity exports. Both in Hobson and in Rosa Luxemburg (whom I will discuss in the next section), the connection between underconsumption and imperialism becomes very important.

Hobson begins in the now familiar way of underconsumptionists. He explicitly identifies the ultimate object of all production, even under capitalism, as being the production of consumer goods. Moreover, he is the first one to explicitly treat Department I (the producer goods industry) as being strictly subordinate to Department II (consumer goods), so that the whole production process may be treated as a vertically-integrated system beginning from raw materials and proceeding in successive stages to the final product which consists of consumer goods alone. Lastly, he too begins by postulating a "sustainable" rate of growth (which of course he cannot define) and then goes on to show that (too much) saving leads to a slump. Crises arise from (over) saving.⁹

Hobson also introduces the concept of the "surplus," which plays an important role in his subsequent analysis. Generally speaking, the "surplus" is defined by Hobson to be the excess of the total money value of the output over the *strictly necessary* costs of *producing* that output.¹⁰ This concept involves distinguishing between necessary and unnecessary costs of production, as well as between costs of producing and other expenses (such as selling costs, sales taxes, etc.). It is a broader concept than what I defined earlier as profits (sales minus all costs), but we need not pursue the difference here.

In any case, Hobson's notion of surplus includes unnecessary "costs" such as monopoly profits and rent of land (since these do not stem from production of any sort). As capitalism develops, these "unearned incomes" swell, and since their recipients tend to consume *little*, oversaving tends to occur. There is, therefore, a worsening problem of underconsumption.¹¹

According to Hobson, foreign trade provides an outlet for excess savings and a market for excess production, even under competitive capitalism. However, as industry becomes more concentrated and monopoly becomes widespread, the underconsumption problem moves to a qualitatively higher level. On the one hand monopoly profits swell the surplus, leading to greater savings; on the other hand since monopolies achieve these excessive profits by raising prices, they tend to shrink the market. The same factors which expand savings thus reduce the outlets for them. Imperialism arises as the solution: imperial-

ism is the highest stage of underconsumption.

However, this need not be so, says Hobson. The root cause of crises *and* imperialism lies in the inequality of income and the excessive incomes of monopolists and rentiers, and the solution lies in appropriate reforms:

Let any turn in the tide of politico-economic forces divert from these owners their excess of income and make it flow, either to the workers in higher wages, or to the community in taxes, so that it will be spent instead of being saved, serving in either of these ways to swell the tide of consumption — there will be no need to fight for foreign markets or foreign areas of investment.¹²

A surprising number of theses advanced by Hobson in the 1900s reappear in subsequent Marxist analysis. Writing in 1916, Lenin emphasizes the connection between monopoly and imperialism, though he rejects Hobson's underconsumption analysis. On the other hand, in the 1920s, the German revolutionary Rosa Luxemburg argues that the roots of imperialism in fact lie in the underconsumption problem, though she of course rejects the conclusions which Hobson draws from this. More recently, in the United States, influential works by Marxists Paul Sweezy and Paul Baran have revived Hobsonian notions such as the view of overall production as a vertically integrated sector, the concept of the "surplus," the notion that monopoly tends to make the surplus rise, and above all the argument that the absorption of the surplus represents an intrinsic problem of capitalist production which becomes more acute with the prevalence of monopoly. We turn to these theories next.

C. Marxian Underconsumption and Disproportionality Theories

In the early underconsumption theories, the problem is invarial •• D -f?d in terms of too great a rate of accumulation. We have seen that according to their own logic, however, any accumulation tended to negate itself. Inevitably, underconsumptionists were driven to the conclusion that capitalism tended' towards stagnation, that a self-expanding capitalism was *impossible*.

Marx completely destroyed this argument. In order to see why, we need to discuss some of the conceptual advances made by him.

We are already familiar with the first great advance, which was to conceptualize overall production in terms of two major branches or Departments, producer goods (I) and consumer goods (II). This means that the total product over

any period of time is composed of both types of goods.

The second breakthrough by Marx was to clarify the nature of effective demand. The underconsumptionists, it will be recalled, identified basically three types of effective demand: replacement demand which buys back producer goods to replace those used up, workers consumption demand which buys back their "share" of the product, and capitalists' consumption and net investment demand which must fill the "demand gap" in net output.

Marx's first point of departure involves a question of time. Suppose the production process in each Department takes a given length of time, say one year. Well then, the producer goods used up in the overall process cannot be bought out of this year's production, because the first 'inished producer good which derive from production *started* in this year won't roll off the assembly line until the end of the year. Similarly, workers employed during this year cannot "buy back" the consumer goods resulting from their current activities because these goods won't be ready till the end of the year; nor can capitalists consume what is not yet available.

Let's go back to the beginning of the year. To keep the example as simple as possible, assume that all goods to be used over the year are bought at the beginning of the year (this is an expositional device only). Capitalists decide the level of production they would like for the current year. They therefore buy a certain amount of producer goods, and hire a certain number of workers; the workers in turn use their wages to buy consumer goods. At the same time, capitalists also must buy a certain amount of consumer goods for their own personal consumption over the year. *Notice that the effective demand originates entirely with the capitalist class:* workers' wages are part of the year's gross investment expenditures by capitalists. It is quite illegitimate to treat consumption and investment as being functionally independent, since the bulk of consumption comes from wages, which are themselves a necessary aspect of investment expenditures.

At the beginning of the year, therefore, it is the capitalist class through its consumption and investment expenditures which determines effective demand. But who sells the commodities? Why, the capitalist class, of course! The beginning of this year is also the end of the last year; it is therefore also the time when the finished product of last year's production process becomes available. Last year's production provides the capitalist

class with the commodity-supply available for sale during this year; this year's expenditures by the capitalist class on gross investment and personal consumption determine the effective demand for that commodity supply. If this sounds bizarre, it should be remembered that capitalist reproduction is bizarre. Production and consumption decisions are undertaken by hundreds of thousands of individual capitalists with no thought whatsoever for the reproduction of the system as a whole. Though it is the capitalist class which determines both ends of the supply-demand relationship, capitalists do not do so as a class but rather as individuals. The difficult part is to explain why they ever manage to "come out right." We will return to this point shortly.

It is not difficult to go on from here to show that steady growth is easily possible, with effective demand in each year being just sufficient to buy the available supply at "normal" prices.¹³ If investment grows by 10%, then output grows by 10%. If therefore capitalist consumption also grows by 10%, each year's output will find waiting for it the effective demand to buy it. After Marx, the possibility of "balanced growth" has become a commonplace.

Balanced growth implies that productive capacity and effective demand can grow at roughly the same rate. Taken by itself, however, it does not necessarily imply that capitalism achieves anything remotely like that. Nor does it tell us anything about which way the causation might run if such growth was indeed possible on the average. Nonetheless, the fact that expanding reproduction is possible poses a distinct threat to underconsumption theories. It is in the light of this challenge that we encounter Marxist versions of underconsumption theory.

A little background on Marx's writing is in order here. During the period 1858-1865, Marx wrote and rewrote the bulk of the manuscripts from which his great three volume work, *Capital*, is taken. Volume I was published by 1867, but Volume II — in which the analysis of the capitalist reproduction process appears — was never put into final form, even though it was revised in the early 1870s and again in the late 1870s. Marx did not live to complete this task, and the latter two volumes were compiled and published by Engels. ^During Marx's lifetime, therefore, the published parts of Marx's work did not deal with reproduction and growth.¹⁴

In Volume I Marx demonstrates that a surplus product can arise only if workers as a whole work *more* hours in a given day than it takes for them to

produce the goods they themselves consume and goods needed to replace those used up in the production process. It is this surplus labor time of workers over and above that necessary for them to maintain themselves and the productive system, which provides the surplus product appropriated by the capitalist class.

In Czarist Russia, this struck a responsive note. Capitalism had begun its destruction of social forms, in particular the ancient peasant commune, the *mir*. In the 1850s, it was being argued by some populists that the *mir* could serve as the basis for a direct transition to socialism, without having to go through the horrors of capitalist industrialization. By 1880, Volume I of *Capital* had provided Marxist populists not only with a devastating critique of capitalism in general but also — by means of a little extrapolation — with an important theoretical weapon against capitalism in Russia.¹⁵

The Marxist populists saw Marx's emphasis on surplus labor-time as proof of the impossibility of capitalism in Russia. In classic underconsumptionist fashion, they reasoned that since workers produced more than they consumed, the home market would never be sufficient to permit growth. The developed Western capitalist nations had escaped this dilemma by finding foreign markets; but Russia, they argued, was too underdeveloped to compete effectively on the world market. Capitalism therefore was not viable in Russia. Organizing the peasants was the key to socialism.

Volume II of *Capital* was published in 1885, two years after Marx's death. Even so, fifteen years later the Marxist populists were still insisting that "it is impossible for a capitalist country to exist without foreign markets."¹⁶ But by now a counter-argument had developed within Russian Marxism; and it counted some heavy names on its side: Bulgakov, Tugan-Baranowsky, Struve, Lenin.

This latter group of Marxists made two major criticisms of the populist underconsumption argument. First, they noted that it was a *fact* that capitalists and commodity relations were rapidly growing everywhere in Russia. Lenin's first book *The Development of Capitalism in Russia* (1899) was aimed at making just that point. Secondly, Lenin and the others attacked the logical basis of the populist argument. The basic error, they said, lay in imagining that even under capitalism, consumption was the goal of production. Capitalism produced for profit, not consumption, and Marx's analysis of expanded reproduction estab-

lished beyond a doubt that this profit-motivated production was entirely capable of generating its own internal markets. Underconsumption was not an intrinsic problem. Capitalism was already there, it was viable and spreading, and organizing the urban proletariat was an urgent task.

That round of the debate was decisively won by Struve, Bulgakov, Tugan-Baranowsky and Lenin. But their victory only set the stage for another, even more important series of questions: if capitalism was indeed capable of self-sustained growth, what is there to prevent it from growing forever? What are its *limits*, in other words? Moreover, how are we to understand the devastating crises it is periodically subject to?

Tugan-Baranowsky's response was to argue the extreme position that capitalism was totally independent of consumption, provided Departments I and II grew in the correct proportions to one another. But, he argued, given the anarchy of capitalist production, this correct proportionality was a matter of chance. The trial-by-error nature of capitalist production would therefore periodically give rise to such great imbalances that reproduction would be interrupted and a crisis break out. Lenin rejected Tugan-Baranowsky's assertion that consumption was irrelevant, but at this time other than emphasizing the anarchy of capitalist production as a source of crises, he did not provide a clear cut crisis theory. He was not to return to this subject. In Germany, some ten years later the disproportionality theory of crises cropped up again, this time in Rudolph Hilferding's massive work on monopoly capitalism. Both Tugan-Baranowsky and Hilferding were later to argue that since it was the anarchy of capitalism which led to crises, *planning would eliminate crises*. "Organized capitalism," in Hilferding's words, was the solution, and the parliamentary path to State control was the means.¹⁷

Rosa Luxemburg refused to accept this resolution of the debate. As a revolutionary activist, she was completely opposed to the reformism which the disproportionality theory seemed to engender. Once one admits "that capitalist development does not move in the direction of its own ruin," she declared, "then socialism ceases to be objectively necessary." To abandon the theory of capitalist collapse was to abandon scientific socialism. And so she set out to revive the Marxist underconsumption debate.¹⁸

Since it was Marx's examples of expanding reproduction (balanced growth) which proved to be the decisive factor in the earlier debate among Russian Marxists, Luxemburg attacked these

examples directly. Marx plainly demonstrated the abstract possibility of expanded reproduction, she conceded, but he did not seem to realize that it was nonetheless impossible in reality because, from a social point of view, the capitalist behavior it requires *makes no sense*.TM Imagine that at the end of a production cycle the whole social product is deposited in a warehouse. At this point capitalists come forward and withdraw a portion of the total product to replace their producer goods used up in the last cycle, and workers come and withdraw their means of consumption. This leaves the surplus product, from which capitalists withdraw a portion for their personal consumption. Now Luxemburg asks, where do the buyers for the rest of the product come from? (This is of course the traditional underconsumption problem of filling the "demand gap"). If Marx is right, she says, then it is the capitalist class which buys back the rest of the product in order to invest it and thus expand productive capacity. But that makes no sense at all, for "who are the new consumers for whose sake production is ever more to be enlarged?" Even if capitalists did what Marx says they will, in the next period productive capacity will be even greater, the gap to be filled even larger, and the problem even more intractable. Marx's "diagram of accumulation does not solve the question of who is to benefit *in the end* by enlarged reproduction. . . ." Expanded reproduction is algebraically possible but socially impossible.²⁰

It follows that actual capitalist accumulation can be explained only through some forces external to "pure" capitalist relations. Luxemburg notes that the Malthusian solution of a third class of unproductive consumers makes no sense, since their revenue could only come from profits or wages. Similarly, foreign trade among capitalist nations also provides no solution for capitalism as a whole, since it is internal to the world system. She therefore argues that capitalist accumulation requires a strata of buyers outside of capitalist society who continually buy more from it than they sell to it. Thus trade between capitalist and non-capitalist spheres is a prime necessity for the historical existence of capitalism, and imperialism necessarily arises as capitalist nations struggle over control of these all important sources of effective demand. Moreover, as capitalism expands to cover the globe the non-capitalist milieu shrinks correspondingly, and with it shrinks the prime source of accumulation. The tendency to crises is heightened, and competition among capitalist nations for the remaining non-capitalist

areas intensifies. World crises, wars and revolutions are the inevitable outcomes of this process.

Even if Luxemburg were right about the impossibility of accumulation, her solution would not work since it requires the "Third World" to continually buy more than it sells. Where would the excess revenue come from?

But in fact she is also wrong about the possibility of accumulation. To see this we need to return briefly to the analysis presented at the beginning of this section. Recall that at the end of the production cycle, it is the capitalists who are in possession of the whole social product. At the same time, it is also their gross investment and personal consumption expenditures which are the original source of effective demand for this very product (since workers' wages are a part of overall investment). Now, aside from their own personal consumption, their remaining expenditure (gross investment) is in no way motivated by consumption as such. It is motivated entirely by the anticipation of profit. What Marx's examples show is that if capitalists did undertake the appropriate amount of investment, then they would indeed be able to sell their product and *make the anticipated profits*. If this success spurs them to reinvest once again in anticipation of yet more profits, they would be rewarded once again, and so on. All the while consumption would expand due to the growing employment of workers and the growing wealth of capitalists. But this expansion of consumption would be a consequence, not a cause.*

Yet if this refutes Luxemburg's criticisms of expanded reproduction, it still does not answer the two crucial questions she began with. First, what forces, if any, make expanded reproduction possible in reality? And second, is it not true that if expanded reproduction is actually possible, "capitalist development does not move in the direction of its own ruin?"

That which theory debates, reality decides. In 1929 a devastating worldwide capitalist crisis erupted, to be followed by over ten years of deep depression and unemployment. Given this background, the problems of capitalist reproduction once more rapidly rose to prominence.

The first major attempt to revive underconsumption theory as an explanation of crises was

* Readers familiar with Volume I of *Capital* might recall that Marx distinguishes two types of circuits involving purchase and sale: C-M-C and M-C-M'. In the former the object is consumption, but in the latter the object is the expansion of capital. It is the latter which is the dominant (regulating) circuit of capitalist production. Luxemburg forgets this.

made by Paul Sweezy, in his influential book *The Theory of Capitalist Development* (1942). Sweezy explicitly set out to formulate an underconsumption theory "free of the objections which have been levelled at earlier versions."²¹

In this early attempt Sweezy is still very much in the grip of the traditional underconsumption notion that the demand for consumer goods regulates overall production. From this point of view Department I appears as part of the vertically integrated productive apparatus of Department II so that changes in the output of Department I (producer goods) are in effect changes in the *capacity* to produce consumer goods. In addition, Sweezy argues that "empirical evidence" suggests that a 1% change in Department I output will increase capacity output of consumer goods by 1 %. This is a virtual replay of Hobson, whom we analyzed earlier.

Now consider effective demand, which as we have seen is composed of capitalist consumption and total investment expenditures (the latter in turn being composed of expenditures on producer goods and on hiring workers). As capitalism develops, Sweezy notes, mechanization proceeds apace and it takes more and more machines and materials to back up one worker; this means that capitalist investment expenditures on producer goods rise faster than those on wages. *Given his analysis of production*, the investment expenditures on producer goods imply proportional increases in consumer goods capacity, whereas the more slowly rising expenditures on wages of course translate into workers' consumption. It appears, therefore, that the capacity to produce consumer goods expands faster than the consumption demand of workers. A "demand gap" thus opens up. Of course, capitalist consumption demand might fill the gap. But as capitalism develops capitalists tend to invest proportionately more, and consume proportionately less, of their profits, so that their consumption lags behind the productive capacity of Department II. Sweezy concludes:

... it follows that there is an inherent tendency for the growth of consumption to fall behind the growth in the output of consumption goods . . . this tendency may express itself either in crises or in stagnation, or both."

The fundamental error in Sweezy's analysis is the traditional underconsumptionist one of reducing Department I to the role of an "input" into Department II. Once this assumption is made, it necessarily follows that an increase in production

of producer goods must expand the capacity of *consumer goods*. But this is false: producer goods may be used to make producer goods also, and as we noted in the critique of Luxemburg, expanded reproduction *requires* that they be so used. Contrary to Sweezy's reasoning, it is perfectly possible to have a rising ratio of machines and materials per worker and a proportional growth in the outputs of both Departments, *while still having expanded reproduction*.

Sweezy's second attempt, made along with Paul Baran, came over twenty years later in *Monopoly Capital*. In the first attempt, as we have seen, Sweezy argued that capitalism had an intrinsic tendency to expand the production capacity of Department II faster than consumption demand. *Monopoly Capital*, written in the light of Marx, Keynes and Kalecki, no longer restricts itself to Department II or consumer demand alone. Instead, it is argued here that modern capitalism has a tendency to expand total productive capacity faster than internally generated effective demand — *so that in the absence of external factors*, "monopoly capitalism would sink deeper and deeper into a bog of chronic depression."²³

It follows from this diagnosis that "the fairly long periods during which the (actual) accumulation process has proceeded in a vigorous fashion with . . . the demand for labor power expanding rapidly and productive capacity being utilized at or close to full capacity" must be explained through external factors.²⁴ Thus Baran and Sweezy point to major innovations (steam engine, railroads, automobile), imperialist expansion and wars, and the stimulation of demand in general through advertising, government policy, etc., as being crucial factors in overcoming the inherently stagnant nature of monopoly capitalism.

The association of monopoly with slow growth and excess capacity is not new. Many theories (as we shall see) attempt to explain this correlation. Baran and Sweezy's specific contribution is their argument that these phenomena arise from the persistent tendency of monopoly capitalism to over-expand productive capacity and thus drive itself towards crises and/or stagnation. We must therefore seek out the logical basis of this argument.

Recall that in Marx's analysis it is total investment and *capitalist* consumption expenditures which determine effective demand (total investment includes expenditures on wages, which in turn determines workers' consumption). Moreover, insofar as the personal consumption of the capitalist class responds more or less passively to

past and present profits, it is total investment which is in fact the crucial variable.

Now suppose that at the beginning of a given year, total investment expenditures for next year's production are large enough to expand productive capacity but not large enough to buy all of the existing social product. Then capitalists will on the one hand have initiated an expansion of their future productive capacity, while on the other they will find demand insufficient for even their present capacity.

Given the anarchic nature of capitalist production, such an outcome is to be expected fairly often. The question is, is this merely one aspect of the regular fluctuations in capitalist reproduction, or is it something more? Marx, for instance, argued that capitalists are driven to accumulate as rapidly as objectively possible, so that a discrepancy such as the above tends to be self-correcting. But if one could somehow argue that in *each* period investment tends to remain in the range described above — large enough to expand capacity but not large enough to purchase the preceding period's supply — then of course productive capacity will outrun effective demand and the system will be faced with a demand gap or "realization problem." This is precisely the argument implicit in Baran and Sweezy's assertion that the (potential) surplus expands faster than the system's ability to absorb it. Yet, though they tend to lay much of the blame for this problem on monopoly, they do not discuss why monopolists would persist in over-expanding productive capacity in the face of insufficient demand. The crucial element of their whole thesis therefore remains unexplained. In his recent survey of Marxist crisis theories, Erik Olin Wright notes this all important deficiency:

The most serious weakness in (this) underconsumptionist position is that it lacks any theory of the determinants of the actual rate of accumulation. . . . Much underconsumptionist writing has, at least implicitly, opted for Keynes' solution to this problem by focusing on the subjective anticipation of profit on the part of capitalists as the key determinant of the rate of accumulation. From a Marxist point of view this is an inadequate solution. I have not yet seen an elaborated theory of investment and rate of accumulation by a Marxist underconsumptionist theorist, and thus for the time being the theory remains incomplete.²⁵

In their book, Baran and Sweezy cite contributions made by Joan Robinson, Michael Kalecki, and Joseph Steindl. Since these authors are also an

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integral part of the left-Keynesian theoretical tradition, it behooves us to investigate the implications of their respective analysis for the question of crises.

Investment plays a crucial role in both Keynesian and Marxian analysis. But in Keynesian theory the emphasis is very much on the short-run determinants of investment decisions. Insofar as the above authors treat investment decisions, therefore, they tend to focus primarily on the short-run and only secondarily on long-run structural changes. Joan Robinson's early work only treats structural change in passing, whereas her later works rely mainly on Kalecki.²⁶ Kalecki in turn, when he briefly deals with the long-run, simply assumes that in the absence of external factors capitalism tends toward stagnation. It is innovation, therefore, which is the major factor in pushing investment above the level necessary to just reproduce the system, and he argues that it is the decline in the intensity of innovations in monopoly capitalism which accounts for its recent slow growth.²⁷ This is all very ad hoc, though, and in his last major work (1968) Kalecki emphasizes that a satisfactory explanation of long-run determinants of investment was still lacking.²⁸

Lastly, Steindl begins by notion the incompleteness of Kalecki's long-run analysis, and sets out to remedy this defect. In the final analysis, however, he too is forced to postulate a decline in the intensity of innovation as the primary factor in the slow growth of modern capitalism, though he emphasizes that monopoly tends to exacerbate the effects of this decline. Like Kalecki before him, he too ends by declaring that a satisfactory explanation has yet to be found.²⁹ It is not surprising, therefore, that Baran and Sweezy prefer to set out their own versions of the problem.

IV Capitalism as Self-Limiting Accumulation

Radical and Marxian underconsumption theories tend to focus on effective demand as the limiting factor in capitalist accumulation. In Marx's own analysis, however, effective demand is not an intrinsic problem. On the contrary, in his view capitalists are driven to accumulate as rapidly as possible, so that self-expanding reproduction, not stagnation, is the normal tendency of the system. This does not imply that the accumulation process is smooth, or that partial crises may not occur along the way due to crop failures, etc. But it definitely does imply that the limits to the accumulation process do not arise

from an insufficiency of demand.

Does this mean, as Rosa Luxemburg so eloquently argues, that once one rejects underconsumption theory one is forced to accept the view that accumulation (and hence capitalism itself) is capable of indefinite extension? Not at all. According to Marx, the limits to accumulation are entirely internal to the process. "The real barrier of capitalist production is *capital itself*."³⁰

Capitalist accumulation is motivated by profitability. But, according to Marx, accumulation progressively lessens profitability, so that it tends to undermine itself. This is the famous law of the tendency of the rate of profit to fall, which we shall turn to shortly. At the same time, accumulation implies extension of capitalist relations, increase of the proletariat and of its strength.

Declining profitability means declining rates of accumulation and increasingly fierce competition among (national and international) capitalists for markets, materials and cheap labor-power. As weaker capitals are eliminated, economic concentration and centralization (i.e., "monopoly") increases. Moreover, it becomes increasingly necessary for capitalists to attack wages either directly, through mechanization, or through import of cheap labor-power and/or export of capital to poorer countries.

At the same time, the size of the working class and the extent of its collective experience in struggling against capital is continually on the rise. Thus capital's increasing attack on labor is met with an increasing resistance and counter-attack (over the long-run). The class struggle intensifies.

It is important to realize that the tendency for profitability to decline (as Marx derives it) is not *caused* by high wages although rising real wages may well exacerbate it. This means that the periodic crises which result from declining profitability cannot be attributed to labor's demands or resistance, though of course different historical stages and political situations are very important in explaining how the system as a whole reacts to each crisis. As long as capitalist relations prevail, however, its general tendencies will continue to operate. Consequently Marx emphasizes that the task of the proletariat is not only to resist capital but to overthrow it.

It should be obvious from this brief sketch that rising "monopoly," declining rates of accumulation and deepening class struggles can be explained as consequences of the basic laws of capitalist development, rather than as factors giving rise to new laws — as is attempted by Baran

and Sweezy, for instance.* Since the law of declining profitability is central to this explanation, we must examine it further.

A. Marx's Theory of the Falling Rate of Profit

The question of profitability has two important aspects. First, what is the basis of profitability and what determines its extent? Second, how does capitalism develop this basis and what effect does this in turn have on its extent?

In answer to the first question, Marx begins with the labor process. In all societies, he notes, the objects necessary to satisfy human needs and wants imply a certain allocation of society's labor-time, of its productive activities, in specific proportions and quantities. Otherwise the reproduction of the society is impossible.

While the allocation of social labor is fundamental to all societies, the extraction of surplus labor is the basis of all class societies. This surplus labor forms the material and social basis of the class relation. The extraction of surplus labor must be enforced, for it provides the ruling class not only with its means of consumption, but also with its means of domination.

In most societies, the allocation of social labor-time and the extraction of surplus labor are socially regulated, by tradition, by law, by force. But in capitalist society, productive activity is privately undertaken by individual capitalists on the basis of potential profit. Reproduction is not an explicit consideration, and yet it must and does take place. On the surface, it is money prices and profits which provide the day to day "feedback" which determines capitalists' decisions. But, Marx argues, in reality it is the total labor times (labor values) involved in the production of commodities which regulate the money phenomena. This regulation of prices and profits by labor values and surplus value is in fact the manner in which the social requirements of reproduction manifest themselves in capitalist society. We will henceforth deal directly with labor values and surplus value, since these are the real regulating elements.

During the labor process, workers use instruments of labor (plant and equipment) to transform materials into finished products. The total labor-time required for the finished product is therefore

composed of two parts: first, the labor-time *implicit* in the means of production (materials, plant and equipment) *used up*; and second, the current labor time expended by workers in the labor process itself. Marx calls the first element "constant capital" (C) since it reappears in the final product, while he calls the second "value added by living labor" (L). The total labor value of any final product is therefore $C + L$.

Out of the final product, part is just the equivalent of means of production used up. Its labor value will therefore be C, since this is the labor value of the actual means of production used up. This leaves us with the net product on one hand, and value added by living labor (L) on the other. The net product is the material equivalent of living labor time L.

If there is to be a surplus product, then only part of the net product must go to replace the consumer goods used up by workers. The value added by living labor (L) is therefore composed of two parts, one of which corresponds to the labor-value of the workers' consumption requirements (V) and the other to the labor value of the surplus product (S). In other words, it is the difference between the time workers actually put in (L), and the time necessary to reproduce themselves (V) — their surplus labor time (S) — which gives rise to the surplus product and hence to real profits: $S = L - V$.

The division of living labor time into necessary (V) and surplus labor time (S) is therefore the hidden basis of capitalist society. Marx calls the ratio S/V "the rate of surplus value" or "the rate of exploitation." Other things being equal, the greater the rate of exploitation the greater the amount of surplus value and hence the greater the profit.

The time workers actually put in (L) is determined by the length of the working day. The time necessary to reproduce themselves (V), on the other hand, is determined by both the amount of goods they consume (their "real wage") and the labor-time it takes to produce these goods. The mass of surplus value (S) and the rate of exploitation (S/V) can therefore be increased in two ways: directly, by lengthening the working day L so that surplus labor time is directly increased; and indirectly, by lowering the necessary labor-time V so that more of a given working day is spent in surplus labor-time. This latter method of increasing S and S/V requires that either workers' real wages be reduced or that the productivity of their labor be raised so that it takes them less time to produce their means of consumption, or both.

* Incidentally, it is worth noting that when, as a consequence of declining profitability, capitalists curtail their investment expenditures, part of the product available will not be sold and it will appear that the crisis is *caused* by lack of effective demand, by "underconsumption." But in fact this "underconsumption" is only a reaction to the crisis in profitability. It is a symptom, not a cause.

Capitalists constantly try all methods of increasing the rate of exploitation. But over time the growing strength of the working class has sharply restricted attempts to lengthen the working day and/or lower the real wage. Thus increasing the productivity of labor has come to be the principal means of raising the rate of exploitation. But the paradoxical thing about capitalism, according to Marx, is that the very means by which it raises the rate of exploitation tends to lower the rate of profit. *The rising productivity of labor manifests itself in a falling profitability of capital.*³¹

The rate of surplus value S/V expresses the division of the working day into necessary and surplus labor-time. It measures the degree of exploitation of productive workers. But to capitalists the crucial thing is the degree of profitability of capital. From their point of view, they invest money in means of production (C) and in workers (V), with the intention of making profit (S). The amount of profit (S) relative to their investment ($C + V$) is the capitalist measure of success. In other words, it is the rate of profit $S/(C+V)$ which regulates the accumulation of capital.

This is where the paradox comes in. In their continuing battles against one another,* individual capitals are constantly forced to lower unit costs so as to gain an edge over their competitors (the current battle over pocket calculators is an excellent example of this process). As far as success in battle of sales is concerned, anything which lowers unit costs will do.

But capitalists are also perpetually engaged in another battle — the battle of production, in the labor process. And it is here that *mechanization* arises as the principle means of raising the productivity of labor and hence lowering unit costs. Capitalists hire workers for a specified period, and their aim is to squeeze the maximum possible productivity out of them during the labor-process, at the lowest possible cost. This implies not only struggles over the real wage and the length and intensity of the working day, but also over the nature of the labor process itself. From the very beginning capitalists have sought to "perfect" the labor process by subdividing it into increasingly specialized and routinized tasks. With

capitalist control of the labor process human productive activity is made increasingly mechanical, automatic. It is no surprise then that these mechanized human functions are progressively replaced by actual machines. As machines replace some human functions, the others are even more subject to the tyranny of the mechanical, until some of these functions too are replaced by machines, and so on.*

The tendency towards mechanization is therefore the dominant capitalist method of raising the social productivity of labor. It arises out of capitalist control of the labor process, of human productive activity. As such, neither growing worker resistance nor rising real wages are the intrinsic causes of mechanization, though they may well speed up this tendency.

Increasing mechanization gives rise to what Marx calls a rising technical composition of capital. Ever greater masses of means of production and materials are set into operation by a given number of workers. According to Marx, this in turn implies that out of the total labor value ($C + L$) of the final product, progressively more comes from the means of production used up and progressively less from living labor. In other words, the rising technical composition is reflected in value terms as a rising ratio of "dead to living labor," of C to L.

The rate of profit, as we have seen, is $S/(C+V)$. But $S = L-V$, since surplus labor-time (S) equals the time workers actually put in (L) minus the time necessary to reproduce themselves (V). Therefore, even if "workers lived on air" ($V=0$), the *most* that S could be is $^s\max/C=L/C$. Consequently, L/C is the ceiling to the rate of profit, while the floor is of course zero. Now, if a rising technical composition does indeed reflect itself as a rising ratio C/L — hence a falling ratio L/C — then the actual rate of profit will be progressively squeezed between a descending ceiling and an unyielding floor, so that it must itself exhibit a *downward tendency*. This is what Marx means by the tendency of the rate of profit to fall.

The falling tendency described above is independent of how L is divided between V and S, and hence independent of the rate of exploitation S/V . In fact, if the real wage of workers were constant, the rising productivity of labor due to mechanization would continually raise S/V ; the greater the productivity of labor, the less time it takes workers to produce a given bundle of consumer

* For a brilliant analysis of the modern labor process, see Harry Braverman's *Labor and Monopoly Capital*, Monthly Review Press, New York, 1974.

* These battles are what Marx calls the "competition of capitals." But this use of the term competition is not the same as in "perfect competition," the opposite of which is "monopoly." In Marx the progressive concentration and centralization of capitals implies fiercer "competition of capitals" over progressively greater parts of the world. The so-called "monopoly" stage of capitalism does not supercede competition but rather intensifies it.

goods so that a greater portion of a given working day becomes surplus labor-time. Even when real wages do rise, as long as they rise less rapidly than productivity, the rate of exploitation will still rise. It is perfectly possible, therefore, to have *both a rising real wage and a rising rate of exploitation*." This is in fact the general situation pictured by Marx, on the grounds that workers can never capture all the productivity gains of mechanization without bringing accumulation to a halt and thus killing the golden goose.* For Marx the class struggle over real wages operates *within certain objective limits*, the limits given by the accumulation of capital. These limits are intrinsic to capitalism itself, and can be transcended only by overthrowing it.

Almost all Marxist commentators accept as a fact that mechanization is an overwhelming reality of capitalist production. However, one important school of thought attributes mechanization not to the capitalist control of the labor process, as does Marx, but rather to capital's reaction to growing worker resistance and/or rising real wages (in the long-run). Typically, they begin by postulating a rise in real wages under given conditions of production, which leads to a fall in the rate of profit, which in turn induces capitalists to substitute machines for workers. From this point of view, of course, mechanization and its attendant rise in the productivity of labor are the principal means of *increasing* profitability, while rising wages tend to diminish it. Depending on which factor prevails they say, the rate of profit can go either way. * * Paul Sweezy and Maurice Dobb, for instance, both hold this point of view.³³

This analysis is correct — as far as it goes. Rising real wages will indeed induce mechanization, and this may or may not offset the effect of the higher wages on profitability. But in Marx the rising real wages are themselves made possible by a prior cause, namely the mechanization arising from the battle of production. Thus the effect that Sweezy and Dobb analyze is a secondary one, superimposed on (and indeed only possible

because of) the primary one. Given that they ignore the primary cause, it is not surprising that they can find no particular reason for the rate of profit to fall.

Another major objection to the law argues that mechanization (whatever its cause) does not necessarily imply a falling tendency to the rate of profit. Consider a given number of workers, so that L is given. Mechanization means that the mass of means of production employed by these workers increases. But this is also accompanied by a rise in the productivity of labor and hence a fall in the labor value of commodities, since it now takes less time to produce a given commodity. Therefore the labor value of the means of production (C) will not rise as fast as their mass and may even fall. Marx argues that nonetheless C will rise, so that C/L will rise and the falling tendency will operate. But, say the critics, suppose the labor value of the means of production fall as fast or even faster than its mass rises? Then C/L will stay constant or even fall, and no downward pressure will be exerted on the rate of profit.

It must be said at the outset that this objection is a valid one, since it points to a gap in the falling rate of profit argument. As constructed in the current literature, there is a strong presumption that a rising ratio of machines to workers also implies a rising ratio of "dead" to living labor (i.e. of C to L). But attempts to specify the exact connection between the two (such as Yaffe's)³⁴ have not been satisfactory, so that the possibility of the scenario pictured by the critics always remains open. This issue is still very much the subject of debate, and is treated at greater length in the forthcoming article referred to in the preceding starred footnote.

Another currently popular objection has to do with the notion that capitalists would never *choose* to employ a technique of production which lowers their rate of profit. A falling rate of profit is therefore automatically excluded. This argument is often stated mathematically, as in the so-called "Okishio Theorem,"³⁵ but its basic presuppositions underlie a widely shared analytical framework ranging from left Keynesians such as Joan Robinson to Marxists such as Bob Rowthorn. In terms of the above discussion, the crucial error here lies in the presupposition that technical progress is merely a question of capitalist "choice" and not one of necessity. Marx noted long ago that under capitalism it is the necessity of competition that forces capitalists to choose the technique with a lower unit cost, even when it implies a lower rate of profit. Whoever makes this move first will

* " This is precisely the point Marx makes in Volume I of *Capital*, in the first part of the chapter entitled "The General Law of Capitalist Accumulation" (Ch. XXV, Section I), when he notes that real wages can rise only if they do "not interfere with the progress of accumulation" (p. 619).

** "For a more detailed discussion of this position, as well as some of the mathematics (such as the so-called "choice of technique" theorems) used to support it, see "Political Economy and Capitalism: Notes on Dobb's Theory of Crises," by this author, forthcoming in the *Cambridge Journal of Economics*.

undersell the others. The only "choice" the remaining capitalists will then face is between making some profits at a lower rate than before and making *no* profits at all because their product costs too much.³⁶

Lastly, some Marxists reject the notion of a rising C/L on empirical grounds. Since C is the labor value of the means of production, and L is the value added by living labor, their money equivalents are K, the money value of the means of production, and Y, the money value added or "net national product." On this basis the "capital-output ratio" K/Y is examined, and since official statistics indicate that it tends to be constant over long periods, this is said to militate against the notion of a rising C/L.³⁷

It is interesting that these same Marxists strenuously oppose accepting at face value the official statistics on unemployment, the extent of poverty, the incidence of malnutrition, etc. — on the grounds that bourgeois conceptions of these categories so dominate their construction as to make them practically useless. Unemployment statistics, for instance, do not count those who have given up looking for work, those who never succeeded in finding jobs in the first place (such as black teenagers), and those who do not enter the work force because of the hopelessness of it (such as housewives). It is not uncommon, therefore, for radicals and Marxists to estimate "real unemployment" to be two to three times the official figure. And yet when it comes to absolutely fundamental categories such as "capital" and "value added," official statistics are suddenly accepted without question. We will return to this important point in the discussion of "profit squeeze" theories of crises. For the moment it is sufficient to note that the one Marxist statistician who has bothered to examine how these statistics are gathered, and to correct them for the conceptual differences between Marxist categories and orthodox ones, has found precisely that the "capital-output" ratio seems to rise steadily.³⁸

B. A History of Falling Rate of Profit Theory

The tendency of the rate of profit to fall as capitalism develops was widely accepted by Classical economists as an incontrovertible fact. The problem lay in explaining this phenomenon.

Adam Smith (1770s) for instance, noted that when more capitals crowd into a particular industry, they expand supply, drive down prices, and hence lower profits. In the same way, he argued, as accumulation progresses capital as a

whole will become more plentiful and this will depress the rate of profit.

Critics quickly pointed out that capitals crowd into a particular industry only when the industry has a rate of profit above the average; moreover, by so doing they merely drive its rate of profit back down towards the average. The average rate consequently remains unexplained, and there is no reason given in Smith why accumulation should alter it in any way.

Some forty years later, David Ricardo (1810s) offered an alternate explanation. As the society develops, he argued, more land has to be brought into cultivation to feed the growing population. This means bringing progressively less fertile land under cultivation, so that food becomes increasingly expensive to produce. In Marxian terms, the labor value of food rises. For a given working day, therefore, necessary labor-time rises and surplus labor-time falls correspondingly. Thus the rate of surplus value falls as society develops, and with it falls the rate of profit — not because worker's real wages rise, but because the productivity of agricultural labor falls.

The crucial conclusion in Ricardo is that the productivity of agriculture tends to decline. In his critique of the Ricardian theory of rent, Marx demonstrates that this conclusion is neither logically nor empirically true. Indeed, capitalist history is characterized throughout by a rising productivity of labor, both in industry and in agriculture. As we have seen in the preceding section, Marx's own explanation of the falling rate of profit is based on a rising productivity of social labor and a rising rate of surplus value.

The rate of profit falls, not because labour becomes less productive, but because it becomes more productive. Not because the worker is less exploited, but because he is more exploited. . . .³⁹

Marx considered his own explanation of the "tendency of the rate of profit to fall as [capitalist] society progresses" to be "one of the greatest triumphs over the great stumbling block of all previous economics." It is the lynchpin of his analysis of laws of motion of the capitalist system. And yet, curiously enough this law plays a relatively minor role in much of the history of Marxist thought. It is completely absent from underconsumption theories, for instance, and as we shall see in the next section, it is similarly absent from "profit-squeeze" theories.

Part of the reason for this neglect stems from the previously examined objections to the logic of Marx's derivation of the falling tendency. But

another, perhaps even more important basis for rejecting this law is a political one.⁴⁰ To conceive of capitalism as being subject to "laws of motion," it is said, is to treat a human social arrangement as if it were a machine or some physical process. This downplays and degrades the role of human beings in determining the course of events. People, not laws of motion, make history. Furthermore, it is argued, belief in the proposition that the rate of profit tends to decline will lead to a fatalistic and passive attitude towards the task of overthrowing capitalism. Finally, it is sometimes added that in any case the analysis of the causes of crises is too abstract an issue to be of use in the practical politics of class struggle.

There is no question that Marx did conceive of capitalist history in terms of laws of motion, and of human history in general in terms of objective forces acting on and thus limiting human action. And yet this is the same Marx who elevated class struggle to the highest level, who actively championed the immediate overthrow of capitalism (not in some fatalistic future), and who participated in the most practical politics on the basis of his theoretical analysis. Is there a contradiction between these two aspects of Marx?

Not at all. On the contrary, as Henryk Grossmann (Germany), Paul Mattick (U.S.) and David Yaffe (Britain) argue, it is precisely *from* Marx's theoretical framework that revolutionary politics flow.

Grossman was the first major Marxist to shift the discussion of crises away from underconsumption and disproportionality theories. Heavily critical of these theories on both logical and political grounds, Grossmann emphasized instead the centrality of the law of the falling rate of profit to a theory of crises. Of particular importance in Marx, he noted, is the fact that as the rate of profit falls, the growth in the total amount of profit must slow down and eventually halt. At the point where new investment no longer generates additional profits, investment will be curtailed and a crisis will break out.⁴¹ As the crisis spreads, weaker and less efficient capitalists will be wiped out, and stronger ones will be able to buy up their assets at abnormally low prices. With rising unemployment the position of workers is weakened. Real wages tend to fall while the labor process tends to be intensified, so that the rate of exploitation rises. All of these factors raise the rate of profit. Thus each crisis itself sets the stage for the recovery and the next cycle of boom and bust.

None of this says when a particular crisis will break out, since many factors can retard or

accelerate the effects of the falling rate of profit. In this sense class struggle is crucial not only in the question of the timing of crises, but also in the arena of fighting their effects. Even more important to Grossmann, however, is that crises are "objectively revolutionary situations." To show the necessity of crises within capitalism is therefore to show the necessity of preparing in advance for, and seizing the moment of these objectively revolutionary periods. Lastly, based on his reading of Marx, he makes an important connection between theory and practice:

...no economic system, no matter how weakened, collapses by itself in automatic fashion. It must be "overthrown." The theoretical analysis of the objective trends leading to a paralysis of the system serves to discover the "weak links." Change will come about only through the active operation of the subjective factors.⁴²

Paul Mattick elaborated on Grossman's work in a variety of ways. Of particular importance is Mattick's point that the reason Marx speaks of capitalist society in terms of laws of motion is precisely because capitalism is regulated not by conscious human decision but rather by "thing-like relations" — the relations of the market, of prices and profits. Like Grossmann before him, Mattick emphasizes that crises provide revolutionary and reactionary opportunities, but only class struggle can determine which path will be chosen. Whether capitalism turns to fascism, or is turned into socialism, is not determined before hand.⁴³

In the last few years, David Yaffe has set out both to present Marx's economic analysis and to apply it to the current crises. The full extent of his analysis is beyond the scope of this discussion. As far as crisis theory is concerned, in addition to points similar to those made by Grossmann and Mattick, Yaffe adds the following. First, that because a crisis *shows up* in terms of prices and profits, there is a tendency to think of prices and profits as causes of crises. For instance, since by definition profit is the difference between sales and costs, anything which causes a fall in profitability will necessarily imply another way of defining a fall in profits. But one portion of costs is merely the price of some goods, like materials, etc. (and hence the sales of some other industries). Therefore any decline in profitability tends to be compared to the remaining portion of costs, to wages, and from here it is only a short step to the argument that "high" wages are the *cause* of the decline. In this way an effect is made into a cause.

Similar points can be made for stagnation, rising unemployment, inflation, rising state expen-

ditures and sharpening class struggles all over the world. Each of these, Yaffe argues, is a phenomenon of the development of the crisis, not a cause. As the rate of profit falls, accumulation will slow down and unemployment will rise. Capitalists will increase prices to try and maintain profitability, thus giving rise to an inflationary spiral. At the same time the State is forced to step in, on one hand to maintain employment at politically acceptable levels, and on the other to subsidize and even take over ailing industries. State expenditure therefore increases rapidly. But the deficit financing of the State only accelerates inflation, while its support of employment levels prevents wages from falling enough to help restore profitability. In this way the contradiction is deepened, and it becomes harder and harder to find policies which "work." This, says Yaffe, is the stage we are now in, all over the capitalist world.⁴⁴

C. Class Struggle and the Profit Squeeze

Every crisis underscores the importance of profits for capitalist production, and raises anew the question of what regulates profitability.

Every decline in profitability, in turn, tends, sooner or later, to be traced to high wages. Now, it is certainly true that a reduction in wages, other things being equal, will raise profits. But it does not follow that a given decline in profits is necessarily due to excessive wages. The question is, how do we tell which is cause and which is effect?

In Marx's analysis, a rising real wage is expected to accompany a rising rate of exploitation, so that *by itself* the wage rise will not contribute to a fall in profitability. In Marxist terms, therefore, only when the rise in real wages is large enough to actually lower the rate of exploitation can we say that the fall in profitability is due (in part, at least) to "high wages."*

Marx of course rejects this explanation, on the grounds that the accumulation of capital itself provides objective limits within which wage struggles are confined, so that, in general, the rate of exploitation rises. In fact, he argues that the rate of profit falls precisely because workers become *more* exploited, not less.

At the most abstract level, the money equivalent of the rate of surplus value S/V is the ratio of "profits" to "wages" TT/VV . A fall in the profit-wage ratio could then be taken as evidence

* "Nothing is more absurd . . . than to explain the fall in the rate of profit by a rise in the rate of wages, although this may be the case by way of an exception." (Marx, *Capital/V.I*, Ch. XVI, p. 240)

of an excessive rise in real wages. But this reasoning is false.

First of all, it is perfectly possible to have workers exploited more and hence to have them produce a greater surplus product, while at the same time to have capitalists unable to sell this greater product and hence be unable to translate it into money profits. For instance, in a crisis brought about by a falling rate of profit (a *la* Marx), as some capitals go out of business others will be deprived of buyers for part of their products. Prices will fall, and with them will fall profits and the ratio of profits to wages. To compensate for this, the surviving capitalists will drive their workers even harder, exploit them even more, in an effort to lower costs and stay in business. In the throes of a crisis, therefore, a falling profit-wage ratio will be accompanied by a rising rate of exploitation. Moreover, under these circumstances both are symptoms, not causes, of the crisis.

But the above pattern would not hold prior to the outbreak of a crisis. Would it not be legitimate, then, to view the "profit-wage" ratio as an index of the rate of exploitation — during non-crisis periods? If so, a falling profit-wage ratio prior to a crisis would be powerful evidence that workers had indeed succeeded in raising their real wages fast enough to lower the rate of exploitation and hence precipitate the crisis. *It is precisely this theoretical identification of TT/W as an index of S/V which defines the "profit-squeeze" branch of Marxist crisis theory*, as set out by Glyn, Sutcliffe and Rowthorn in England and Boddy and Crotty in the United States.⁴⁵

Ostensibly, their argument rests on the empirical observation that crises are preceded by a fall in the profit-wage ratio. But this same observation is frequently made by bourgeois economists too, as in the recent case of William Nordhaus of the Brookings Institute.⁴⁶ Unlike Nordhaus, however, the Marxists go one step further by identifying the observed profit-wage ratio with the rate of exploitation. It follows from this that the decline in profitability is really an expression of a fall in the rate of surplus value, which in turn can only be due to a sufficiently large rise in real wages. Ironically, whereas the bourgeois economist Nordhaus blames the decline on the "cost of capital," the Marxists attribute it to "labor problems!"

In a sense, profit-squeeze arguments are as old as capitalism. Nobody knows better than capitalists how important profits are to the system, and for obvious reasons none have been

quicker to blame high wages for precipitating crises. In this sense, a capitalist version of the profit-squeeze argument crops up with every crisis.

At a slightly more abstract level, bourgeois economists have long argued that falling profitability is due to the fact that workers have been able to increase their "share" of net national product (at the expense of the capitalist "share," of course). Remarking on two of his contemporaries, the Frenchman Frederic Bastiat (1840s) and the American Henry Carey (1860s), Marx notes that though "they accept the fact of the tendency of the rate of profit to fall. . .they [mistakenly] explain it simply and entirely as due to the growth in the value of labour's share. . ."

In many respects, the current Marxist profit-squeeze theory is similar to that of Bastiat and Carey. Erik Olin-Wright, in his survey of Marxist crisis theories, summarizes the modern version in the following way:

The essential argument is very simple: the relative share of national income going to workers and capitalists is almost entirely a consequence of their relative strengths in the class struggle. To the extent that the working class develops a strong enough labor movement to win wage increases in excess of productivity increases, there will be a tendency for the rate of exploitation to decline and thus for the rate of profits to fall (to be "squeezed" by rising wage bills). Such a decline in profits results in a corresponding decline in investments and thus even slower increases in productivity. The end result is economic crisis.⁴⁸

The modern Marxist version, therefore, follows the economic logic of Bastiat and Carey in taking the tendency of the rate of profit to fall to be a consequence of a falling rate of exploitation. But there is a crucial political difference between the two versions in that whereas the bourgeois economists decry this situation, the Marxists celebrate it. The Marxist profit squeeze theory makes class struggle *over working conditions* the crucial factor that (in the last instance) determines the course of capitalist reproduction. To these Marxists, the fact that the development of the system has reached a stage where labor is strong enough to precipitate crises is a very hopeful sign. If the working class is able to bring the system to its knees through its wage demands, then it may already be strong enough to resist the attacks on these real wages which are part and parcel of the "recovery" process. They may perhaps even be strong enough to "solve" the crisis by taking over

state power.

The great virtue of this theory is its simplicity. Even in capitalism, we have "politics in command." The practical politics of class struggle, not some abstract laws of motion, are what we need to analyze in order to understand capitalist history. Capitalist accumulation is indeed internally limited, but it is labor, not "capital itself" (as Marx says), which is the ultimate barrier to accumulation.

Simplicity is really a virtue only if the simple explanation is the correct one. The penalty for being wrong, after all, is failure. And so we go back to the central theoretical point, and ask: can we in fact impute a falling rate of exploitation from an observed fall in the profit-wage ratio? In other words is TT/W indeed an index of S/V ? To answer these questions, we need to trace out the money forms of S and V .

Consider the end of a reproduction cycle of total capital. Beginning with the sales receipts, we can then trace out the disbursement of this money sum.

Suppose total sales (M') amount to \$100,000. From these, capitalists set aside \$40,000 to replace the costs of materials and machines used up (C^*) in producing the commodities which were sold, and \$20,000 to replace the wages advanced (V^*) to the production workers who were employed in the production process.* The remaining amount, \$40,000, is what capitalists themselves call *gross profits on sales* (S^*). It is the receipts from the sale of commodities minus the material and labor costs of *producing* these commodities. From the point of view of the system as a whole, these gross profits represent the money equivalent of the surplus product.

From the Marxian point of view, "gross profits" (S^*) represent the money equivalent of surplus labor-time of production workers, while the wages (V^*) of these workers represent the money equivalent of their necessary labor time. The proper index of the exploitation of production workers — i.e. of the rate of surplus value — is therefore:

$$S^*/Vp^* = 40,000/20,000 = 200\%$$

But to capitalists matters look very different. From gross profits they still have to deduct the

* I am using the term production workers because it is not possible to adequately develop the concept of productive labor within the confines of this paper. Similarly, I use the term commodity to cover both goods and services which are sold for money. The distinction between productive and unproductive labor does not reduce to the simplistic distinction between goods and services.

money they have expended in trying to sell the commodities. These *selling expenses*, as capitalists call them, consist of the material (C^*) and labor costs (V^*) of transforming the produced commodities into money sales. In addition, they must also deduct indirect taxes T (sales, license and property taxes, etc.), because from their point of view these too are an "expense" of business. What is left after all these deductions is called *net corporate income** (TT). If selling expenses $C^* + V^*$, = \$15,000 + \$10,000, and indirect taxes T = \$5,000, then net corporate income TT = \$10,000.

From the point of view of the capitalist class both selling expenses and indirect taxes are genuine expenses of business. Indeed, even from the point of view of the system as a whole they may be regarded as strictly necessary expenditures, since both commercial capital (wholesalers/retailers) and the state perform indispensable functions. But the fact that they are indispensable expenditures does not in any way alter the fact that they are also derivative forms of surplus value. It is necessary to *produce* the surplus product before it can be sold; selling it only changes the title of ownership of this product, not its magnitude. The extent to which part of the surplus product is absorbed by title-changing activities (buying and selling) and by state activities** is merely an index of the distribution and legitimization expenses of the system.

Unfortunately, the profit-squeeze theorists fail to grasp this crucial point.*** Invariably, they identify the rate of surplus value with TT/VV , the ratio of net corporate income to all wages. In terms of the above illustration, TT = \$10,000, and W = wages of production workers + wages and salaries of salespeople, etc. = \$20,000 + \$10,000 = \$30,000, so that TT/W = 10,000/30,000 = 33⅓%. This is a far cry from the true rate of surplus value, S^*/V^* = 200%.

By confusing TT/W with S^*/V^* , the true rate of exploitation in any given time period is vastly understated, as the above example illustrates (the magnitudes involved correspond quite closely to the actual current magnitudes I get on the basis of a much more complex and detailed analysis of the

U.S. economy*). What is worse, TT/W has a built in downward bias over time relative to the true rate S^*/V^* , because in all capitalist economies, both selling expenses and indirect taxes have risen sharply. This is particularly true since World War II. It is fallacious, therefore, to explain the observed fall in the "profit-wage" ratio TT/W by means of an imputed fall in the rate of exploitation. On the contrary, it is quite possible that a rising rate of exploitation, accompanied by a falling rate of profit à la Marx, has resulted in a declining rate of accumulation and rising unemployment. In the face of this, increased inter-capitalist rivalry and increased state intervention appear as responses to a deepening crisis, not causes of it. Empirically, these responses manifest themselves as increased selling expenses and increased taxes, which show up as declining TT/W even though S^*/V^* is rising. This, in effect, is Yaffe's explanation of the current world crisis.

It is worth repeating that an observed decline in the "profit-wage" ratio TT/W does not by itself provide us with an explanation. To get behind mere observation, we need a theory of the determinants of profits in order to know which factors are accountable for the empirical trend. But we also need to know *how the empirical categories correspond to the theoretical ones*, for otherwise we will end up imputing the wrong cause. This is precisely the error made by the profit squeeze school: they base themselves on the theory of surplus value, and yet they completely fail to consider the difference between this complex and powerful Marxian category and the bourgeois category of "profit" (net operating income). In this way they mistakenly attribute the secular decline in profitability, and hence the current world crisis itself, to a squeeze on profits emanating from wages.

Conclusions

History teaches us that capitalism is periodically subject to ruptures in its economic and social

*Net corporate income will in turn be split into corporate income tax, pure rent (as opposed to depreciation and maintenance of buildings and equipment, which is properly speaking a part of costs of production or of selling expenses), interest/ dividends, and retained earnings.

**Other than actual state production.

*** This important criticism of the profit squeeze logic is also made in a critique of Boddy-Crotty (*op. cit.*) appearing in *The Communist*, Vol. 1, No. 2.

* In actual practice, reconstructing the money equivalents of S^* , V^* , and W is vastly more complicated than indicated above. In effect, it involves transforming national income accounts, based on Keynesian categories, into Marxian accounts based on the value categories of Marx. This is a theoretically difficult task, as well as being empirically difficult. Nonetheless, it is quite feasible and indeed absolutely necessary. On the basis of fairly detailed calculations (which I obviously cannot present here), I find that the real rate of surplus value S/V_p^* rises from 1900 to 1972, while TT/W declines over the same period. Rising "expenses" and rising taxes account for a large part of this discrepancy.

fabric. At these times the social tensions inherent in the system stand out in sharp contrast. The bourgeois platitudes of the various orthodoxies begin to wear thin, to take on a desperate air, and the struggle of the classes breaks out into the open.

We are learning this lesson of capitalist history once again. The post war boom which was to usher us through the golden gates of the 21st century is now officially dead. All over the capitalist world, political and economic crises abound. International competition intensifies as capitalists struggle to survive; banks fail, giant industries fail, the international monetary system itself lurches from one crisis to another; unemployment deepens while prices continue to rise and everywhere the class struggle sharpens.

How are we to understand this latest crisis of capitalism? Certainly we must study and analyze it in detail, not just locally or nationally but on a world scale. But that by itself will never be enough. We must at the same time understand that crises are nothing new to capitalism. Their periodic and devastating appearances have been recognized, analyzed, and theoretically grasped by many others long before we even came to ask the question. To understand this is to understand the necessity of studying the explanations of our predecessors, so that we may benefit from them and to build upon them. If the task is to overcome the system, then it is imperative to understand it. The price of ignorance is failure.

The object of this paper has been to present and analyze the basic positions which have historically emerged on the question of capitalist crises. I have tried to be as rigorous as possible in this task, while at the same time not assuming any prior knowledge of the subject. In so doing I have tried to present not only what a particular type of theory says, but also why it makes that argument, how the argument develops historically, and what political positions have been associated with it at various times.

Rather than summarize what has been discussed in the body of this paper, I would instead like to focus on three lessons which I believe are implicit in the history of crisis theories.

The first lesson has to do with the relation between theory and politics. Each theoretical position implies a certain mode of changing the system. In that sense, every theory has political implications for the practice based upon it. But it is important to realize that no simplistic connection

may be made between a particular set of theoretical concepts and the politics which can be expected to be allied with them. Take the case of underconsumption theory, for instance. Its proponents have included the reactionary Parson Malthus, the petty bourgeois socialist Simone de Sismondi, the revolutionary activist Rosa Luxemburg, and the whole modern "monopoly capitalism" school based on the work of Paul Sweezy and Paul Baran. Its opponents, on the other hand, include bourgeois theorists of all stripes, from Ricardo onwards, but also Marx and Lenin. Neither among the supporters of underconsumption theory nor among its critics can any common political position be discerned. Similar arguments can be made for every other crisis theory.

The second important lesson has to do with theory and the "facts." It is a very serious mistake to assume that "facts" are somehow *given* independently of any conceptual framework. Even a brief study of the history of national income accounts quickly demonstrates that the data we are confronted with at any given time is the numerical representation of particular theoretical categories. These data are of course based on events in the real world, but the manner in which these events are codified and enumerated also depends on a theory about the world. The pattern which emerges on the basis of Keynesian categories (which underly current national income accounts) need not be at all the same as that which emerges on the basis of Marxist categories. In the discussion of the profit squeeze theories, for instance, we saw how important it was not to confuse the profit-wage ratio (TT/W) with the rate of exploitation (S/V). It would be a terrible loss indeed to abandon a correct theory because it does not correspond to "facts" which are based on entirely different categories.

The third lesson has already been discussed at the beginning of this section. To briefly reiterate it, in analyzing the crisis it is not sufficient to just study its phenomena. It is equally necessary to study the explanations of crises, both past and present. Otherwise we are very likely to simply reinvent what has already been invented, and make the same mistakes which others long ago have made. It has often been said that those who ignore history are condemned to repeat it. To this it should perhaps be added that those who ignore theory are condemned to reconstruct it.

FOOTNOTES

1. See Alchian, A.A. and Allen, W.R., *Exchange and Production Theory in Use* (Belmont, Ca.: Wadsworth Publishing Co., 1969), Chs. 1-4, for a forthright presentation of the neoclassical conception.

2. Wesley Clair Mitchell, "Business Cycles," in *Readings in Business Cycle Theory*, American Economic Association (London: George Allen and Unwin, 1961), p. 43; Samuelson, Paul, *Economics* (New York: McGraw-Hill Book Co., 1976), pp. 250-251.
3. Samuelson, op. cit., p. 257.
4. Robert Lekachman, *A History of Economic Ideas* (McGraw-Hill Book Company, 1976), p. 343.
5. Joan Robinson, *Economic Heresies* (New York: Basic Books, Inc., 1971), p. x.
6. Lekachman, op. cit., p. 347-348. This was very much Keynes' own perspective, and it continues to be reflected in that of his followers.
7. Michael Bleaney, *Underconsumption Theories: A History and Critical Analysis* (New York: International Publishers, 1976), p. 63.
8. Michael Barrat-Brown, *Economics of Imperialism* (London: Penguin Books, 1974), p. 170.
9. Bleaney, op. cit., pp. 153-168.
10. Ibid., p. 180.
11. Ibid., p. 171.
12. Hobson quoted in Bleaney, op. cit., p. 166.
13. For a discussion of what "normal" prices are and how they are determined in Marx, see my article, "Marx's Theory of Value and the Transformation Problem/" in *The Subtle Economy of Capitalism*, ed. Jesse Schwartz, (Santa Monica, Cal.: Goodyear Publishing Co., Inc., 1977), pp. 106-137.
14. Karl Marx, *Grundrisse*, (London: Penguin Books, 1973) translated with a foreword by Martin Nicolaus, pp. 56-58.
15. Russell Jacoby, "The Politics of the Crisis Theory: Towards the Critique of Automatic Marxism II," *Telos*, 23, Spring 1975, pp. 5-11.
16. Ibid., p. 10. The quote is from Danielson.
17. Ibid., pp. 14-16.
18. Ibid., p. 22.
19. Bleaney, op. cit., p. 89.
20. Ibid., p. 193.
21. Paul Sweezy, *The Theory of Capitalist Development*, (New York: Monthly Review Press, 1942), p. 179.
22. Ibid., p. 183.
23. Paul Baran and Paul Sweezy, *Monopoly Capital* (New York: Monthly Review Press, 1968), p. 108.
24. Paul Sweezy, "The Economic Crisis," *Monthly Review*, Vol. 26(10), March 1975, pp. 1-8.
25. Erik Olin-Wright, "Alternative Perspectives in the Marxist Theory of Accumulation and Crisis," in Schwartz, pp. 215-226.
26. Bleaney, op. cit., p. 225.
27. Ibid., pp. 245-248.
28. See Joseph Steindl, *Maturity and Stagnation in American Capitalism*, (New York: Monthly Review Press, 1976), p. xvii, footnote 7.
29. Ibid., pp. xv-xvi.
30. Karl Marx, *Capital* (New York: International Publishers, 1967), Vol. III, p. 250.
31. Ibid., p. 213.
32. Karl Marx, *Capital* (New York: International Publishers, 1967) Vol. I, p. 604.
33. Sweezy, op. cit., p. 88; Maurice Dobb, *Political Economy and Capitalism* (London: Routledge & Kegan Paul, Ltd., 1937), pp. 108-114.
34. David Yaffe, "Inflation, the Crisis and the Post-War Boom," *Revolutionary Communist*, No. 2, 1976, pp. 5-.
35. N. Okishio, "Technical Change and the Rate of Profit," Kobe University, Vol. 7, 1961, pp. 85-99.
36. Marx, op. cit., Vol. III, p. 264. See also a real example of this process which Marx provides and analyzes in the *Grundrisse*, op. cit., pp. 383-385.
37. Geoff Hodgson, "The Theory of the Falling Rate of Profit," *New Left Review*, 84, March-April 1974.
38. See Victor Perlo, "Capital-Output Ratios in Manufacturing," *Quarterly Review of Economics and Business*, 8(3) Autumn, 1966, pp. 29-42.
39. Karl Marx, *Theories of Surplus Value* (New York: International Publishers, 1967), p. 439.
40. The following discussion draws heavily from Jacoby, op. cit., section V.
41. Ibid., p. 35.
42. Ibid., p. 37.
43. Ibid., p. 43.
44. Yaffe, op. cit., pp. 5-32.
45. See Andrew Glyn and Bob Sutcliffe, *British Capitalism, Workers and the Profit Squeeze*, (London: Penguin Books, 1972); Bob Rowthorn, "Mandel's Late Capitalism" *New Left Review*, 98, July-August 1976, pp. 59-83; and Raford Boddy and James Crotty, "Class Conflict and Macro-Policy: The Political Business Cycle," *Review of Radical Political Economics*, Vol. 7, No. 1, 1975.
46. William Nordhaus, "The Falling Share of Profits," *Brookings Papers*, 1976, No. 1, pp. 169-208.
47. Marx, *Grundrisse*, op. cit., p. 755.
48. Wright, op. cit., p. 216.