CAPITAL ACCUMULATION AND FINANCIAL INTERMEDIATION:

A STRUCTURALIST ANALYSIS OF CRISIS

by

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ERIC D. JOHNSON

A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

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Abstract

The paper begins by identifying the need for an economic analysis which can adequately explain the causes of the current economic crisis in advanced capitalist countries. The approach taken is a theoretical integration of real sector production with financial sector intermediation. In this context, a review is first made of established and emerging theories in the study of capitalist crisis. This is followed by an analysis of postwar economic growth and subsequent stagnation and decline in the United States-led international economic system. Finally, the paper summarizes various possible outcomes of the current economic crisis as suggested by the theoretical framework developed in the foregoing analysis.

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Contents

Chapter 1

The Need for a Serviceable Model

The decade of the 1980s drew to a close amid enthusiastic proclamations by media, academia, business and government alike that capitalism had finally triumphed over communism, that the market system had proven superior to central planning, and indeed even that history itself had come to an end (Fukuyama, 1989). As the 1990s progress, it remains the task of those who do not subscribe to this popular orthodoxy to be equally as diligent in enunciating the very real and persistent problems that continue to plague the "victorious" capitalist system of economic and social relations.

Phenomena such as investment stagnation and the resultant slow pace of capital accumulation, chronic unemployment and inflation, and ever-increasing financial instability and debt are treated by many economists as isolated problems, exceptions to the rule, or temporary disequilibria which pose no major threat to an otherwise well-functioning market system. Detractors from this view face the prospect of demonstrating that these phenomena are interconnected and indeed closely related, and as such are merely symptomatic of a more fundamental crisis which is endogenously generated by the normal functioning of advanced capitalism. It may be argued, moreover, that there exists a moral responsibility to show how this crisis has the potential to radically alter the present configuration of capitalist economic and social relations.

Despite the obvious drawback, that an undertaking of this kind entails a breadth and complexity of analysis which puts it at an immediate disadvantage in the milieu of popular consumption, it remains a necessary task to properly understand the workings of the current economic system if long-term solutions to its problems are to be found, either within or outside the institutional framework of capitalism.

The Paradigms of Economic Analysis

As a preliminary to an analysis of the many and various problems of modern capitalism, it is necessary to distinguish between two general philosophical paradigms in economics, and to briefly review the various strands of thought within each. What may be broadly defined as the "mainstream" paradigm contains views which correspond to "conservative" economics, generally the neoclassical framework and specifically the monetarist approach, and views which correspond to some "liberal" approaches, specifically most variants of Keynesian analysis. What may be broadly defined as the "radical" paradigm contains views which are generally considered to be of the "left" in economic analysis, specifically some variants of the Post-Keynesian approach and all the modern variants of Marxist economics.

Most approaches within the mainstream paradigm share the belief that markets inherently tend toward an equilibrium of supply and demand, resulting in optimal resource allocation and the greatest benefit for market participants and society at large. Due to the strict assumptions necessary to support equilibrium modelling, any force which tends to move the market away from an equilibrium path is considered to be exogenously given. Thus economic problems are seen to be separate and distinct from one another, and little attempt is made to draw connections between them in a deeper structural analysis. Problem-solving and policy advice revolves around questions concerning the best way to allow the market to function naturally, either through the removal of artificial impediments or through some mild form of stimulus.

All approaches within the radical paradigm share the belief that markets are not necessarily self-equilibrating, and in any case do not always result in optimal resource allocation or the greatest possible benefit for society. The assumptions behind equilibrium models are seen to be so strict that they are rarely, if ever, met in any observable markets. The natural functioning of the market system, moreover, is seen to endogenously generate the conditions which propel individual markets away from any stable equilibrium. Economic problems are seen to be related to one another at any number of levels, leading radical economists to explore the deeper structural forces which generate these problems. Problem-solving and policy advice revolve around questions concerning the best way to overcome the deficiencies inherent in the market system, either through strong interventionist policies or the eclipse of market-oriented social and economic relations.

To distinguish more clearly among the various subcategories within each of the mainstream and radical paradigms, it is useful to review (following Cherry, 1987) how each explains the problem of unemployment, and the policy prescriptions put forward by each to deal with it.

The mainstream conservative approach to unemployment is best typified by the monetarist position, since it differs little from other neoclassical versions in diagnosis but goes furthest in advocating a specific set of policies. As in other markets, the focus in the labour market is on the individual. The usual assumption is that a sufficient number of jobs exist and if there is unemployment it is due to the choice of individuals not to work. Since any excess of demand or supply results in wage rate adjustment until equilibrium is reached, remaining unemployment is voluntary, and defined as the "natural" rate of unemployment. This voluntary unemployment is attributed to incomplete information about the number and type of jobs which are available at a given time, leading to job search or "frictional" unemployment. Government transfers such as unemployment insurance and welfare are thought to interfere with the equilibration process of the labour market by lowering the cost of unemployment, thus keeping wage expectations artificially high and extending job search time. Policy prescriptions revolve around the theme that all impediments to rapid labour market adjustment should be removed. This requires the abandonment of minimum wage legislation, unemployment insurance and legislation accrediting labour union activity. Further, the mainstream conservative concepts of permanent income and rational expectations attempt to reveal the ineffectiveness of government stabilization policies and discretionary spending designed to stimulate the demand side of labour markets. Any effect of such tampering is thought to be temporary at best, with the only effective approach being to remove all impediments to free adjustment in the labour market.

The mainstream liberal approach to unemployment shares with the conservative approach an emphasis on the individual, or the supply side, of the labour market. Implicit in this view is that the demand for labour (the supply of jobs) is adequate, but there exist impediments to the proper functioning of the market-clearing mechanism, resulting in involuntary unemployment. Where the liberal approach differs from the conservative is in the identification of these impediments and the correct way of removing them. Rather than holding government intervention solely responsible for unemployment, liberals suggest that the rapidly changing technological environment results in "skill and locational mismatches [which] limit the effectiveness of self-regulating mechanisms" (Cherry, 1987, p. 10). Moreover, mainstream liberals cite such factors as culturally determined codes of labour market behaviour and firms' investments in on-the-job labour training to highlight their contention that there is no smooth adjustment in the labour market even when wages are flexible. Despite these differences, liberals generally agree with conservatives that most government stabilization policies are temporary at best, and usually result in problems, such as inflation, which are thought to offset any minor benefits achieved by lowering the rate of unemployment. Policy prescriptions thus focus on microeconomic approaches such as education and training and regional planning to overcome skill and locational mismatches in the labour market.

The Post-Keynesian approach to unemployment differs significantly from mainstream approaches because of its emphasis on the demand side, rather than the supply side, of the labour market equation. The focus is less on the role of individuals in affecting the aggregate supply of workers than on the role of the private sector and government in affecting the aggregate supply of jobs. Thus "there are few supply-side impediments to reducing unemployment, if the government has the will to do so", and "critics [of the mainstream approaches] claim constraints on aggregate demand rather than labor supply are responsible for high unemployment" (Cherry, 1987, p. 12). The demand curve for labour is seen by Post-Keynesians to be very price-inelastic, as opposed to the high elasticity envisioned by mainstream economists. This leads many

Post-Keynesian economists to play down the effects of government labour legislation or individual job preferences in favour of an emphasis on macroeconomic conditions and policies. The concept of a "natural rate" of unemployment is viewed as an illusion, since most official estimates of unemployment do not consider discouraged or underemployed workers. The failure of the government to create a sufficient number of jobs to eliminate involuntary unemployment is variously attributed in the Post-Keynesian analysis to political shortsightedness leading to a lack of planning, and misplaced priorities which put concerns such as controlling inflation and reducing deficits ahead of lowering the rate of unemployment. The set of policy prescriptions therefore includes a greater role for government in maintaining full employment levels through active planning and intervention in the labour market when private sector demand for labour is inadequate.

The neo-Marxist view of unemployment shares with the Post-Keynesian view an emphasis on insufficient demand for labour as the primary cause of unemployment, and a price-inelastic view of the labour demand curve. Unlike Post-Keynesians, however, Marxists contend that involuntary unemployment "persists because it serves the financial and political interests of capitalists" (Cherry, 1987, p. 14). In this view, the "reserve army of labour" functions as a means of disciplining the workforce and maintaining capitalist profits, and therefore governments find themselves under political pressure from the capitalist class to focus on concerns other than the reduction of unemployment. Indeed, to actively pursue full employment policies would be to reduce private-sector profitability, thus contributing to economic decline. In depression conditions, on the other hand, when unemployment levels become so high as to threaten the stability of the system, class pressures on governments may shift to place a higher priority on the problem of unemployment. Even in these situations, however, Marxist analysis perceives government policies to be largely ineffective in surmounting problems of mass unemployment since they are seen to be merely symptoms of a deeper structural crisis of capitalism, endogenously generated by its inherently contradictory social and economic relations. As a result, in the Marxist view there are no obvious policy prescriptions for the permanent alleviation of unemployment short of major changes to the institutional structure of the system. Of course this approach always seems to carry with it a number of ominous political implications, and as such remains perennially on the fringes of traditional economic discourse.

This fact notwithstanding, it is a radical perspective which is to be developed in the pages to follow, borrowing (somewhat) from the Post-Keynesian and (more heavily) from the neo-Marxist schools of thought. When viewed through the appropriate theoretical lens, the latest crisis of capitalism, with its attendant unemployment and other serious problems, will be seen to be all but intractable under the currently existing institutional structure. Whether the necessary institutional changes will constitute a transcendence of capitalist economic and social relations will remain a matter for consideration at the end of the paper.

The Current Crisis of Capitalism

If we are to apply a radical perspective to understand and explain capitalist crisis in recent years, it is necessary first to define what is meant by crisis, and second to provide evidence that such a phenomenon exists. When radical economists speak of a crisis in capitalism, they are not referring to a normal business cycle trough or a violent exogenous shock to the economic system such as a secular rise in oil prices or interest rates. The word crisis is meant to convey a broader meaning, indicative of an economic system which is in long-term decline as suggested by a number of important indicators. More directly, a crisis is "a major and threatening disruption of the growth of a social and economic system, usually generated by that system itself, [and] often leading to deep political and social stalemates" (Devine, 1987, p. 19).

Can the current state of the capitalist world be fairly portrayed as being in crisis according to this definition? To answer this question, it is useful to look at indicators such as investment and profit rates, inflation and unemployment rates, GNP patterns, and government, corporate and consumer debt levels. As this is a theoretical paper concerned with the nature and causes of capitalist crisis, the data cited below is garnered mainly from secondary sources in an attempt to demonstrate the proposition that the existence of crisis is widely documented and accepted. A brief overview of the picture is provided by Gerard Destanne de Bernis:

> Towards the late 1960s there began to appear signs pointing to a breakdown in the structural stability of the accumulation process which had been going on for more than 20 years: (i) inflation accelerated from 1967 onward in all OECD countries; (ii) total OECD investment began to slow down after 1972; (iii) unemployment began to rise from 1967 onward, not only because of the lower pace of investment, but also and especially because of structural changes in same; (iv) the rate of profit showed a downward tendency beginning in the mid-1960s, first in the United States and slightly later in the rest of the advanced capitalist countries; (v) the U.S. balance of payments ran into difficulties starting from the second half in the 1960s, and they were connected to the changing composition of the U.S. balance of trade; (vi) the breakdown of the Bretton Woods system took place as early as 1967, when after having agreed to pay France's credits in gold instead of dollars, the U.S.

government officially declared that it would no longer do so in the future (summarized from de Bernis, 1990, pp. 34-35).

Looking more specifically at major economic indicators reinforces the aggregate picture described above. Note that the data presented below focuses mainly on the United States as the leading industrial power during the postwar period, although in some instances data pertaining to other major industrialized countries is cited.

With respect to investment, the consensus among observers seems to be that although fixed capital investment has increased year after year in absolute terms in the United States and other major industrialized countries, the rate of growth of this investment has demonstrated an obvious downward trend over the past twenty-five years. Bowles, Gordon and Weisskopf (1990) note that there is "an unmistakable downward trend in the accumulation rate after the mid-1960s; each cyclical peak and each cyclical trough after 1965 is lower than the previous one..." (pp. 44-45).

Altvater (1988) has documented unequivocal declines in both gross and net investments in fixed assets as percentages of GDP for West Germany, France, Great Britain, Italy, Japan and the United States over the period 1973-1982 (p. 87). He demonstrates a similar trend for net investments in fixed assets as percentages of income from firm activities and net firm surplus in the same countries over the same period (p. 88).

Similarly, Magdoff and Sweezy (1987) have compiled data to show that "the increases in investment were substantial from the 1958-65 average to that of 1966-73, rising 72.7 percent in the case of nonresidential structures. Thereafter, the increases get smaller and smaller, with spending on structures actually declining..." (pp. 55-56).

This leads to another important observation about investment in recent years. Not only has the rate of growth of investment been falling, but its composition has been changing in a significant way. Magdoff and Sweezy (1987) have cited data to demonstrate that a larger and larger share of new capital investment has been devoted to areas such as communications, marketing and finance, rather than industrial production (pp. 68-78). Much of the "recovery" of the North American economy in the mid 1980s, in fact, they attribute to investment in these areas. The salient point of course is that these types of investments do little to create significant levels of quality employment or a sustained economic recovery.

The rate of profit, although measured in different ways by different analysts, has demonstrated an observable downward trend since the mid-1960s. Bowles, Gordon and Weisskopf (1990) show the net after-tax profit rate for the United States nonfinancial corporate business sector declining from a high of nearly 10% in 1965 to approximately 5% by 1979 (p. 45). Sawyer (1989), citing Armstrong, Glyn and Harrison (1984), notes that "in the United States, the net profit rate in the business sector is recorded at an average of 19 per cent in the period 1951-55, 19.1 per cent in the period 1961-65, and then falls steadily to an average of 12.7 per cent in the five years to 1981. The comparable figures (on a weighted average basis) for the other six major economies are 14.8 per cent, 14.1 per cent, falling to 10 per cent" (pp. 286-287).

Shaikh (1987a) has provided empirical evidence on the falling rate of profit in the United States in the postwar period. Adjusting for variations in capacity utilization, he shows the pre-tax profit rate declining from nearly 11 per cent in 1965 to approximately

5.5 per cent in 1985 (p. 121). Together with data showing that total profits have stagnated since the period 1966-68, Shaikh concludes that this implies "that the United States entered a crisis phase around 1967", since "according to theoretical expectations, a falling rate of profit leads to an eventual stagnation in the total amount of profit, which in turn signals the beginning of the crisis phase" (p. 120).

Inflation is widely recognized to have become so persistent in the industrialized world since the late 1960s and early 1970s as to be considered endemic. Bowles, Gordon and Weisskopf (1990) demonstrate that, despite some recession-induced downward fluctuations, the average annual per cent change in the Consumer Price Index rose from less than 2 per cent in 1965 to nearly 12 per cent by 1979 (p. 37). Despite lower rates of inflation during the 1980s and 1990s (Economic Report of the President, 1993), due largely to a protracted restrictive money supply and high interest rate-induced recession, the root causes of inflation persist as a constant reminder of the economic crisis. This aspect of the crisis will be explored more fully in subsequent chapters.

Unemployment has similarly increased steadily since 1969, rising in the United States from a low of 3.5 per cent of the civilian labour force in that year to 5.8 per cent in 1979 (Bowles, Gordon and Weisskopf, 1990, p. 37), and to 7.4 per cent through 1992 (Economic Report of the President, 1993).

Sterman (1992) represents a rare mainstream attempt to demonstrate the existence of a "long wave" of economic growth and decline in the postwar United States economy. Noting that the long-term growth trend since the year 1800 is about 3.4% per year, he depicts a detrended pattern which shows real GNP growing faster than the long-term trend from 1945 to the mid-1960s, and then growing much more slowly than the long-term trend from the mid-1960s to the present. He uses this evidence to support his contention that the United States economy is in long-term decline: "The long wave is so large and so slow that the pressures it creates cannot be accommodated within a market system that focuses only on the short term" (p. 5).

Rising levels of debt in all sectors of the economy is a further indication of economic crisis, as governments attempt to deal with stagnating revenues and rising program expenditures, nonfinancial corporations attempt to stave off declining profitability by reorganizing technical processes and changing capital-labour ratios, and households attempt to maintain living standards attained prior to the onset of stagnation-induced unemployment and real-wage declines.

Pollin (1987) has compiled data to show "that the aggregate nonfinancial economy as well as the three major sectors [United States federal government, nonfinancial corporations and households] all experienced similar upward trends in debt financing since the mid-1960s" (p. 146). Total nonfinancial debt as a percentage of GNP in the United States is shown to have risen from under 10 per cent in 1969 to approximately 20 per cent in 1986 (p. 147), and this trend has continued unabated to the present (Economic Report of the President, 1993). While the root causes of continued debt expansion in all sectors of the economy of the United States and other industrialized countries will be considered more fully below, it may suffice for the moment to note that debt and financial instability are perhaps the most obvious of the manifestations of the current crisis of capitalism. In that sense, the main theme of what follows will be an attempt to understand the crisis through an analysis of the relationship between the real and financial sectors of the economy.

The Relationship Between Production and Finance

Aside from such symptoms of crisis as investment stagnation, declining profit rates and unemployment and inflation, there exists a general perception, shared by mainstream and radical economists alike, that problems of debt and financial instability are certainly the most visible, and arguably the most pressing, at the current juncture. Where mainstream and radical economists part company, of course, is in an analysis of the causes of debt and financial instability and in the set of policy recommendations advanced for their alleviation. As noted above, the radical approach dictates that we must look for the underlying structural causes of financial instability, treating it as a symptom of a deeper crisis of capitalism rather than as a secular problem with a simple policy solution. To begin this task requires an exploration of the relationship between the real and financial sectors in an advanced capitalist setting.

This approach seems especially relevant given the unique relationship between these two sectors in the current period. The relationship is characterized in a very original way by Alain Lipietz in the introduction to his book entitled "The Enchanted World: Inflation, Credit and the World Crisis" (1983):

> I mentioned an image which has been haunting me since the crisis began - the image of a cartoon character who has gone over the edge of a cliff and carries on walking on thin air. This seemed to me to illustrate the position of the world economy, which continues to work 'on credit' while the actual ground on which post-war growth has been based crumbles beneath it. How did the imaginary plane beneath the cartoon feet acquire its stability? How did it come to have split off from the 'ground'? What relationship did it still have with the 'ground'? (p. 5).

Following the imagery of Lipietz, the actual ground crumbling beneath the feet of the cartoon character in the postwar era is investment in the "real" sector, where value in the Marxist sense is created. This includes investment in the production and distribution of real goods and services, those which facilitate capital accumulation and provide the driving mechanism for a capitalist economy. Exactly what constitutes the creation of real value, and other technical considerations such as the distinction between productive and unproductive capital and labour, will be addressed more thoroughly below. For the moment, the real sector may be broadly defined as encompassing those activities surrounding the production and distribution of most goods and services.

The financial sector, as the imaginary plane beneath the feet of the cartoon character, is that area of economic activity encompassing money and credit relations. Ostensibly designed to facilitate real sector transactions (ie. to "grease the wheels" of commerce), the financial sector has achieved a level of autonomy in the current period unlike any it has experienced in the past. Indeed, the proliferation of financial investment vehicles and credit mechanisms in recent years has coincided with a slowdown in the real sector to sustain a critical level of economic activity which has helped to forestall a serious depression. "The crucial point, and one that is almost totally missing from traditional economic discourse, is that the financial sector has the potential to become an autonomous subsystem of the economy as a whole, with an enormous capacity for self-expansion" (Magdoff and Sweezy, 1987, p. 147). It is this "autonomous subsystem", of course, which forms the imaginary plane in the Lipietz analogy. The questions remain, however, as to the stability of the plane, the nature of its split from the ground, and the remaining relationship between the plane and the ground.

While mainstream economists generally tend to treat the money supply as exogenously given according to the independent goals of policy-makers, and interest rates as determined by the balance of supply and demand forces in the credit market, radical economists generally view the money supply and interest rate policies as endogenously conditioned by the workings of a profit-oriented capitalist system. This allows radical theorists to comprehend the financial sector more clearly as a distinctly separate yet intertwined entity, both conditioned by and conditioning the real sector. As such, they are better positioned than mainstream theorists not only to understand the financial system, but also to integrate its role into a full theory of capitalist crisis.

Despite this theoretical head start, however, much radical writing has not succeeded in fully integrating the role of finance into its analysis of crisis, instead focusing primarily on the sphere of production and treating the monetary sphere in some respects as an afterthought:

> Issues of money, credit, financial intermediation, inflation and the institutional structure of domestic and international financial regimes have been relatively neglected as debate raged around impediments to accumulation in the sphere of production. Yet a well-developed, rich monetary and financial theory is essential to the construction of a Marxian theory of accumulation and crisis adequate to comprehend the complex and threatening events of the current era (Crotty, 1987, p. 71).

The way in which Crotty refers to the original writings of Marx to demonstrate that "circulation and production constitute a unified whole and that aspects of production have no a priori logical priority over aspects of circulation in the analysis of accumulation and crisis" (pp. 71-72) will be explored in greater detail below. For the moment, the point is made that the importance of the relationship between the real and financial sectors requires careful enunciation if we are to fully understand the current economic crisis and the possibilities of a collapse or a resolution. It is this task which is to be the central focus of what follows.

To summarize, this paper is about the theoretical and empirical pitfalls encountered in the development of an analysis which attempts to incorporate both the real and financial aspects of accumulation, their relationship with one another, and how they behave before, during and possibly after an accumulation crisis. The facts of the current crisis of capitalism are well understood, and well documented, by many writers in the Marxist and other radical economic traditions. The underlying causes of crisis and the role of financial intermediation are, on the other hand, the subjects of much intense debate. It is this debate which will comprise the following two chapters.

More specifically, Chapter 2 will develop an exposition and critique of some established Marxist theories of capitalist crisis. Chapter 3 will turn to a critical analysis of some recent crisis theories in the tradition of the emerging radical political economy. Chapter 4 will complete the theoretical integration of the real and financial sectors as a prelude to a brief review of the main institutions and events underpinning postwar real sector growth and decline and financial sector expansion. Chapter 5 will examine various possible outcomes of the current economic crisis and the implications for both capitalist economic and social relations and the body of theory designed to explain and influence them.

Chapter 2

Established Theories of Capitalist Crisis

Various theories of capitalist crisis which have appeared in the literature compete with one another for acceptance of their explanations of the causes of the most recent crisis in capitalism. As shown above, this crisis is generally acknowledged to have begun around 1967, when more than two decades of robust growth in the industrialized countries began to give way to investment stagnation, inflation and unemployment. The theories which have attempted to deal with this crisis, itself now more than two decades old, are worth reviewing both to expose their deficiencies and to requisition their insights as we build toward a comprehensive understanding of the current crisis.

We may delineate six separate "crisis theories", most deriving from the Marxist economic tradition, and with many overlapping characteristics. Each by itself, it will be shown, is subject to a number of criticisms which betray its inability to fully explain the most recent crisis of capitalism and its attendant financial volatility. Through an exposition and critique of each of these approaches, it will be possible to identify the characteristics of a comprehensive theoretical approach to analyzing and understanding the latest accumulation crisis. The models are, in order of their treatment below: (i) Realization Failure (RF) or "Underconsumption"; (ii) Rising Organic Composition of Capital (ROC) or "Falling Rate of Profit"; (iii) Rising Strength of Labour (RSL) or "Profit Squeeze"; (iv) Social Structure of Accumulation (SSA) or "Challenges to Capitalist Control"; (v) Theory of Capitalist Regulation (TCR) or "Regulation School"; and (vi) Financial Instability Hypothesis (FIH) or "Minsky Thesis". The first three of these (RF, ROC and RSL, using the terminology of Weisskopf, 1979) will make up the remainder of this chapter under the rubric of "established" crisis theories, while the last three (more recent) theories will comprise the following chapter under the rubric of the emerging radical political economy.

As a reference for discussion of the three established crisis theories, and to a lesser extent the theories of the emerging radical political economy, it is useful to review the basic Marxist framework of capitalist accumulation and crisis. For Marx, a "mode of production" is an entire system of economic and social relations, with capitalism being only the latest in a historical sequence of modes, preceded by primitive accumulation, ancient slavery and feudalism. A mode of production consists of two elements: forces of production and relations of production. Forces of production consist of the totality of capital assets such as tools, machines and buildings, as well as the general level of skills and technology. Relations of production consist of the totality of institutions economic, political and social, including society's dominant values and ideologies, which govern human behaviour in organizing social production.

In any mode of production, "crises arise because a mode of production generates forces of production that clash with existing relations of production" (Devine, 1987, p. 20). Unlike previous modes of production, capitalism is unique in its tendency to induce crisis by overproducing: "crises arise from over-accumulation: capitalism's failure is based on its own previous success ... over-accumulation results as capitalism drives itself against barriers of its own creation, not those imposed by nature ... the true barrier of capitalist production is capital itself" (Devine, 1987, p. 21).

The expositional device developed by Marx to demonstrate this proposition is the "circuit of capital", showing how firms invest money to create value and earn more money. Simplified, it is shown as:

$$M - C - \blacksquare - C' - M'$$

where a capitalist spends money (M) to buy commodities (C) as inputs for production. The commodity inputs include fixed capital (such as buildings and machines), raw materials and labour power. These inputs are then combined in the production process (the "black box" or "factory floor" of capitalist production) to transform C into C′, a new commodity. The new commodity is then sold for an amount of money (M′) which is greater than the original outlay M. The difference between M′ and M is the source of capitalist profit commensurate with the creation and appropriation of value at the point of production.

During periods of relatively stable capital accumulation, each of the links in the circuit remains more or less intact. In the Marxist analysis, however, this is not a stable or lasting state of affairs. Rather, the normal state to which the system tends is that of decline, characterized by pressures which ultimately break the circuit of capital in one or more places. The main pressures as originally identified by Marx are twofold: competition between capitalists and workers over distribution of the surplus, and competition among capitalists over market shares. "First, class antagonism wracks the system, since the extraction of surplus value creates enmity between classes, especially in production. Second, competition is a battle, a continual jockeying for position among businesses" (Devine, 1987, p. 21).

To demonstrate how these two pressures may result in a disruption of the circuit of capital and become generalized as a crisis, Marx developed a formula showing the relationships among components of value in production, with the value of all production equal to the sum of: the value of machines, buildings, and raw materials used up in production, or constant capital (c); the value of labour power used up in production, or variable capital (v); and the value of surplus product produced by the workers, or surplus value (s):

$$r = \frac{s}{c+v} = \frac{s/v}{c/v + v/v} = \frac{s/v}{c/v + 1}$$

where r represents rate of profit, the ratio s/v represents the rate of surplus value, and ratio c/v represents the organic composition of capital (summarized from Chernomas, 1983, p. 124). Any manifestation of pressures between or among classes which cause s/v to fall relative to c/v will cause a decline in the rate of profit, precipitating crisis. The debate among the established Marxist crisis theories focuses on the factors underlying the relative movements of these two ratios.

It should be emphasized that the rate of profit expression above represents values in production rather than prices of production or selling prices. Weisskopf (1979) and others have formulated expressions for the rate of profit in terms of money prices, using national income accounting categories as proxies for the value categories of Marx. Representations such as these have been controversial, but ultimately necessary: "...a relevant Marxian crisis theory must ultimately explain the behaviour of the profit rate ... which is actually perceived by (and thus affects the behaviour of) capitalists themselves"

(Weisskopf, 1979, p. 343). For the present purpose of distinguishing between the established theories of crisis, the value representations will suffice. Some methodological issues which arise in the conversion of values to prices (the transformation problem) will be discussed below.

The Realization Failure (RF) Model

The RF model has long historical roots in both Marxist and non-Marxist theories of underconsumption. The most modern incarnation has evolved through the works of Sweezy, Baran and Magdoff (Sweezy, 1942; Baran, 1957; Baran and Sweezy, 1966; Magdoff, 1969; Magdoff and Sweezy, 1987). The main thrust of the current RF argument is that modern capitalism, being dominated by monopoly corporations, differs in several important ways from competitive capitalism. Under competitive capitalism, continuous expansion of investment is compulsory for firms. Competition forces the introduction of new production techniques and the expansion of output capacity in an effort to expand, or at least retain, market share. Under monopoly capitalism, however, firms do not have the same imperative to expand their capital, for two reasons. First, the introduction of labour saving technology is no longer as critical, since monopoly pricing allows money wage increases to be passed on to consumers through price increases (Cherry, 1980, p. 363). Second, the presence of monopolies reduces the imperative for firms to blindly expand their capital, since there are fewer and larger companies dominating each industry, and they become more aware of "the futility of trying to outpace each other" (Cherry, 1980, p. 364). In this vein, Brewer (1980) observes: "The classical Marxists regarded the tendency towards monopoly as a factor intensifying competition, not suppressing it ... Baran and Sweezy, by contrast, argue that the competitive struggle virtually vanishes when there are only a few large firms operating in each market..." (p. 135).

The presence of monopolies also allows capitalists to gain the advantage over workers in the struggle over distribution of the surplus at the point of production (Cherry, 1980, p. 361). This is because the growth of monopolies tends to weaken the relative strength of labour due to a general increase in unemployment as workers are replaced by capital innovation.

In terms of the rate of profit expression, the presence of monopolies allows the organic composition of capital (c/v) to stabilize as competition slackens and wage increases are passed on to consumers, even while the rate of surplus value (s/v) continues to rise as capitalists gain more and more power with respect to workers. The theoretical conclusion is thus that the rate of profit tends to rise, not fall, under a system of monopoly capitalism (Cherry, 1980, p. 366). In order for this to happen, however, capitalists must be able to realize their rising surplus through sales. If they cannot, a gap opens up between potential and actual profits, and the rate of profit falls in reality (Wright, 1979, p. 142).

The inherent tendency of the system described by Sweezy is an overexpansion of productive capacity beyond the amount which can be absorbed by the consumption of workers, with their declining share of the surplus, and the consumption of capitalists, with their declining propensity to invest their increasing share of the surplus and their lower marginal propensity to consume out of profit income.

This tendency for a monopoly system to stagnate has its parallel expression in the Keynesian saving-investment equilibrium identity. As a greater share of total income accrues to capitalists who, by definition, have a lower marginal propensity to consume than do workers, the savings component rises faster than the investment required to absorb and reinject it into the economy. At the same time, the lack of effective demand causes the investment component to be reduced, further aggravating the imbalance. The description is one of an economy experiencing investment stagnation along with a surplus of idle finance capital, awaiting the emergence of profitable investment outlets.

In the Marxist circuit of capital, it is inside the "black box" of production where rises in the rate of surplus value begin to outpace rises in the organic composition of capital. The break in the circuit becomes apparent, however, on the demand side at the point $C' - M'$, where finished goods must be sold. The realization failure becomes manifest as the expenditures of capitalists increasingly fail to absorb the commodity surplus, leading to a crisis spiral.

The RF model essentially describes a capitalist system which, by virtue of its natural evolution, endogenously generates the conditions for a crisis. More importantly, the analysis implies that stagnation may only be overcome by an exogenous impact on the system. In other words, capitalism is incapable of continuous self-reproduction and expansion.

The RF view has been challenged on several fronts, both theoretical and empirical. Shaikh (1978a) has emphasized that "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" (p. 226). New investment would therefore be undertaken in each period before a realization problem from the previous period became apparent: "Notice that the effective demand originates entirely with the capitalist class: workers' wages are part of the year's gross investment expenditures by capitalists" (p. 226). Any periodic underconsumption tendency, argues Shaikh, would be better understood in terms of a short-term cyclical fluctuation instead of a full-blown crisis theory. In other words, given that the flip side of underconsumption is overproduction (or expanded capacity in the monopoly phase) there would be no reason to suppose that capitalists would expand productive capacity in a period following a previous period characterized by deficient demand. The problem should really be a self-correcting one as capitalist investment in the means of production is reduced. Thus Shaikh concludes "they do not discuss why monopolists would persist in overexpanding productive capacity in the face of insufficient demand", and thus "the crucial element of their whole thesis ... remains unexplained" (1978a, p. 230). Wright (1979) reached a similar conclusion: "The most serious weakness in the underconsumptionist position is that it lacks any theory of the determinants of the actual rate of accumulation" (p. 147).

Another criticism of the RF view focuses on the importance ascribed to monopolies in the generation and appropriation of surplus value. Critics feel that "the structure of market relations can in principle have no fundamental impact on value relations", while Sweezy has maintained that "surplus labour is extracted from the working class through at least two mechanisms during the stage of monopoly capital rather than merely one: in addition to the extraction of surplus value in the labour process itself through the wage contract, surplus value is appropriated in the sphere of circulation through the manipulation of monopoly prices" (Wright, 1979, pp. 145-146). At the heart of this debate is the complex relationship between values and prices. While many orthodox Marxists focus primarily on the distribution of surplus value at the point of production, Sweezy contends that surplus value may be appropriated in both the spheres of production and exchange, a proposition that many find unacceptable. He maintains that "monopoly does not change the total amount of value produced - except indirectly to the extent that it affects the total volume of employment - but it does bring about a redistribution of value" (Sweezy, 1942, p. 41).

Sherman (1989) has directed a general criticism at all "demand-side" Marxists for neglecting "supply-side" factors in their analysis of crisis. Characterizing the RF theorists as employing a "profit squeeze" resulting from underconsumption, he emphasizes that any squeeze on profits must involve both demand-side and supply-side factors: "If workers' wages decline by five percent, this will lower aggregate consumer demand, but it will also lower costs - so what is the effect on profits? Clearly, the main problem with demand-side theory is that it neglects the role of the costs of supply" (p. 64). Sherman similarly criticizes "supply-side" Marxists for neglecting the demand side, advocating instead a "nutcracker" theory which analyzes both supply and demand factors "to emphasize the Marxist notion that profits are crushed between two inexorable forces in each expansion" (p. 65).

Further criticisms of the RF model challenge the basis for a rising rate of surplus value and a stable organic composition of capital on a less abstract level. The idea of a "live and let live" attitude developing between monopolies has been disputed by Brewer (1980, p. 136), who insists that the cost minimization motive exists for monopolies just as certainly as it does for competitive firms. This criticism is significant, "especially in a period of intense international competition such as the 1980s" (Devine, 1987, p. 25). Thus the assumption of a stable organic composition of capital in the monopoly phase may be incorrect. Even if its constancy can be proven, there may be no reason to assume that the rate of surplus value will continuously rise unless it is accepted that value may be appropriated in exchange as well as production. If that proposition is invalid, then the rate of surplus value may not increase in the absence of greatly expanded capital investment, resulting in a stagnant or even a falling rate of profit.

On the empirical front, Brewer (1980) has noted that the "'long boom' of the 1950s and 1960s suggests strongly that monopoly capitalism is not incompatible with growth" (p. 138), implying that the organic composition of capital has indeed increased throughout this period, contrary to the RF theory. Howard and King (1989) have argued that "the 'profit squeeze' of the late 1960s and early 1970s ... is difficult to reconcile with the 'rising surplus[-value]' proclaimed by [Sweezy]" (p. 9). In Sweezy's defence, he would probably answer criticisms of this type by emphasizing that underconsumption due to the forces he outlined is a tendency as opposed to a law. In the postwar period, for example, he would point to events such as the Korean and Vietnam wars, the buildup of the military-industrial complex, the explosive growth of the financial sector, and other "unproductive expenses" (Wright, 1979, p. 142) to show how countertendencies to stagnation can dominate for long periods of time.

Even if, as seems apparent, the RF model is based upon a partly faulty or somewhat incomplete theoretical framework, it has provided Sweezy with the basis for some important insights into the financial system, the growth of debt and the onset of economic crisis. Some of these insights will be elaborated below in a discussion of the linkages between the real and financial sectors of the economy.

The Rising Organic Composition of Capital (ROC) Model

Similar to RF theory, the ROC model embodies many historical antecedents. The "falling rate of profit" approach has been adopted by some non-Marxists (including Adam Smith and David Ricardo), but it was Marx who first formulated the theory in terms of a rising organic composition of capital. This "orthodox" Marxist position has been championed most recently by Shaikh (1978a, 1978b, 1983, 1987a, 1987b). His analysis places competition among capitals at the heart of capitalist crisis: competitive forces compel each business to constantly expand capital in an effort to increase worker productivity, thus lowering unit costs of production and retaining or expanding market share. Because businesses face extreme worker resistance in trying to increase their share of the surplus by lowering real wages or increasing the length of the working day, "increasing the productivity of labour has come to be the principal means of raising the rate of exploitation" (Shaikh, 1978a, p. 233). This is done by increasing mechanization, or the substitution of embodied labour (fixed capital) for living labour (variable capital) which, from the point of view of an individual firm, lowers unit costs, increases surplus value and raises profitability.

Shaikh emphasizes that it is competition between different sections of capital which forms the impetus for firms to increase mechanization, rather than mechanizing as a reaction to worker resistance or rising real wages. In this way the competition among capitals takes precedence over the class struggle as the initiator of the falling rate of profit and crisis: "...rising real wages are themselves made possible by a prior cause, namely the mechanization arising from the battle of production" (p. 234). Moreover, this battle of production, in contrast to RF theory, is not allayed by the transformation of competitive capitalism to monopoly capitalism: "The so-called 'monopoly' stage of capitalism does not supercede competition but rather intensifies it" (p. 233).

When the substitution of embodied labour for living labour becomes generalized, the paradox of capitalism appears: "The rising productivity of labour manifests itself in a falling profitability of capital" (Shaikh, 1978a, p. 233).

In terms of the rate of profit expression, continual mechanization results in a rise of both the rate of surplus value and the organic composition of capital. Over time, however, the rise in the latter outpaces the rise in the former, resulting in a faster-rising denominator in the rate of profit expression, and thus a tendency for the entire ratio to fall: "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" (Shaikh, 1978a, p. 234). As the rate of profit falls, bankruptcies occur with increasing frequency, and surviving firms begin to cut back on new investments. Employment is reduced, demand declines, and the crisis spiral begins.

In the Marxist circuit of capital, it is again in the "black box" of production where increases in the organic composition of capital begin to outpace rises in the rate of surplus value. The break in the circuit becomes apparent, however, on the supply side at the point M - C, where businesses begin to slow the pace of new investment in the face of declining profit rates. For Shaikh, a realization backlash only occurs as a secondary effect, or result, of the initial crisis caused by an overexpansion of fixed capital.

In common with the RF model, the ROC theory views crisis as being caused endogenously by the normal functioning of capitalism, although in a quite different way. In contrast to RF theory, ROC theory identifies forces endogenous to the system as being ultimately responsible for a reversal of the rate of profit and a return to expansionary conditions. As firms continue to go bankrupt during the crisis phase, the organic composition of capital ratio is reduced. Simultaneously, the rise in unemployment allows the rate of surplus value ratio to increase as capitalists gain the advantage over labour. The result is a "purging crisis" in which the net effect is to re-establish conditions for successful accumulation as the rate of profit begins to rise once again. This is seen as both a necessary and painful fact of the dynamics of capitalism: "To Marx, crises are restorative, causing the purging of imbalances created by accumulation ... [however] the purging is hardly painless to capitalists: many go bankrupt, while financial collapse may occur. Worse, opposition to the system may intensify and crystallize, perhaps to the point of overthrow" (Devine, 1987, p. 23). In this version, capitalism is capable of continuous self-reproduction and expansion, although marked by periodic crises which may threaten its viability.

There have been several theoretical and empirical challenges to the ROC approach. One of these is a technical challenge called the Okishio Theorem, advanced by Nobuo Okishio in 1961. The Okishio Theorem "states it to be impossible for a cost-reducing innovation to lower the rate of profit without simultaneously increasing the real wage" (Howard and King, 1989, p. 13). Stating the Theorem another way, Okishio showed that, given constant real wages, the introduction of a new production technique which yields a higher "innovator's" rate of profit than the previous industry rate of profit will yield a new industry rate of profit which is also higher than the previous industry rate of profit. The Theorem thus presented a direct challenge to the fundamental premise of the ROC approach, that of a declining rate of profit caused by an overexpansion of capital.

The Okishio Theorem has been successfully refuted in a number of ways. First, it has been shown that the Theorem does not hold true in all cases in an economy with joint production (Howard and King, 1989, p. 15). Second, Shaikh (1978b) has shown that Okishio "demonstrated only that technical change would raise the profit margin, holding real wages constant, [and that this] was fully consistent in a more general model with a declining rate of profit" (quoted in Howard and King, 1989, p. 15). A third refutation "accepts the formal validity of the Okishio Theorem but denies its importance in a capitalist economy where real wages do not remain constant in the face of technical progress but rise" (Howard and King, 1989, p. 16). This is in fact consistent with Shaikh's approach, as a rising real wage and a rising rate of surplus value are consistent with a rising organic composition of capital in the context of a falling rate of profit.

These refutations of Okishio, however, beg the question of why capitalists would choose to introduce technical innovations which can be shown to ultimately lower the industry rate of profit. Shaikh's answer stems from the Marxist conception of capitalist competition that lies at the heart of the ROC analysis: firms which do not introduce new technologies are soon driven out of the market due to their higher unit costs of production. "...the crucial error ... lies in the presupposition that technical progress is merely a question of capitalist 'choice' and not one of necessity" (1978a, p. 234).

Among other general criticisms of the ROC school, Wright (1979) raised a question about the conceptual categories used in the formulation of the theory. While it is easily observable that the amount of constant capital in physical terms continually rises with time, it is not so obvious that the organic composition of capital as a value concept demonstrates the same tendency. It is entirely possible that, especially under advanced capitalism, capital-saving technological innovation may outweigh labour-saving technological innovation, thus causing the organic composition of capital ratio to stabilize or even to fall: "...while a thorough model predicting the relative proportions of labour-saving and capital-saving innovations has yet to be worked out, there is no a priori reason to assume a general preponderance of labour-saving innovations in a developed capitalist economy" (Wright, 1979, p. 136). Proponents of the ROC theory have responded to this criticism by pointing to class conflict in production and the consequent desire of capitalists to maintain and increase their control over the labour process. "Machines do not demand higher wages in a tight labour market, nor go on strike, nor demand coffee breaks, changes in work rules, etc." (Laibman, 1987, p. 35). This is manifested in a generally greater preponderance of labour-saving innovation, and is demonstrated by historically greater levels of output per worker and higher levels of unemployment.

A further criticism of the ROC approach is simply that, as constant capital rises, the value of variable capital falls because worker productivity is increased. If in fact the variable capital component falls faster than the rise in constant capital, there will not be a fall but a rise in the rate of profit. Shaikh (1978a) admits that "this objection is a solid 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 implies a rising ratio of 'dead' to living labour ... this issue is still very much the subject of debate" (p. 234).

Empirically, and related to the second criticism above, some observers have challenged the notion that the organic composition of capital had indeed risen during the latest accumulation crisis. Using the capital-output ratio as a proxy measure, Howard and King (1989) ask the question: "What evidence is there that the post-1973 decline in profitability actually was associated with an increase in organic composition of capital?" (p. 17). The evidence they garner from various studies using this proxy measure is at best inconclusive (p. 18). Shaikh has responded to criticism on these grounds by challenging the validity of using the capital-output ratio as a proxy for the organic composition of capital, noting that these mainstream data categories are very different from the Marxist categories of constant and variable capital (1978a, p. 235). Such difficulties of measurement for empirical verification of theoretical constructions will be revisited below.

The Rising Strength of Labour (RSL) Model

The RSL thesis is one which, despite having been employed in various ways by mainstream economists since the time of the classicals, is nevertheless much newer than the RF and ROC models as a full theory of capitalist crisis. Further, it appears to have enjoyed the greatest upsurge in popularity among Marxist economists over the past two decades. Indeed, the concept of a "profit squeeze" is an important aspect in the more ambitious SSA analysis and at least one variant of the TCR approaches to be elaborated below. One of the reasons for this popularity is that the RSL thesis shares a common crucial focus with the original work of Marx: the class struggle. "The profit squeeze argument has the considerable merit of emphasizing the central role of the class struggle in the accumulation process" (Wright, 1978, p. 153).

Originally posited as a theory of crisis by Glyn and Sutcliffe (1972) in England and by Boddy and Crotty (1975) in the United States, the RSL viewpoint was given perhaps its most articulate expression by Weisskopf (1979). He attempted to show empirically that a "profit squeeze" was the most important contributing factor to the trend of the rate of profit in the United States during the postwar period. In short, RSL adherents contend that at any given place and time, and depending on the relative strengths of labour and capital, real wages may rise faster than increases in labour productivity.

In terms of the rate of profit expression, a rising variable capital component causes both the rate of surplus value and the organic composition of capital ratio to fall, but the former falls more quickly than the latter. This results in downward pressure on the entire rate of profit expression. As profits are "squeezed" by rising wage bills, investment slows, productivity continues to fall relative to wages, and the crisis begins.

As with the ROC theory, it is within the "black box" of production where the crisis begins, in this case as declines in the rate of surplus value begin to outpace declines in the organic composition of capital. The break in the circuit of capital becomes outwardly apparent at the point M - C, where businesses become reluctant to undertake new investment in a climate of falling profit rates. The real cause of crisis, according to the RSL view, is neither technical change in production nor structural change in exchange relations, but class conflict at the point of production: "The proponents of the [RSL] view of crisis agree with the [ROC] theorists that the rate of profit tends to fall, but they disagree that this has anything to do with changes in technology, and they disagree with both the [ROC] theorists and the [RF theorists] that there is any tendency for the rate of surplus value to rise" (Wright, 1979, p. 148).

Economic crisis according to the RSL view, consistent with both the RF and ROC positions, is seen as being endogenously generated by fluctuations in the determinants of the rate of profit. Further, consistent with the ROC position but contrary to the RF position, RSL theory sees the conditions for renewed expansion as being endogenously generated. As crisis and depression proceed apace, the depleted reserve army of labour is replenished. This in turn shifts the balance of power from workers back to capitalists, who then enjoy increases in the rate of surplus value and a revitalized rate of profit.

Similar to the ROC version, capitalism in the RSL version is subject to cyclical crises but nevertheless is capable of continuous reproduction and expansion.

Several theoretical and empirical criticisms have been directed at the RSL thesis. On a theoretical level, profit squeeze adherents are accused of adopting a "Neo-Ricardian" view of the wage-profit relationship: "Instead of profits being seen as realized surplus value, profits are viewed as a deduction from wages. The balance between wages and profits, therefore, is seen as determined through struggle at the level of circulation rather than through dynamics determined at the level of production" (Wright, 1979, p. 150). This criticism, however, is not a serious threat to the RSL theory as Marxists generally recognize the class struggle as conditioning the rate of profit, to a large extent, directly at the point of production.

Sherman (1989) has criticized all "supply-side" Marxist crisis theorists for neglecting "demand-side" factors as a parallel to his criticism of demand-side theorists above. Characterizing the RSL theorists as employing a "profit squeeze" argument resulting from an observed rise in real wages, he maintains that any squeeze on profits must involve both supply-side and demand-side factors: "...if wages rise five percent a year, that tells us nothing about the profit rate. What if revenue rises ten percent a year?" (p. 63). As noted above in his parallel criticism of demand-side crisis theories, Sherman advocates a "nutcracker" theory which emphasizes equally the role of both demand and supply factors in an accumulation crisis.

Another more direct line of criticism focuses on the relationship between theoretical categories and their proxies which the RSL theorists employ for empirical testing. One of these criticisms is advanced by Shaikh (1978a), who argues that the RSL theory rests on a false equivalency between the rate of surplus value and the ratio of profits to wages. A fall in the profit-wage ratio, argues Shaikh, does not necessarily entail a falling rate of surplus value. Shaikh employs a numerical example to show that, due to the neglect of selling expenses and indirect taxes by RSL theorists, they have not successfully established an equivalency between the two categories. Thus he concludes that "the true rate of exploitation is vastly understated ... [and] the error made by the profit squeeze school [is that] 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'" (p. 239).

A final (and related) criticism of the RSL theory, described by Wright (1979), focuses on the issue of "unproductive labour". Unproductive labour is broadly defined to be paid labour which does not actually produce surplus value but is nevertheless indispensable to the process of accumulation. An example of this is labour involved in the sales effort since the successful marketing of a product is the crucial final link in the circuit of capital, even though the value of the product has already been created in the "black box" stage. Although difficult to delineate for purposes of measurement, the existence of unproductive labour complicates not only the correspondence between variable capital and wages, but also the correspondence between the rate of surplus value and the ratio of profits to wages. Wright (1979) observes that the RSL theory cannot distinguish between "situations in which profits are squeezed because of rising wage costs ... and situations where profits are squeezed by increasing employment of unproductive labour" (p. 153). This leads him to conclude that "the empirical case for the profit squeeze argument thus remains to be proven" (p. 153). Indeed, the issue of unproductive labour (and unproductive capital) is one which poses measurement difficulties for all the established theories of crisis, and will be discussed more fully below.

Methodological Issues in the Established Theories

Taken together, the three theories of RF, ROC and RSL, as "established" Marxist theories of capitalist crisis, provide useful insights about the nature and characteristics of economic decline. Each still faces, however, theoretical and empirical challenges which have yet to be satisfactorily resolved. As a whole, these Marxist approaches face two difficult methodological obstacles, one theoretical in nature and the other related to empirical testing. On the theoretical side is the issue of the relevance of the labour theory of value and its attendant value controversy, or transformation problem. On the empirical side is the related issue of developing acceptable methods for converting mainstream data categories into Marxist data categories in an effort to provide support for the theoretical arguments.

The recurring theoretical problem of the relationship between values and prices, popularly known as the transformation problem, has at its root the debate over the Marxist usage of the labour theory of value. The rate of profit expression constructed above is designed to measure values in production rather than prices of production or actual prices of exchange. This reflects the classical view that labour is the source of all value, and the particular Marxist view that value is produced by a combination of "dead" labour embodied in material and capital equipment (constant capital) and "living" labour embodied in the purchased labour-power of workers (variable capital).

Following Sawyer (1989), we can delineate three purposes for a labour theory of value applied to capitalist production: descriptive, predictive and normative. In the descriptive sense, the theory may be said to be simply drawing attention to the unique role of humans in the process of production. In the predictive sense, the theory may be seen to be a guide by which we can attempt to measure actual prices. In the normative sense, the theory may be used as justification for the claims of the working class on the economic surplus (pp. 220-221).

Although it may be argued that the Marxist use of the labour theory of value embodies each of these characteristics to some extent, it is the predictive aspect, or transformation problem, which has proved to be the biggest technical stumbling block. Although Marx himself and most neo-Marxists do not expect prices to be proportional to labour values in a complex capitalist economy with joint production and price manipulation, it is implicit in Marxist analysis that labour values condition money prices to some extent. At the very least, the "fundamental Marxian theorem" holds that "positive surplus value (measured in terms of values) is a necessary and sufficient condition for positive profits (measured in terms of prices of production)" (Sawyer, 1989, p. 219).

This conclusion, provable in a generalized form, begs the question of whether or not any greater degree of correlation between values and prices is indeed possible or even necessary. It has been argued by some Marxists that "the calculation of labour values was at best an irrelevance and at worst a definite hindrance ... to serious consideration of Marx's political economy" (Steedman, quoted in Sawyer, 1989, p. 221). Blaug (1985) characterizes the mainstream view with a yet sharper condemnation of the Marxist value approach:

> There is a first floor to the house, the visible world of prices, wage rates and profit rates, and a basement to the house, the invisible world of labour values and surplus value. It is not only that the first floor is visible, while the basement is not; the economic actors that reside on the first floor are ignorant of the nether world of the basement. The subterfuge that Marx perpetrates is to move the basement to the first floor and the first floor to the second floor, subtly suggesting that the first floor is in some sense more real than the second one... (p. 287).

This criticism notwithstanding, it has been shown that "certain central aspects of Marx's political economy are entirely independent of any 'labour theory of value'" (Sawyer, 1989, p. 222). Does this mean that radical political economy can ignore any treatment of the labour theory of value? Many Marxists argue that it cannot, for it is precisely the focus on values in production which gives radical theory its unique insight, and as such sets it apart from mainstream theoretical approaches. This position is taken by Sweezy, summarized in Sawyer (1989):

> There is a distinction to be drawn between prices which appear in the market and values which do not appear but nevertheless are significant. "Reality is made up of appearances and essence. Prices of production belong to the realm of appearance, values to the realm of essence". Sweezy acknowledges that "total price does not equal total value, and the rate of profit in the price scheme is not equal to the rate of profit in the value scheme. But these are changes of dimension only, not of substance; and there is no reason to suppose that analyzing the accumulation process on the basis of values yields results which need to be altered in any significant way by shifting to prices". He argues that "the key concept and variable in the analysis, the centre of gravity which holds everything in place, is the rate of surplus-value, and it is precisely the rate of surplus-value which disappears, vanishes without a trace, from an analysis made in terms of prices" (pp. 222-223).

In a strict sense, therefore, the transformation problem may end in a blind alley if it is intended to portray a direct correlation between values and prices. The important point, however, which is emphasized by most radical theorists and which distinguishes them from mainstream theorists, is that values condition prices at some abstract but important level. This perhaps becomes more evident in times of economic decline, for when disproportionalities between values and prices become too great, the capitalist system imposes its own discipline through one of the crisis mechanisms outlined above.

This underscores the importance of establishing acceptable equivalencies between value and price categories for the purpose of empirical testing, which leads us to an analysis of the measurement difficulties of crisis theories constructed in terms of values.

Since capitalist investment is conditioned largely by an expected rate of profit measured in terms of money prices rather than values, attempts have been made to portray the value equation in money price terms (Weisskopf, 1979, and others). In crudest form, the price equation uses aggregate profits (p) as a proxy for surplus value (s), the capital stock (k) as a proxy for constant capital (c), and aggregate wages and salaries (w) as a proxy for variable capital (v), to yield:

$$r = \frac{p}{k+w} = \frac{p/w}{k/w + w/w} = \frac{p/w}{k/w + 1}$$

The profit-wage ratio (p/w) thus becomes proxy for the rate of surplus value (s/v), and the capital-wage (k/w) ratio acts as proxy for the organic composition of capital (c/v).

The way in which these money price categories have been used as proxies for the Marxist value categories in empirical analysis, particularly by the RSL school as noted above, has been the subject of much debate. Money profits are conventionally defined as the excess of sales revenue over all expenses including capital depreciation, wages and selling expenses. Capital stock is conventionally defined as all fixed and circulating capital used up in the production and sale of goods and services. Money wages are conventionally defined as all wages and salaries related to the production and sale of goods and services. The difficulty with using these data categories to represent surplus value, constant capital and variable capital respectively, is summarized by Moseley (1987):

> ...Marx's concepts of constant capital and variable capital include only the capital invested in production activities, where "production" is defined fairly broadly to include such activities as transportation and storage, but specifically does not include the following two types of activities within capitalist enterprises: (i) circulation activities, or activities related to the exchange of commodities, including such activities as sales, purchasing, accounting, advertising, debt/credit relations, financial analysis, legal counsel, etc.; (ii) supervision activities, or activities related to the control of the labor of production workers, including such activities as management, supervision, record-keeping, etc. (p. 106).

If constant capital and variable capital in the Marxist value scheme are meant to represent only productive capital and productive labour, respectively, it follows that unproductive capital and unproductive labour (ie. capital and labour devoted to circulation and supervision activities which do not directly participate in the creation of value and surplus value) must be filtered out from the mainstream data categories of capital stock and money wages before acceptable equivalencies can be obtained.

Wright (1979) summarizes two methods of operationalizing the distinction between productive and unproductive labour, an approach which can be adapted to include the distinction between productive and unproductive capital in general. The first is to split the surplus value category into that portion which must be devoted to pay for unproductive capital and unproductive labour (and also indirect taxes, as noted by Shaikh, 1978), and that portion which is available for reinvestment and accumulation. Any increase in the employment of unproductive labour or capital thus reduces the rate of surplus value. The second method is to split the constant capital category into that portion which includes unproductive constant capital plus unproductive variable capital, and that portion representing productive constant capital which contributes to the creation of the surplus. Any increase in the employment of unproductive labour or capital thus increases the organic composition of capital. "Regardless of which of these formulations is adopted, it is clear that if the employment of unproductive labour [or capital] increases as a proportion of total labour [or capital] at a faster rate than the increases of productivity of productive labour, then there will be a tendency for the rate of profit to decline" (Wright, 1979, pp. 152-153).

This type of characterization has been used by Shaikh (1978a, 1987a) and Moseley (1987) among others, to provide empirical support for the ROC theory of crisis, and simultaneously to critique (especially) the RSL theory and (to a lesser extent) the RF theory. Indeed, the use of the distinction between productive and unproductive capital and labour categories in transforming mainstream money price data into value terms lends strong support to the ROC approach, with the organic composition of capital rising relative to the rate of surplus value in both of the above characterizations. On the other hand, the RSL case is severely weakened, with the increases in variable capital (and thus the dominant decline in the rate of surplus value) considerably mitigated by the removal of unproductive labour. The effect on the RF theory is ambiguous, since Magdoff and Sweezy (1987) and Dawson and Foster (1991) repeatedly emphasize the increasing role of unproductive capital and labour in the present-day economy. In attempting to demonstrate statistically the tendency of the surplus to rise, Dawson and Foster (1991) specifically include "the compensation of corporate officers, the wages of government workers, and the compensation of employees in legal and financial services and advertising" (p. 39) in their definition of gross surplus. Demonstrating a rising gross surplus, however, does not provide direct empirical support for the RF theory of rising surplus value, since it says nothing about the trend of that portion of the surplus which is available for reinvestment and accumulation. By the same token, the RF assumption of a relatively stable organic composition of capital is neither supported nor eroded on a theoretical level by the removal of unproductive labour and capital from the money price categories.

Introducing a distinction between productive and unproductive capital and labour generally highlights the difficulty of modifying mainstream data categories to fit the Marxist value schematic. Although a universally accepted method of quantifying value categories in terms of observable data is unlikely to appear in the near future, the identification of phenomena such as unproductive capital and labour serves a crucial purpose in the formulation of policy recommendations for surmounting an economic crisis. This discussion will be more fully developed in Chapter 5 below. For the moment, it is enough to observe that none of the established theories of capitalist crisis can claim victory over the others on the strength of empirical observation.

In the final analysis, it is true that a crisis, once under way, may exhibit any of the characteristics of underconsumption, falling profit rates, and falling rates of surplus value. This observation, however, is trivial since the heart of the debate is about which of these forces initiate the crisis during a preceding period of expansion. Shaikh, for example, contends that underconsumption and a falling rate of surplus value are indeed present in a crisis, but only as a function of the falling rate of profit which is initiated by a relative rise in the organic composition of capital (1978a, p. 237). A parallel case is made by RF and RSL proponents in support of their theories.

The question of whether any of these theories need be accepted as a universal explanation for capitalist crisis in different historical periods also remains open. It is possible that one may explain a crisis of an earlier epoch, while yet another may be responsible for the present crisis. For example, Devine (1986) notes that "many see different problems as important in distinct historical eras ... Baran and Sweezy (1966) ... distinguish between the competitive and monopoly capitalist eras, seeing falling profitability in the former and a rising surplus in the latter" (p. 6). This underlies a more fundamental flaw in the way the RF, ROC and RSL theories are conceived. Given their primary focus on surplus value generated in the production process, they may be accused of ignoring broader historical, social and institutional factors which ultimately impinge upon that process. It is acknowledged that RF theorists attempt to incorporate aspects of exchange as well as institutional factors such as the growth of monopoly power, and there have also been attempts to broaden the context of the RSL thesis as embodied in some of the theories to be reviewed below. In general, however, the established theories of crisis may be guilty of basing their analyses on an economistic framework which is too narrowly conceived, thus rendering them somewhat inflexible and even somewhat deterministic. For example, a thorough investigation of the role of the state and other institutions which affect the main determinants of accumulation remains underdeveloped in the established approaches.

If, despite these criticisms, the RF, ROC and RSL theories can help to explain the causes and characteristics of capitalist crisis, it remains to be seen what they can tell us about the financial system.

Role of the Financial Sector in the Established Theories

Marxists generally tend to regard the sphere of circulation, characterized by money and prices, as a "relatively autonomous" entity with respect to the real sector (Devine, 1986, p. 7). As a "veil" or a "bubble" over production, the financial sector serves as an intermediary to facilitate the generation, extraction and realization of the surplus. The fact that the financial bubble has the capacity to take on a life of its own is widely recognized. What remains largely unexamined in radical theory, however, is an exact specification of the linkages connecting capitalist crisis with an unprecedented expansion of the financial sector, particularly in the period from the early 1970s to the present. In answering this question, RF theorists differ somewhat from ROC and RSL theorists, but none has developed a complete explanation of the way in which a crisis in the real sector conditions, and is conditioned by, the financial sector.

The RF explanation of the linkage between the real and financial sectors derives from Sweezy's emphasis on the inherent tendency to stagnation in the monopoly stage of capitalism, due to a rising rate of surplus value and a resultant realization backlash. Following Lenin's (1917) analysis of the way in which bank capital merges with industrial capital in the monopoly phase to form a "financial oligarchy of finance capital" (p. 86), Sweezy observed that the international financial system in the postwar period had indeed grown quite rapidly. Because of the constant tendency toward stagnation in the real sector, he reasoned, the financial sector would grow in importance, playing a key role in the growth of debt both in the United States and abroad, due to the thrust of money capital outward from the major industrialized countries as a way to bleed off the surplus and thus counteract the stagnation tendency. The necessity to export money capital in search of profitable investment outlets for the unabsorbed profit surplus is, for Sweezy, the root of the financial explosion, third world debt, and United States imperialist ventures designed to maintain hospitable investment climates abroad.

As long as profitable international investment opportunities remained abundant, the inherent stagnation tendency at home could be postponed. However, internationally as well as domestically, the growth of the surplus tends to outpace its absorption by both the real and financial sectors: "As the process of economic growth continues, the difficulty of finding sufficient investment outlets becomes more and more acute" (Hunt, 1981, p. 158). For RF theorists, then, the debt crisis both at home and abroad is the weakest link in the system. Having originated with stagnation in the real sector, the crisis is transmitted to the financial sector in the form of debt growth. Ultimately, the crisis is transmitted back to the real sector when major debtor defaults cause financial intermediaries to become insolvent, resulting in a chain of bankruptcies in both sectors.

The ROC and RSL theories of the linkages between the real and financial sectors are similar to the RF view, with one important difference. Because both the ROC and RSL approaches emphasize a falling rate of profit in production, the idea of a need to find outlets for surplus money capital, a concept crucial to Sweezy, is absent in their exposition of the growth of the financial system. Indeed, ultranational expansion of both real and money capital is seen as necessary to bolster falling rates of profit, as the search for cheaper labour and raw materials, as well as higher rates of return on financial instruments, takes on international dimensions. A capital surplus at home is not the main driving force of expansion. Rather, the growth of the financial sector both domestically and internationally is seen to be related strictly to its own autonomy and consequent pursuit of profit opportunities, as with any other type of capitalist enterprise. A money capital surplus thus does not play the role of a theoretical link between the real and financial sectors in the ROC and RSL theories as it does for the RF theory. Rapid expansion in the financial sector is seen to reflect only the fact that profit opportunities and rates of return are greater in financial investments than in real sector investments.

In sum, what we get from the three established theories of capitalist crisis with respect to the financial sector is something more than ad hoc explanations, yet something less than rigorous expositions of the cause and effect relationships demanded by a comprehensive radical theory. The theme common to all the theories of crisis is that a slowdown in the real sector, however caused, results in financial sector investments becoming more attractive. Being profit-oriented organizations, businesses invest in concerns which yield the highest rates of return. Coupled with declining rates of profit in the real sector, the financial sector grows exponentially. None of the theories fully sketch the details of how a crisis can be transmitted back and forth between the two sectors, due to their primary focus on real sector production. While some of the foregoing insights will prove useful, we now turn to an examination of some of the more recent theories of capitalist accumulation and crisis.

Chapter 3

The Emerging Radical Political Economy

Having explored the three "established" theories of capitalist crisis to garner their insights and reveal their shortcomings in explaining the current accumulation crisis and its attendant financial volatility, we now turn to the theories of the emerging radical political economy. In subsuming the Social Structure of Accumulation, Theory of Capitalist Regulation and Financial Instability Hypothesis under such a singular title, it is recognized that this may be casting a wide net. It is unlikely, for example, that Minsky (1982, 1986) would feel comfortable being lumped in with the avowedly Marxist SSA and TCR approaches. It will be argued below, however, that Minsky's analysis of the financial sector in an advanced capitalist setting is so insightful that it would serve the Marxist analyses well to incorporate some aspects of it into their theories of growth and decline. Indeed, commentary and critique of Minsky's writings has found its way onto the pages of much recent work in Marxist crisis theory. A thorough treatment of the FIH is therefore included in this chapter, if only as a link to a full exposition of the relationship between the real and financial sectors.

More generally, the theories presented in this chapter (and especially the SSA and TCR approaches) represent attempts to widen the scope of analysis presented in the established theories by incorporating a broader set of socioeconomic factors associated with capitalist accumulation. If one of the general criticisms of the established theories was that they adopted an overly narrow and economistic approach to crisis modelling by focusing exclusively on the Marxist value-theoretic rate of profit expression, the emerging theories attempt to improve on that approach by probing "behind" the expression to examine the historical, social and institutional factors which condition it.

In this sense, the emerging radical theories rely less directly on the value-theoretic approach, although it does implicitly underlie to a greater or lesser extent the Marxist-based SSA and TCR models. The SSA approach, for example, perhaps following from Weisskopf's (1979) comment that crisis theory must ultimately explain the behaviour of the profit rate which is actually perceived by capitalists, and from Steedman's (1989) comment that calculation of labour values is at best an irrelevance, adopts a price-theoretic approach to crisis modelling which is conditioned by value categories only at a very abstract level.

The TCR approach is generally closer to the value-theoretic approach of the established crisis theories than is the SSA approach, although empirical works in the TCR tradition (Lipietz, 1986) have attempted to use money price categories to provide support for their theoretical conclusions. Generally speaking, values in production condition the TCR approach at a less abstract level than in the SSA approach. Both theories, however, recognize that although the empirical modelling of socioeconomic variables in price terms is essential, it is values in production which are initially conditioned by these socioeconomic variables, and which in turn affect prices. The FIH, on the other hand, is strictly a price-theoretic approach, and of course this forms the basis of a fundamental criticism of this approach from the Marxist perspective.

In any event, the theme common to all of the emerging radical theories is an emphasis not on simply supply-side or demand-side factors which facilitate or restrict accumulation, but a view which accounts for factors on both sides of the equation. In other words, these theories recognize (either explicitly or implicitly) the importance of each of the steps in the Marxist circuit of capital (M - C - ■ - C′ - M′). In order for accumulation to proceed, each link in the circuit must remain intact. The goal is therefore to examine the social and institutional requisites for the (more or less) smooth and continual reproduction of the circuit in a generalized advanced capitalist climate.

To consider each of the links in the circuit of capital, moreover, is to acknowledge that a disruption of the circuit which leads to crisis may take place at any of the links in a given historical period. For example, a demand-side crisis may be caused by a break in the C′ - M′ link at one historical juncture, while a supply-side crisis may be caused by a break in the M - C link at another. This historical periodization of capitalist crisis is much more integral to the analytical approaches of the emerging radical theories than it is to that of the established theories.

Aside from historical periodization, the emerging radical theories may also be seen to broaden the context of the established theories' analyses by integrating more fully such institutional considerations as the role of the state, international regulatory bodies and the financial sector into the dynamics of accumulation and crisis. The way in which this is done in each individual approach will be more fully explored below.

Finally, the apparent advantages inherent in approaches to modelling capitalist crisis in a broader socioeconomic and institutional context may ultimately be somewhat offset by the difficulties involved in conceptualizing and measuring the many relevant variables. Despite the theoretical and empirical pitfalls, to be elaborated below, the theories of the emerging radical political economy will be seen to represent an important theoretical advance in the study of capital accumulation and capitalist crisis.

The Social Structure of Accumulation (SSA) Model

The concept of a social structure of accumulation was first put forward by David Gordon in 1978 and again in 1980, as an attempt to explain the "long wave" phenomenon of capitalist accumulation. The SSA concept was further refined by Gordon, Edwards and Reich (1982) in a study of the historical divisions among the working class in the United States. Finally, the SSA as the centrepiece of a full theory of capitalist crisis has been disseminated both academically (Gordon, Weisskopf and Bowles, 1983, 1987; Bowles, Gordon and Weisskopf, 1986) and popularly (Bowles, Gordon and Weisskopf, 1983, 1990).

The task which Bowles et al. have defined for themselves is to demonstrate the formal linkages between the profit rate and the existing set of socioeconomic institutions which condition it, and thus indirectly condition the accumulation process. This approach differs from the established Marxist approaches in three ways. First, their modified expression for the profit rate does not refer explicitly to value-theoretic categories. Second, a direct analysis of the state and international relations is added as a complement to the traditional Marxist focus on class and competition. Third, the SSA as a historically specific expression of the capitalist mode of production is applied directly to the institutional particularities of the current crisis (Bowles, Gordon and Weisskopf, 1986, p. 133).

As with most Marxist analyses, the SSA approach delineates a direct relationship between capitalist profitability and the health of the economy. To the extent that capital accumulation conditions economic growth, the general rate of profit in turn conditions capital accumulation. The analysis thus begins by focusing on the sources of capitalist profits and the institutions which underpin them. Following Marx, Bowles et al. note the relationship between power and profits by emphasizing that, far from being a payment to a scarce productive input, "profits are made possible ... by the power of the capitalist class over other economic actors which it confronts" (Gordon, Weisskopf and Bowles, 1987, p. 44).

This implies that the capitalist class of a given economy cannot make profits through its market-exchange dealings with itself. To avoid such a zero-sum game, capitalists must possess some measure of power over the domestic working class. This may be achieved in the sphere of market exchange, but is determined more fundamentally through the workplace relationship in which surplus labour is expropriated.

The power of a domestic capitalist class to make profits in its dealings with foreign buyers and sellers, and with the domestic citizenry through the state, is as integral to the SSA approach as the power relationship between capital and labour. Profits are thus viewed as the "spoils of a three-front war fought by capital in its dealings with workers, foreign buyers and sellers, and the state (or indirectly with the citizenry)" (Gordon, Weisskopf and Bowles, 1987, p. 46). The ability of capital to exert power and thus extract profits from these three groups is conditioned, moreover, by the intensity of competition or rivalry among members of the domestic capitalist class. The more cohesive the capitalist class, the more effectively it is able to exert power over, and extract profits from, the other groups of economic actors.

Using this approach to identify institutional power as the main vehicle conditioning capitalist profits, the SSA theorists derive their price-theoretic expression for the rate of profit by focusing on six specific factors: (i) the real wage rate; (ii) the intensity of labour; (iii) the terms of trade; (iv) the input-output coefficients of production; (v) the rate of capacity utilization; and (vi) the profit tax rate (Gordon, Weisskopf and Bowles, 1987, p. 46). Each of these factors is conditioned, directly or indirectly, by the power relationships between the domestic capitalist class and other groups. The rate of profit expression is thus written:

$$r = \frac{s}{k} = \frac{(s/y)(y/z)}{k/z}$$

where s represents profit income, k represents fixed capital, y represents total income, and z represents full capacity output. The ratio s/k, as a proxy for the profit rate, is the ratio of profit income to fixed capital. It is further disaggregated into the share of profits in total income (s/y, related to the value-theoretic rate of surplus value), the rate of capacity utilization (y/z), and the ratio of fixed capital to full-capacity output (k/z, related to the value-theoretic organic composition of capital) (Devine, 1987, p. 22).

The analysis of Bowles et al. suggests that the rate of profit may thus be caused to decline by a relative fall in s/y, a relative fall in y/z, or a relative rise in k/z. These results are in turn conditioned by the underlying institutional relationships. For example, the power relationship between capital and labour has a direct impact on both the real wage rate and the intensity of labour, and an indirect impact on the rate of capacity utilization. The power relationship between capital and foreign buyers and sellers has a direct impact on the terms of trade, and the power relationship between capital and the citizenry, mediated by the state, has a direct impact on the profit tax rate and an indirect impact on the input-output coefficients of production (Gordon, Weisskopf and Bowles, 1987, pp. 46-47).

Demonstrating the linkage between the rate of profit and institutional relationships in such a direct way forms the basis of the "challenges to capitalist control" thesis of Bowles et al. To the extent that the relative power of domestic capital in any of its institutional relationships with other economic groups is eroded, the rate of profit will experience downward pressure. If the capitalist class faces challenges to its power in many or all of these institutional settings simultaneously, the resulting decline in the rate of profit may precipitate a generalized economic crisis. The theoretical perspective of the challenges to capitalist control approach may be viewed as an evolutionary form of the RSL or "profit squeeze" approach elaborated in the previous chapter, since both share the perspective that crisis occurs because capital is "too weak", rather than "too strong" as in the RF and, to some extent, the ROC theories of crisis. The challenges to capitalist control approach expands upon that of the RSL in three respects. First, power relationships are seen to affect all components of the profit rate, rather than simply the profit share. Second, there is a more explicit emphasis on the centrality of power relationships in the determination of the basic conditions of profitability. Third, it is recognized that attempts to restore capitalist profitability may replenish the reserve army of labour, but fail to restore the profit rate as a result of negative repercussions on other economic variables such as capacity utilization and effective demand (Gordon, Weisskopf and Bowles, 1987, pp. 56-57).

This theoretical backdrop allows us now to elaborate the concept of a "social structure of accumulation" as developed by Bowles et al. Returning to the universally-accepted maxim that capitalist profitability conditions the rate of capital accumulation, which in turn conditions the rate of economic growth, it follows that future economic growth is largely the outcome of capitalists' profit expectations.

> And the socioeconomic environment external to the individual firm will profoundly affect those expectations. Without a stable and favourable external environment, capitalist investment in production will not proceed. The specific set of institutions which make up this external environment has been called the "social structure of accumulation" (Gordon, Weisskopf and Bowles, 1987, p. 47).

Institutions such as the system of labour management, the international monetary system, the domestic state, the system of demand management, and structures regulating raw material supplies may make up a social structure of accumulation in a given historical period (Gordon, Weisskopf and Bowles, 1983, p. 152). Each of these institutions plays a role in conditioning one or more of the six factors (listed above) which ultimately determine the profit rate.

The nature of each institution in the constellation comprising a given SSA is determined by a unique combination of circumstances and participants, giving the SSA its period-specific character. For example, a system of labour-management relations which forms part of a stable SSA in one historical period may be replaced by a completely different system in another period. The requisites of sustained capital accumulation will thus affect, and be affected by, the evolution of institutions comprising a given historical SSA.

If the socioeconomic institutions of an SSA evolve in such a way that there is a relatively favourable investment climate and reasonable profit expectations, a sustained period of economic growth will result. The power struggle between capitalists and other economic groups, however, is a ceaseless one and challenges to capitalist control in any number of institutions may eventually begin to erode the efficacy of those institutions in facilitating smooth and stable investment.

The erosion of one or more institutions of a particular SSA may result in either a short-term business cycle downturn or a long-term generalized economic crisis. Bowles et al. distinguish between reproductive and nonreproductive cycles in order to show how the normal business cycle trough differs from a crisis. In a reproductive cycle, "a downturn in economic activity is corrected by the functioning of the cycle itself ... it endogenously restores conditions for rapid accumulation without requiring fundamental changes in the structure of the accumulation process", while in a nonreproductive cycle, "a downturn does not correct itself endogenously and ... requires basic changes in the institutions that regulate the accumulation process and establish the conditions for profitability" (Gordon, Weisskopf and Bowles, 1983, pp. 152-153).

Reproductive cycles, therefore, are predominantly associated with long-swing expansions, while nonreproductive cycles are predominantly associated with long-swing declines or crises. In the crisis phase, frictions which are endogenously generated by the normal functioning of capitalism

> ...eventually begin to erode the SSA, usually after a period of several decades, and consequently undermine its effectiveness in promoting

profitability, investment and growth. The social order then enters a period of crisis during which political struggles develop over the institutional restructuring necessary to re-establish conditions for successful accumulation (Bowles, Gordon and Weisskopf, 1986, p. 133).

SSA adherents stress that the United States economy has undergone three periods of long-wave growth and decline over the past one hundred fifty years, each characterized by a unique set of socioeconomic institutions which facilitated rapid growth for a time but eventually lost its efficacy. In the resulting crisis phase, a new set of institutions evolved, not without protracted birth pains, to set the stage for a renewed economic expansion. The latest of these long waves is dated from the end of World War II to the present, with rapid economic expansion being eclipsed by generalized economic crisis from about 1967 onward. This era is the main focus of the bulk of empirical work done by SSA theorists.

The crisis of the postwar SSA in the United States is traced to the erosion of four principal institutions underpinning capitalist power during the period of growth. These institutions are called the Capital-Labour Accord, Pax Americana, the Capital-Citizen Accord, and the Moderation of Inter-Capitalist Rivalry. The following descriptions are summarized from Gordon, Weisskopf and Bowles, 1987, pp. 48-51.

The Capital-Labour Accord of the postwar era was characterized by a generally implicit understanding between big capital and primary labour market unions that, in exchange for unchallenged management control over work organization and decision-making, workers would receive real wage increases commensurate with productivity increases. This understanding was made possible by an increase in labour market segmentation according to job description, gender and race, and by an increase in management devoted to supervision activities. The erosion of the Capital-Labour Accord is dated from the mid-1960s, as the United States economy neared full employment and the resultant decrease in the "cost of job loss" began to give workers the ability to challenge the power of capital in the workplace.

Pax Americana was the United States-dominated constellation of international economic institutions and political relations in the postwar period which guaranteed free mobility and favourable terms of trade for domestic capital. This domination was highlighted by the unchallenged superiority of the United States military and the dollar as the main currency facilitating international exchange. After the mid-1960s, however, United States capital found itself increasingly constrained as American military superiority was challenged, terms of trade began to shift in favour of Third World nations, and dollar hegemony was eroded.

The Capital-Citizen Accord was embodied in the American state which acted as a broker in the postwar period between the profit requisites of capital and the needs and demands of the domestic citizenry. By the mid-1960s, citizens' demands on the state for occupational health and safety, environmental protection, consumer product safety, and state-subsidized health and education began to erode the accumulation function as the top priority of the state.

The Moderation of Inter-Capitalist Rivalry provided the fourth cornerstone of the postwar SSA facilitating relatively smooth and rapid capital accumulation for two decades. Following the Second World War, United States capital faced virtually no competition from capital based in Europe and Japan, and seemingly limitless growth opportunities at home mitigated excessive competition among domestic capitals. After the mid-1960s, however, the reconstructed economies of Europe and Japan created an intensification of international competition, and the decline of profitable growth opportunities at home sharpened domestic competition. This increase in the intensity of inter-capitalist rivalry undermined the ability of the capitalist class as a whole to exert economic power over other groups.

Leading SSA theorists have attempted to measure the effect of the erosion of each of these four institutional cornerstones of the postwar United States economy on the general rate of profit (Bowles, Gordon and Weisskopf, 1986). Their conclusion rests on their empirical findings that challenges to capitalist control have contributed significantly to the disintegration of the postwar SSA which facilitated two decades of robust growth. Continual downward pressure on the rate of profit resulting from these challenges has caused declining levels of new capital investment and a generalized economic crisis.

The SSA approach, even as an improvement upon the more narrowly focused approach of its precursor RSL theory, has been subject to a number of theoretical and empirical criticisms. A general theoretical problem identified by Kotz (1990) is that the concept of an institution itself is not very well defined in the SSA literature. While the use of the concept by Bowles et al. implies that an institution is a set of social relationships which may facilitate or mitigate the accumulation process, Kotz points out that two dimensions are left indeterminate: the broadness or narrowness of the concept, and the question of what social phenomena are excluded (p. 21). How narrowly or widely an institution is defined will obviously have consequences for its empirical representation, as well as its lifespan, relative stability and ultimately its effect upon accumulation. Unless clearly defined, an institution could by default be "any social process or event which has more than an instantaneous lifetime" (Kotz, 1990, p. 21). The pitfall, of course, is that the concept of an institution taken to its logical extreme could be rendered meaningless: "Is the basic theoretical claim simply that the accumulation process is affected by all those social phenomena that affect it?" (Kotz, 1990, p. 22).

A related criticism is that the SSA theorists have not fully developed an explanation of the forces which integrate all the institutions of a given SSA. This risks leaving the impression that an SSA is simply a list of independent institutions, each of which affects accumulation in some way. The structural cohesiveness that is the trademark of Marxist approaches to crisis theory is thus underemphasized, and this is a weakness of the SSA approach (Kotz, 1990, p. 17).

Another difficulty faced by any theory which attempts to show direct links between institutions and capital accumulation is highlighted by the Marxist insight that continuous growth requires a delicate balance between contradictory forces and processes. For example, the wage level must be low enough to guarantee satisfactory capitalist surplus, yet high enough to guarantee the realization of that surplus. Mechanization must be rapid enough to maintain the rate of profit through productivity increases, yet slow enough to avoid depressing the rate of profit through overcomposition (Kotz, 1990, p. 19). Any institution will affect one or the other of two contradictory requirements at a given time, but SSA theory has not yet clearly shown how the necessary balance for sustained accumulation is achieved in each of its four main institutions of the postwar period. "Marxist theory requires a clearer specification of what determines which of the contradictory effects of a change in the conditions affecting accumulation will be the dominant one" (Kotz, 1990, p. 20).

The price-theoretic approach of the SSA school has proven to be a further source of criticism, mainly because it eschews the value-theoretic approach of more traditional Marxist crisis theories. Jessop (1990) notes that "the SSA approach operates primarily on middle levels of abstraction without moving from more abstract levels ... its proponents reject the labour theory of value and work instead with a price-theoretic approach" (p. 183). This lends a Keynesian flavour to the SSA theory, "given its emphasis on the capitalist's investment decision in an environment of uncertainty about the future" (Kotz, 1990, p. 13). The neglect of a direct treatment of how institutions affect the value rate of profit, however, is only a valid criticism if we accept that the price-theoretic categories utilized by SSA theorists are not adequate as proxies for their value-theoretic counterparts. The main elements of this debate were summarized in the critique of RSL theory above.

The fact that SSA theory works primarily from middle levels of abstraction rather than moving from the very abstract to the concrete underlies a more serious criticism from traditional Marxists. In attempting to reveal the connections between long-wave accumulation and the institutions of an SSA, "the concept ... is often presented in a more speculative and/or empirical manner than would be needed to satisfy the scientific realist canons of Marxist theorizing" (Jessop, 1990, p. 159). This leads to three problems with the way in which SSA theory is conceived (following Jessop, 1990, pp. 183-184). First, the object upon which an SSA operates is nowhere specified any more clearly than "stage or phase of accumulation". Second, this vagueness leads to an emphasis on a quantitative analysis of the linkages between institutions and the money rate of profit, as opposed to a qualitative analysis of how SSAs and their component institutions modify the "basic Marxist crisis tendencies". Third, without delineating a specific object upon which an SSA operates, the approach is forced to focus rather narrowly on "changing power relations within the four [institutional] pillars".

From these three problems in SSA analysis can be seen to emerge a more fundamental difficulty with the approach. The emphasis on the role of four specific postwar institutions "seems to ignore [structural] form analysis in favour of pure power struggles and/or to reduce SSAs to the material condensation of class compromises" (Jessop, 1990, p. 184). As a result, certain structural forms which do not directly reflect power struggles (such as the nature of money and credit), yet may properly be viewed as institutions affecting accumulation, are neglected or underemphasized. This underlies Kotz's portrayal of the SSA approach as leaning in the direction of the caricature of Marxism "as a fundamentally voluntarist theory of class struggle, in which the actions of classes, and their organizations and leaders, fully determine the course of structural development" (1990, p. 27).

SSA theory has been subject to criticism on a number of empirical and/or practical issues as well. The dating of institutional developments represents an empirical question which may result in theoretical difficulties for the SSA approach. For example, Kotz (1990) notes that although the Bretton Woods monetary system is treated as a central institution of the postwar SSA, "the historical evidence strongly suggests that ... [it] ... did not fully develop ... until the second half of the 1950s" (p. 18). The fact that an institution upon which a stable SSA is supposed to have been built did not fully develop until the accumulation phase was well under way "presents an exaggerated vision of how smoothly the process of institution creation proceeds" (p. 19). This may result in the need for minor, or in the extreme, major theoretical modifications.

Another case in which practical or empirical aspects of SSA theory may infringe upon its theoretical elements is its particular spatial and temporal focus. Howard and King (1989) note that Bowles et al. have been criticized for focusing their analysis too narrowly on the United States in the postwar period, thus paying "insufficient attention to the international dimensions of the crisis" (p. 34). This of course has implications for the SSA interpretation of the nature of the crisis and, more importantly, for how it is to be resolved.

More generally in this vein, the SSA approach has been criticized for being ambiguous in terms of policy recommendations for overcoming the economic crisis. Although the analysis seems to suggest that a new SSA is needed before vigorous accumulation can begin anew, it is unclear how the new set of institutions supporting it would be specified. As a result, Howard and King (1989) have been led to observe that "many orthodox economists have found themselves quite comfortable ... with [the SSA] model of capitalist behaviour" (p. 33). Indeed, it is unusual for a professedly Marxist analysis to be accused of neither criticizing capitalism nor advocating socialism (Devine, quoted in Howard and King, 1989, p. 33). The policy recommendations of the SSA approach, and their attendant criticisms, will be discussed more fully in Chapter 5 below.

Many of the above observations and criticisms point to the fact that, for the present purpose of explaining the growth of the financial sector in the context of generalized economic crisis, SSA theory may represent little advance over its precursor RSL theory. The conceptual advances on the real sector aspect of crisis are considerable, but we must look elsewhere to discover the role of the financial system in capitalist decline.

The Theory of Capitalist Regulation (TCR) Model

The Theory of Capitalist Regulation (TCR) is a relatively new approach to the modelling of capital accumulation and crisis, originating in the 1970s with the work of French political economists. Far from a unified paradigm, the "regulation school" now includes as many as seven different variants, all of which share some essential theoretical precepts but diverge in their construction of analytical models. This is testament both to the freshness of the TCR approach and the fertility of the intellectual ground it has broken.

In his review of the seven variants of the TCR approach, Jessop (1990) identified three of French derivation: the "Parisian", stemming from the pioneering work of Michel Aglietta, the "Grenoblois", championed mainly by Gerard Destanne de Bernis, and the "PCF-CME" account, inspired by Paul Boccara. The other four variants include the "Amsterdam" school, which employs a Gramscian analysis of hegemonic strategies, the "West German" school, following the work of Joachim Hirsch, the "Nordic" approach, associated with social scientists participating in the Nordic summer school and closely related to the Parisian approach, and the "North American", represented by the SSA model of Bowles et al. discussed above, and which Jessop treats as a unique variety of the TCR approach.

While each of these variants has made useful contributions to the development of the TCR paradigm, it is necessary to review only the two most well-known among them, the Parisian and the Grenoblois, for the present purpose. From these may be garnered a useful perspective on the way in which the main currents of the TCR approach view the problematic of accumulation, finance and crisis in advanced capitalism.

The Parisian TCR is widely recognized to have become a coherent approach with the publication of Aglietta's "A Theory of Capitalist Regulation: The U.S. Experience", in 1976. Since that time, this approach has been continued and expanded upon by Alain Lipietz and Robert Boyer, and also includes later works by Aglietta himself (Moseley, 1988, p. 4).

In common with the SSA model, the Parisian TCR has the advantage of recognizing that many and various institutional structures impinge in one way or another upon the process of accumulation through their indirect effects on the extraction of surplus value. This explains the "strong family likeness" between the two approaches as noted by Howard and King (1989, p. 30) and Bowles and Edwards (1990, introduction).

As with the SSA approach, the Parisian TCR emphasizes that each of the links along the Marxist circuit of capital must be firmly in place for the system to be continuously reproduced. It is naturally recognized, therefore, that a satisfactory treatment of all aspects of production, financial intermediation, and consumption is crucial to a relevant analysis.

For Parisian TCR theorists, the term "regulation", although unfortunately named, has a very specific meaning. According to Lipietz (1988), the "'regulation of a social relation' [is] the way in which this relation is reproduced despite and through its conflictual and contradictory character. Thus the notion of regulation can only be understood within a particular schema: relation-reproduction-contradiction-crisis" (p. 11).

In this way, the concept of regulation applied to an analysis of capitalism embodies both a historical and an evolutionary element, in common with the SSA model:

> The Regulationists thus deny that the capitalist mode of production is comprehensible in terms of a single set of laws that remain unchanged from its inception until its eventual supercession. They see the history of capitalism rather, as a succession of phases, each distinguished by certain historically developed, socio-institutionally defined structural forms that give rise, so long as they are maintained, to distinctive economic trends and patterns (Brenner and Glick, 1991, p. 46).

The central concepts of the Parisian TCR approach are "mode of regulation", "regime of accumulation", and "mode of development". Mode of regulation is the concept developed to show how the problem of regulation, or the way in which social relations are reproduced despite their conflictual nature, is resolved. A mode of regulation is composed of a particular constellation of institutions which Lipietz calls "forms of regulation", and which is closely related to the social structure of accumulation concept developed by Bowles et al.: "Social procedures and authority structures assuring the linked modification of norms constitute forms of regulation which together make up a mode of regulation" (Lipietz, 1988, p. 14).

A particular mode of regulation is not automatically reached or imposed exogenously, but evolves as a result of specific tensions between various forms of regulation as they themselves evolve from past modes:

> Each mode of regulation is constituted by a historically developed, relatively integrated network of institutions that reproduces the fundamental capitalist property relationships, guides the prevailing regime of accumulation, and helps make compatible the myriad decentralized decisions, potentially contradictory and conflictual, taken by the economy's individual units (Brenner and Glick, 1991, p. 48).

Regime of accumulation is the companion concept to mode of regulation in Parisian TCR analysis. While the mode of regulation is the specific institutional structure prevailing at any given time, the regime of accumulation is the social and economic matrix of a given historical period which is conditioned by the evolving institutional structure.

> The regime of accumulation is a mode of systematic distribution and reallocation of the social product which over a prolonged period is able to coordinate transformations in the conditions of production (volume of capital invested and its distribution among the branches and norms of production) with transformations in the conditions of final consumption (consumption norms of wage-earners and other social classes, collective spending, etc.) (Lipietz, 1988, p. 23).

Although the institutional structure comprising a given mode of regulation is naturally in a state of constant evolution, it is able to effect a relative stability in the prevailing regime of accumulation for brief periods of historical time. The combination of the twin concepts of mode of regulation and regime of accumulation in this way gives rise to the third basic concept of the Parisian regulationists, mode of development. A given mode of development is characterized by "a distinctive type of cyclical, non-threatening and self-regulating crisis" (Brenner and Glick, 1991, p. 48).

As long as a given mode of development is functioning well, it is able to lend a relative stability to the general rate of profit, as well as ensure that the surplus product is validated and the pace of investment and economic growth is maintained or increased. Even during the period when a particular mode of development is functioning well, however, endogenous changes in the mode of regulation take place which ultimately serve to undermine the stability of the mode of development and, in the process, set the stage for a new one. Nothing is exogenous to a particular mode of regulation or a unique mode of development. Any disturbing force is considered to be generated endogenously, embodied within any number of the various forms of regulation.

Over a period of time, each mode of development is weakened by the increasing severity of inherent contradictions between the evolving mode of regulation and the prevailing regime of accumulation, in a way which is loosely analagous to the Marxist concept of growing contradictions between the evolving forces of production and the prevailing relations of production. When coordination between the conditions of production and consumption can no longer effectively take place, a "rupture" in the mode of development is said to have occurred. This represents a crisis insofar as that particular mode is no longer able to reconcile the inherently conflictory natures of the institutions comprising the mode of regulation. "The outcome is a structural crisis, which - precisely because the old mode of regulation has broken down - is accompanied by the necessarily unregulated and conflictual actions of classes, firms, political groups and governments" (Brenner and Glick, 1991, p. 48). As a result, "the resolution of a crisis always involves an irreversible transformation of the mode of production" (Aglietta, 1979, p. 19). After a more or less protracted period of instability and turmoil, a new regime of accumulation, characterized by a new set of institutional forms or mode of regulation, gains ascendency.

In terms of a historical analysis of the various modes of development, the Parisian regulationists have identified two regimes of accumulation and two modes of regulation, which through various combinations have yielded three modes of development characterizing the history of capitalist production relations.

A regime of accumulation may be extensive or intensive in the Parisian typology. Under extensive accumulation, growth takes place mainly on the basis of lengthening the working day, increasing labour productivity or expanding the labour force. Under intensive accumulation, growth takes place mainly on the basis of investment in increasing magnitudes of fixed capital embodying technological advance. A mode of regulation, on the other hand, may be characterized as competitive or monopoly. Under a competitive mode of regulation, craft production predominates and prices and wages are determined more or less competitively. Under a monopoly mode of regulation, scientific management of production predominates along with oligopolistic price and wage determination through capital and labour monopolies and other institutions (summarized from Brenner and Glick, 1991, p. 49).

The three successive modes of development of capitalism as identified by the Parisian TCR theorists are extensive accumulation with competitive regulation, intensive accumulation with competitive regulation, and intensive accumulation with monopoly regulation. These three periods are loosely analagous to the three successive social structures of accumulation over the past one hundred fifty years in the analysis of Bowles et al.

The 19th century was, in the Parisian analysis, dominated by extensive accumulation with competitive regulation. In this view, the limits on productivity growth resulting from that particular regime of accumulation caused the depression of the 1890s. This was overcome after the First World War with the development of scientific management techniques, or "Taylorism", which ultimately evolved into "Fordism". For the Parisians, this marked the beginning of the brief period of intensive accumulation with competitive regulation. The depression of the 1930s, however, underscored the fact that competitive regulation could not guarantee the provision of sufficient effective demand to keep pace with the mass production capabilities of a system of intensive accumulation. This crisis of underconsumption was finally surmounted after the Second World War with the evolution of the system of intensive accumulation with monopoly regulation:

> ...this time the increase in the buying power of wage-earners (productive and unproductive) kept almost perfect pace with the increase in productivity. Since the increase in productivity was roughly the same in both departments, organic composition of capital remained almost unchanged, along with the rate of exploitation (Lipietz, 1988, p. 27).

With this theoretical backdrop, much of the work of Aglietta and other Parisian regulationists has focused on the causes of the current crisis as an exhaustion of the "Fordist" regime of accumulation which functioned well for over two decades in the postwar period. In terms of the specific "structural forms" or institutions comprising the mode of regulation which conditions the Fordist regime of accumulation, the Parisians share much common ground with the SSA school. Systems of wage bargaining, systems of social security, the existence of large corporations and financial groups, and a unified monetary system all make up elements of the Fordist regime of accumulation. These elements do not naturally come together to produce a stable environment, but are mediated by the state: "It is in the state, and there alone, that the cohesion of these structural forms can be assured, permanently jeopardized and as permanently reproduced by the fluctuating compromises of economic policy" (Aglietta, 1979, p. 383).

The cohesion of these various structural forms in the postwar period led to robust growth in the industrialized countries. On one hand, the domination of production and finance by large monopolies caused a rapid expansion of capital, and on the other hand, sweeping contractualization of the wage relation and the growth of the welfare state caused a rapid expansion of demand. In this way a balance was achieved, avoiding for a significant period of time the spectre of disproportionalities arising and leading to decline: "...mass production was accompanied by mass consumption, thus realizing the full development of 'Fordism'" (Lipietz, 1986, p. 18). The postwar period of growth was thus predicated on the existence of a rough balance between the rate of surplus value and the organic composition of capital, entailing a stable or rising rate of profit.

The Parisian TCR explanation of the current capitalist crisis, which they date from the late 1960s, is based on an erosion of the effectiveness of a central institutional pillar of Fordism: the widespread extension of contractual wage relations due to the generalization of assembly line production. The very institution which led, it is argued, to the mass consumption which made possible a stable regime of accumulation, itself generated the conditions for the undermining of that regime. Worker weariness, injury and alienation gradually led to a slowdown in the growth of the rate of surplus value due to productivity declines. As the organic composition of capital continued to rise without being offset by rises in the rate of surplus value, the rate of profit began to fall. Thus, for the Parisians, the ROC explanation works, but only as a function of class struggle at the point of production: "Whether the accent is placed on the profit squeeze or on the increase in the organic composition of capital, the present crisis of intensive accumulation seems to be a crisis in profitability, in contrast to the crisis in 1930 which was a crisis in overproduction" (Lipietz, 1988, p. 30).

Lipietz has found it useful to distinguish between this approach, which he calls the "productivity-pull profit squeeze", and the RSL (and SSA) approach, which he calls the "wage-push profit squeeze" (1986, p. 22). In this way he is able to lend to the analysis the particular institutional flavour of Fordism with its mass production techniques, and to avoid the "challenges to capitalist control" conclusion by showing that rising real wages were not incompatible with a rising rate of surplus value. This being said, however, the overall diagnosis of the current crisis, for Lipietz and other Parisian regulationists, ultimately reflects the view that capital was "'too weak' rather than 'too strong'" (Lipietz, 1986, p. 11).

At the heart of the Parisian TCR analysis, as in Marx, is the class struggle embodied in the wage relation. As the fountainhead from which surplus value issues forth, it is considered to be the only independent variable in the system. All other relationships and institutions in a given regime of accumulation are thus perceived to be a function of the wage relation. At the same time, the wage relation is also a dependant variable, conditioned as it is by the various institutions to which it gives rise. This characterization of the wage relation carries important implications for the Parisian approach, since it incorporates an axiom at the outset which conditions the entire analysis: "...competition between autonomous capitals issues from the fundamental antagonism of the wage relation that is the motive force of capital accumulation" (Aglietta, 1979, p. 18).

The implication of such a functionalist approach is that it excludes at the outset the possibility that competition among capitals, and the resulting concentration of capital and rising organic composition, may be conditioned by any other institutional factors than that of the class struggle between workers and capitalists. Indeed, for Aglietta, even the state is narrowly conceived as a direct function of the wage relation, rather than the embodiment of a multitude of class pressures (1979, p. 32). This type of functionalism, while proving to be quite controversial, has also yielded some important insights, particularly with respect to notions of imperialism and international regulation.

While not developing a full theory of imperialism himself, Aglietta nevertheless criticized writers on this subject for adopting analyses which are too economistic (1979, p. 30). In the Parisian TCR framework, notions of imperialism are themselves incorporated into an institutional structure characterized by a "system of states", which may be more or less stable depending on the particular balance of opposing forces both within and between them (Aglietta, 1979, p. 31). This implies that notions of imperialism and international relations which spring from the necessity to export capital (RF model) or the search for cheaper inputs and expanded markets (ROC and RSL models) are at best incomplete. Thus the vast growth of United States military expenditures in the postwar period, for example, acquires a broader meaning. It is perceived to be an institutional guarantor that a stable "system of states" remains intact for the facilitation of continued capital accumulation: "...militarism should not be interpreted simply as a convenient means of absorbing a surplus with which the market is unable to cope. It acquires its full meaning only in an analysis of the modalities of American hegemony within the system of states" (Aglietta, 1979, p. 33).

The Parisian TCR approach, more generally, has several advantages over the various crisis theories discussed above. Aglietta began with the "simple claim that accumulation and regulation were the twin faces of the capitalist system and that economic analysis had hitherto been too concerned with the former" (Jessop, 1990, p. 171). The analysis of the various structural forms involved in the regulation of a particular regime of accumulation brings to bear a broader socioeconomic perspective on the relationship between labour and capital in production, including such institutional considerations as the rise of mass production techniques and their influence on the wage relation. This is an approach which is also taken by the SSA model, but with considerably less subtlety.

A further strength of the Parisian approach is its emphasis on the continual evolution of the capitalist system through consecutive modes of development. As with

SSA theory, it recognizes that each era of growth may be initiated and ultimately destroyed by a different set of institutional structures than the next. The interplay of the dual concepts of regime of accumulation and mode of regulation, however, give the Parisian TCR approach more of a historical flow than that of the SSA. While the former characterizes institutional arrangements as being in a constant state of evolution and continually undermining the stability of a given regime of accumulation, the latter seems to project a false stability of each regime, which is undermined and replaced by a new SSA more quickly.

Despite its obvious strengths, however, the Parisian TCR has been subject to a number of theoretical and empirical criticisms. First and perhaps foremost on the theoretical side, the Parisians have been criticized for adopting an approach which is too functionalist. With the class struggle being the main determinant of all institutional forms in the system, the scope of the analysis may be too narrow:

> ...the Regulationists' one-sided concentration upon the historically specific institutions of wage-labour and associated balances of class power, to the neglect of the constraints imposed by capitalist social-property relations in general, especially inter-capitalist competition - flies in the face of the fundamental realities of capitalist development (Brenner and Glick, 1991, p. 113).

This functionalism tends to lead in turn to an overemphasis on institutional aspects, for which the Parisians have also been criticized: "It is hard to avoid the conclusion that a certain technological and institutionalist determinism underpins this analysis" (Foster, 1988, p. 29). Indeed, a central focus on institutions is only useful if it can be shown that the workings of those institutions impact in some direct way upon the creation and appropriation of surplus value. Those associated with the Parisian TCR approach sometimes seem to forget this:

> ...the two social dimensions included in the [TCR] definition of wage relations - social conditions of productive consumption, and reproduction of workers as labour power - are thought of as being separable from, indeed external to, capital. The real significance of social classes is thus reduced by substituting the notion of capital as a social relation with that of technology and institutions (Cataife, 1989, p. 42).

Foster has gone so far as to suggest that it is this very institutionalist predilection of the Parisian TCR school that has caused them to neglect to develop a theory of investment, taking refuge instead in the "mystique of a new technological order and ... an implicit 'underconsumptionist' frame of reference" (1988, p. 30). Indeed, there does seem to be some ambiguity in the writings of the Parisian regulationists with respect to their analysis of the causes of the current crisis, with the dual spectres of the productivity-pull profit squeeze and underconsumption both present in the model. Moseley (1988, p. 5) has also noted this ambiguity.

The emphasis placed by the Parisian regulationists on the structural aspects of the current regime of accumulation, conditioned as it is by a set of institutions or mode of regulation which is in turn the embodiment of class struggles, has been criticized for abstracting too much from direct class pressures and therefore being overly structuralist. In contrast to the SSA analysis, this perhaps overly structuralist approach underlies Kotz's portrayal of the regulationists as leaning in the direction of the caricature of Marxism "as a dogmatically structural theory, in which human action is fully determined by the outcome of impersonal structural forces" (1990, p. 27).

Two further theoretical criticisms of the Parisian TCR approach are similar to criticisms which have also been applied to SSA theory and elaborated above. The first is that the concept of an institution, or structural form, is not very well defined, leaving questions as to the broadness or narrowness of the concept and what social phenomena are excluded (Kotz, 1990, p. 21). The second is that an analysis which emphasizes the role of institutions in affecting accumulation needs to specify more clearly the effect of each institution on the contradictory requirements of accumulation at any given point in time (Kotz, 1990, pp. 19-20).

On the empirical side, the Parisian TCR approach shares another criticism with the SSA approach, the problem of the dating of institutional developments. Kotz (1990) notes, for example, that the period of mass consumption, or monopoly mode of regulation, in the United States has been considered by the various Parisian regulationists to have begun at any time between 1900 and 1945. This poses an empirical problem which "might appear to weaken the theoretical claim of a close tie between ... a Fordist labor process and mass consumption by workers" (p. 18).

With respect to the most recent mode of development, intensive accumulation with monopoly regulation, Parisian TCR theorists have been criticized for overestimating the extent to which mass contractualization of wage relationships and the growth of the welfare state actually underpinned the mass consumption which ostensibly sustained the postwar boom, while completely ignoring the growth of the permanent arms economy (Foster, 1988, pp. 27-28).

More generally with respect to empirical questions, the Parisian TCR approach faces the problem of quantifying the impact of institutional factors on the development of a given regime of accumulation. This is a difficulty shared with SSA theory and indeed with any approach incorporating a broad socioeconomic analysis. Although SSA theorists have made many attempts at exact specification and quantification of institutional impacts, the Parisian regulationists have not. This may not be as crucial, on the other hand, for TCR analysis given its more value-theoretic focus as opposed to the more price-theoretic focus of SSA theory. This difference will be elaborated below in the methodological issues section.

A final empirical or practical criticism of the Parisian regulationist school stems simply from its policy implications for overcoming the current economic crisis. Whereas Lipietz (1988) seems to suggest that some combination of higher productivity, higher profitability and higher wages can restore the rough balance between the rate of surplus value and the organic composition of capital he theorized was responsible for the growth period of the latest regime of accumulation, others (Moseley, 1988) have suggested that this fortuitous combination of factors may be mutually exclusive. Issues surrounding the policy prescriptions of all the crisis theories will be revisited in Chapter 5.

The Grenoblois approach, or Grenoble TCR, is somewhat less well-known than the Parisian approach. Based mainly on the writings of Gerard Destanne de Bernis, it is worth reviewing briefly for the different perspective it brings to regulation theory.

In common with the Parisian TCR and SSA approaches, the Grenoble framework is characterized by its incorporation of a broader set of socioeconomic and institutional factors than some of the more established Marxist models of crisis. In this context, every event which affects an economic system is considered to have been generated endogenously.

Also in common with the Parisian TCR and SSA models, the Grenoble approach recognizes implicitly that the continuous reproduction of capitalist relations requires a more or less smooth transition between all the links in the Marxist circuit of capital. While avoiding the tendency to slip into an underconsumptionist analysis, the Grenoble TCR recognizes the importance of realizing the surplus as well as the importance of the conditions under which it is created:

> Stability is based on the correspondence - which should not be seen as naturally attained - between the forms of competition, class struggle, and the conditions ensuring a satisfactory rate of profit. When the above mentioned correspondence is realized the economy is said to be regulated (de Bernis, 1990, p. 30).

There is, in the Grenoble approach, a certain element of institutionalism which is integral to any useful socioeconomic analysis of crisis. However, this institutionalist aspect, unlike that of the Parisian TCR analysis, is never allowed to become crystallized as a structurally dominant analytical factor: "In [the Grenoble] view, institutional procedures and technological changes give way to both class struggle and capital competition" (Cataife, 1989, p. 42). The institutionalist approach is thus only seen as useful insofar as it impacts demonstrably on these two factors, which remain at the heart of the analysis throughout.

The functionalist predilection of the Parisian school is likewise not evident in the Grenoble model. Emphasizing "social procedures" which are all conditioned in general by class contradictions and the requisites of capital accumulation, the latter approach "constitutes a crucial difference from the Fordist analysis which stresses more the functional link between the different economic variables" (Cataife, 1989, p. 43).

More precisely, the Grenoble approach operates on two main theoretical levels, as identified by Jessop (1990):

> First, it explores the most abstract laws of capitalism and the general conditions for their effective articulation so that accumulation can continue. There are two such laws. The first law comprises the tendency of the rate of profit to fall and the mobilization of countertendencies to maximize this rate. The second is the tendential equalization of the profit rate across branches ... Second, in more concrete terms, [the Grenoble TCR] examines the specific forms assumed by these laws and their articulation in particular productive systems (p. 175).

The workings of the "two laws" of the rate of profit are drawn directly from Marx and constitute a central axiom of the Grenoble model. These two laws operate to effect an interactive rather than functional relationship between class struggle on the one hand and competition between capitals on the other. This position is summed up by de Bernis as follows:

> Technological change and class struggles occur in relation to the capitals which are invested in the different industries. Fractions of capital move from industry to industry, introducing new techniques and succeeding in many cases in overcoming entry barriers. The specific conditions of exploitation that these movements create within each sector, generate specific forms of class struggle. At the same time, technological transformations, forms of competition, and forms of class struggle should also be seen in a unified manner (1990, p. 30).

The more concrete theoretical approach of the Grenoble school is to analyze how regulation takes place at the level of productive systems rather than national economies. In the words of de Bernis, "A 'productive system' is a coherent whole in which the labor process and the process of production 'correspond' in such a way as to produce a surplus which can be accumulated. The 'productive system' is thus the spatial whole in which a mode of regulation is applied" (1990, p. 49). This concept is loosely analagous to the

Parisian concept of mode of development, which combines mode of regulation and regime of accumulation in a particular spatial and temporal setting. For de Bernis, however, the concept of regime of accumulation is superfluous. The productive system provides the spatial locus of the analysis, while the mode of regulation provides the institutional and temporal aspect.

For the Grenoble analysis, then, the "analagous triplet which also moves from abstract to concrete ... comprises the articulation of the two laws of profit within limits consistent with a balance between the productive structure and the satisfaction of social need; productive systems; and modes of regulation" (Jessop, 1990, p. 176).

Three modes of regulation during the period of industrial capitalism are identified by the Grenoble TCR school: a competitive stage characterized by small and medium-sized firms and a repressive regime of absolute surplus value extraction, ending in the last quarter of the 19th century; a stage of monopoly and antagonistic imperialisms centred on capital exports and establishing stable productive systems, ending with the First World War; and finally the stage of integrated monopoly capitalism characterized by a much more integrated regulation of monopoly capital, state intervention, and imperialism (summarized from de Bernis, 1988, p. 48, and 1990, pp. 33-34).

The seeds of crisis are, for the Grenoble theorists, rooted initially in the movement of the two laws of profit within the productive system. As the productive forces within the system develop in response to the workings of the two laws of profit, they increasingly come into conflict with the prevailing mode of regulation due to lags and rigidities rooted in the attendant institutional structure. As time goes on, the continual maintenance of an acceptable rate of profit becomes more and more difficult, leading to crisis:

> If a fall in the rate of profit occurs when the social procedures of regulation are effective, the profit rate can very rapidly be reestablished and a 'regulatory crisis' will eliminate disequilibria. But if this fall occurs when countertendencies to an evening out of profit rates are strong and capitalists have more and more difficulty reestablishing the level - ie., when the social procedures of regulation have become ineffective ... the structural stability of the process of accumulation has been broken (de Bernis, 1988, p. 53).

It is interesting to note that, unlike the Parisian TCR approach, the Grenoble school does not explicitly refer to the Marxist rate of profit expression to identify the exact factors responsible for its initial decline. Rather, the law of the falling rate of profit is taken to be an undeniable fact of capitalist economic organization, caused by any number of factors in any given productive system and mode of regulation. This means that the Grenoble approach may be theoretically compatible with any of the RF, RSL, ROC, SSA or Parisian TCR explanations of the initial cause of the rate of profit to decline. The writings of de Bernis, however, would seem to suggest that his analysis of the decline of the rate of profit in the current crisis period is more closely associated with the overcomposition of capital argument of ROC theory, rather than any variant of the profit squeeze or underconsumption arguments of the other crisis theories. Thereafter, of course, the theoretical track is much different, and arguably much more ambitious, than that of the other crisis theories.

The concept of imperialism in the Grenoble view is similar to that of the Parisian TCR, which developed a useful approach in the conception of a system or network of states that ensures international stability and thus facilitates international accumulation.

It is necessary to consider, moreover, the role of a single dominant or hegemonic country in this network, whose actions serve to ensure the continued maintenance of a stable productive system. Through political, economic or military means, as well as the maintenance of an internationally stable monetary system, the core country prolongs the viability of a given mode of regulation as long as it has the power to do so. When this power begins to fade as an endogenously induced result of the normal functioning of the two laws of profit, the entire mode of regulation begins to erode as the productive system, and with it international stability, breaks down. This analytical approach is crucial to an understanding of the role of the United States in the postwar period of growth and subsequent decline.

Internationally, a crisis is manifest as "'experiences' spread from one productive system to another, and especially from the dominant productive system" (de Bernis, 1988, p. 51). Thus an emphasis on the relationship between hegemonic and non-hegemonic states is important. Usually it will be the case that the origins of a crisis, which eventually brings an end to a given mode of regulation, can ultimately be traced to the productive sector of the hegemonic country. Although the seeds of crisis may be latent in other countries, the initial disruption in the network of states occurs in the core country: "...a crisis in the mode of regulation occurs when the modalities themselves are being upset and when the relations between the different productive systems undergo fundamental transformations" (de Bernis, 1990, p. 32).

A final useful concept of the Grenoble TCR is the "double analytical schema" of de Bernis (1988, p. 55). In this view, two contradictory processes take place during a period in which a given productive system and corresponding mode of regulation is in decline. On one hand there is a destruction-reconstruction tension, in which the destruction of the old institutions and production relations which underpinned the declining mode of regulation takes place alongside the construction of new ones, struggling to reinvent the conditions for profitability and a new mode of regulation.

> The crisis is the destruction of the old order, that has passed, at the same time as it marks the contradictory, difficult, and slow birth of a new order. These are not successive phases but two movements present together in a contradiction resolved in the unity of the crisis (de Bernis, 1988, p. 55).

On the other hand there is an inflation-deflation tension, in which chronological sequences of inflation and deflation become manifest. As businesses attempt to forestall declines in profitability by raising prices, governments attempt to bolster demand through borrowing and spending, and workers attempt to maintain real wage levels through contract negotiations, upward pressure on prices results. "Eventually, however, these actions [produce] the opposite reaction of government anti-inflation policies, which [usher] in the deflationary phase" (Moseley, 1988, p. 6).

It has been pointed out by de Bernis, of course, that these anti-inflationary policies are currently increasing the likelihood of another deep depression (as noted in Moseley, 1988, p. 6). This insight is similar to both Aglietta and Minsky, who share the view that anti-inflationary policies may trigger a depression by forcing a liquidity crisis in the financial sector. This discussion is elaborated below in the section on the role of the financial sector in the emerging theories.

The implications of the double analytical schema for the rate of profit in the present crisis have not been completely elaborated by de Bernis. While it is obvious that the rate of profit must be restored as a necessary condition for a new mode of regulation and a new configuration of productive systems, the policy prescriptions of the Grenoble school are not made explicit in their writings. Some conclusions, however, may be confidently extrapolated from the analysis of de Bernis, and these will be elaborated below in Chapter 5.

Due to the lower profile of the Grenoble TCR in comparison with the more widely recognized Parisian TCR, critiques of the former have not yet been offered to any appreciable extent. By way of a critique, therefore, it may be useful to briefly review the apparent strengths and weaknesses of the Grenoble approach in relation to its Parisian cousin.

Whereas the Parisian TCR was criticized for overemphasizing the impact of the wage relation on the development of institutions and thereby adopting too functionalist an approach, the Grenoble TCR has attempted to avoid this functionalism by emphasizing the dual aspects of class struggle and competition between capitals in conditioning the behaviour of the rate of profit. Further, the emphasis on the workings of the two laws of profit in the Grenoble analysis allow it to avoid charges of technological and institutional determinism which befall its Parisian counterpart. Finally, the theory of investment implicit in the interaction of the two laws of profit operating within a given productive system helps the Grenoble approach to avoid the tendency toward an overly structuralist analysis in the way that the Parisian approach has done.

The real criticisms of the Grenoble TCR, in fact, seem to be only twofold. First, although the analysis makes use of the "two laws of profit", it has not made explicit the connection between the double analytical schema and the movement of the rate of profit: "In what ways, and to what extent, is the rate of profit restored through these processes?" (Moseley, 1988, p. 6). Second, although hints are given, it is never made clear how the present crisis is to be overcome: "de Bernis studiously avoids a definite prediction, but his analysis suggests that a great deal more reorganization and deflation will be required before a lasting recovery will be possible" (Moseley, 1988, p. 6).

Overall, the two regulationist approaches we have reviewed represent a significantly more subtle and complex approach to crisis modelling than the three established theories and even the SSA approach. While historical periodization and institutional impacts on accumulation within a given regime of accumulation or productive system are advantages in common with the SSA model, the regulationists go further than SSA theorists in attempting to integrate international aspects more fully into the analysis and, moreover, to integrate aspects of the financial sector more closely with their analysis of capitalist production and accumulation. These methodological differences and perspectives on the role of the financial sector will be discussed more thoroughly below. For the moment, we turn to the final theory in our review of the emerging radical political economy.

The Financial Instability Hypothesis (FIH) Model

The Financial Instability Hypothesis (FIH) of Hyman Minsky, first published in 1977, represents a unique attempt in the Post-Keynesian tradition to demonstrate how the normal functioning of a healthy capitalist economy can endogenously generate the conditions which lead to financial collapse. Further, it attempts to show that a crisis which originates in the financial sector can be transmitted to the real sector, resulting in generalized crisis and depression. Thus for Minsky, the line of causation for the transmission of crisis is opposite to that of the foregoing crisis theories.

Minsky maintained that the prevailing neoclassical orthodoxy incorrectly regards problems such as inflation as evidence that, due to some exogenous influence, capitalism is not behaving as it is "supposed to" (ie. tending toward equilibrium). His alternative was to put forth a hypothesis to explain that indeed the system does behave as it is "supposed to", given the institutional structures of modern capitalism. In other words, an instability tendency is characteristic of a normally functioning capitalist economy "with sophisticated financial institutions ... once economic intervention prevents fragile financial relations from leading to debt deflations and deep depressions" (1982, p. 90).

The system Minsky develops is a dynamic one, the key elements being time and uncertainty with respect to capital asset prices, investment, and liability structures of both households and businesses. His goal is to demonstrate the integral relationship between the liability structure on one hand and cash flow commitments on the other, with profit flows playing the important role of validating financial commitments: "The principle variable influencing expectations is the flow of profits ... the profit rate, for Minsky, is a much more ambiguous and less significant analytic category" (Pollin, 1986, p. 217).

Taking what he calls the "Wall Street View", with the exchange of "money today" for "money tomorrow" as the key transaction, Minsky sets out the dynamics of the system:

> Yesterday's debts and capital asset acquisitions have to be validated by today's cash flows; today's cash flows are largely determined by today's investment; today's investment will or will not be validated depending on the cash flows that are generated tomorrow (1982, pp. 102-103).

With such an important validation role for cash flows, which are ultimately conditioned by profits, the next step is to discover what determines profits. Minsky accepts investment to play this role. Investment, in turn, is determined by the prices of capital assets and investment goods, profit expectations, and the availability of external financing.

In an expansionary period when profit expectations are high, new borrowing expands faster than profit flows: "This is a theory of rising leverage, not a theory of declining profit flows" (Pollin, 1986, p. 218). As this trend continues, the financial structure becomes increasingly fragile, characterized by a predominance of more and more vulnerable "financial postures" for assets in position. The three financial postures, from the most secure to the least, are:

> (i) Hedge Finance - cash in exceeds cash out in every period; expected present value is positive for every set of finite interest rates; (ii) Speculative Finance - cash in falls short of cash out in near term, but income portion of cash in covers interest portion of cash out; expected cash receipts in longer term are expected to exceed commitments; continuous rollover or refinancing of asset is required to meet near-term financial commitments; present value is positive for a set of low interest rates, negative for higher interest rates; (iii) Ponzi Finance - cash in falls short of cash out in near term, and income portion falls short of interest portion; outstanding debt must be increased in order to meet financial obligations; presumably the only reason for holding this type of asset is the possibility of a future "bonanza" that will make the present value positive for low enough interest rates (summarized from Minsky, 1982, pp.105-106).

At a high level of confidence, with Speculative and Ponzi assets most prevalent, the financial system becomes extremely vulnerable to exogenous "shocks" such as fluctuations in the short term interest rate. A shock of this type may ultimately become the trigger which sets off a financial crisis, argues Minsky, characterized by falling capital asset prices and endemic bankruptcy. Further, this is transmitted to the real sector through a fall in investment and income: "Thus, for Minsky, a basic causal link exists between a fragile financial structure and deep depressions" (Pollin, 1986, p. 218).

The underlying cause of crisis in this analysis is endogenously generated, but it is ultimately touched off by exogenous forces. A robust financial structure, on the other hand, could easily absorb and withstand these exogenous shocks. Minsky further maintains that the financial system has become increasingly fragile since the end of the boom period of the 1950s and 1960s, and that a deep debt deflation resulting from that boom has been avoided only because of ongoing massive intervention by the central bank. This continual validation of "an underlying inept set of capital assets" (1982, p. 113), he argues, is responsible for both endemic stagflation and an increasingly fragile financial structure.

While this brief summary of Minsky's FIH does not do justice to the complexity of his argument, several strengths and weaknesses of the approach may be elaborated at this point.

The major strength of the FIH is that it places a thorough treatment of the financial sector at the heart of its analysis, unlike many of the Marxist theories of crisis which focus too narrowly on production at the expense of finance. Through an exposition of the institutional workings of the postwar financial structure of the United

States, Minsky demonstrates how a robust financial system can be transformed into a fragile one. Further, the insight that an increasingly fragile financial system may ultimately collapse, transmitting a crisis to the real sector and causing a deep depression, is an important one.

The weaknesses of the FIH, on the other hand, derive mainly from the fact that the Keynesian framework upon which it is built is ultimately flawed. If the Marxist theories of crisis outlined above were guilty of focusing too narrowly on the real sector at the expense of developing a comprehensive treatment of the financial sector, Minsky has erred in the opposite direction. The explanation for the initial boom period of business euphoria which breeds the conditions for rising debt leverage relies implicitly on the Keynesian theory of investment. From a Marxist perspective, profit expectations, or the "animal spirits" of investors, do not constitute a sufficiently rigorous treatment of the impetus for real sector investment: "For a Marxist paradigm, we cannot understand financial crises in their full measure without integrating into the analysis the tendencies over time inherent to the spheres of production and exchange" (Pollin, 1986, p. 223).

This narrow focus leads to the failure of the FIH to shed light on the reasons why private debt has continued to increase throughout the latest crisis period. Whereas RF theory attributes this to wasteful expenditures such as corporate takeover ventures to absorb a surplus, and ROC and RSL theory attribute it to attempts by corporations to stave off falling profit rates, there is little that is explicit in FIH theory to explain why corporations would not retrench. As Pollin (1986) notes, therefore, the FIH "cannot adequately explain the phenomenon of increasing debt financing within a framework of stagnating real corporate profits and investments" (p. 222).

Despite a somewhat faulty theoretical structure, however, Minsky's FIH shows clearly how United States central bank intervention to prevent financial collapse on several occasions in recent years has contributed to inflation, real sector investment stagnation and greater financial instability. In this respect his analysis is similar to that of the two TCR variants, both of which integrate a financial sector analysis more thoroughly into their theories than do their Marxist predecessors. Comparisons of the role of the financial sector in these theories are offered in the last section of this chapter, and policy prescriptions are elaborated further in Chapter 5.

Methodological Issues in the Emerging Theories

Taken together, the three theories of SSA, TCR and FIH, as "emerging" theories of capitalist crisis, have developed approaches to economic decline which sometimes build upon, and sometimes diverge sharply from, those of the established theories in Chapter 2. In one sense, the emerging theories represent attempts to broaden the focus of crisis analysis by examining the historical and institutional factors conditioning the rate of profit at any given conjuncture. In another sense, while this approach may yield some useful insights, it poses a difficulty in terms of measuring the impacts of all the relevant socioeconomic variables on the rate of profit, lending at times a vagueness to the project of determining its precise movements.

The question of whether measurements of the precise movements of each component in the Marxist rate of profit expression is even necessary for crisis analysis is the first methodological issue to be reviewed. While we have noted that SSA theorists operate primarily on middle levels of abstraction, working with a price-theoretic facsimile of the Marxist value-theoretic rate of profit expression, TCR theorists work, "if not with the discredited labour theory of value, with a fruitful, form-analytic 'value theory of labour'" (Jessop, 1990, p. 183).

Following Jessop, this subtle difference in focus has three key implications. First, while the object of regulation is clearly defined in TCR theory as a particular regime of accumulation, mode of development or productive system, the object of regulation is not defined in SSA theory beyond distinguishing between successive stages of SSAs. Second, SSA theorists are primarily concerned with the quantitative issue of the impact of institutions directly on the rate of profit, while TCR theorists are more concerned with the qualitative issue of how the interplay between modes of regulation and accumulation regimes or productive systems modify the basic Marxist crisis tendencies. Third, while TCR theory explains crisis in terms of conflicting dynamics between modes of regulation and accumulation regimes or productive systems, SSA theory must focus on institutional modification or collapse within a given SSA (1990, p. 183).

The FIH, of course, operates at lower levels of abstraction than the SSA and TCR models, and indeed is not concerned with the profit rate in either price-theoretic or value-theoretic terms, but instead focuses on cash flows as conditioned by investment in previous periods. Naturally, this approach is seen to be deficient by Marxist standards, since it ignores any rigorous treatment of how the rate of profit affects profit flows and investment.

The lesson from this may simply be that, despite the inherent advantages of a broader institutional analysis for crisis theory, straying too far from the Marxist value-theoretic rate of profit expression can tend to lead a theoretical perspective into perilous methodological waters.

A second methodological issue for the emerging theories concerns their treatment of the determinants of investment. A theoretical pitfall of institutional analyses is their tendency to allow the existence of a particular institutional configuration to substitute for a theory of investment simply by providing the right "climate" for investment decisions to be undertaken. This is a trap into which the SSA theory sometimes falls. By virtue of its focus on the way in which class conflict shapes the main institutional pillars of the postwar United States economy, there arises a tendency to view the institutional structure itself as creating or circumscribing the conditions for capitalist investment. The conception of investment as being driven directly by the class struggle and/or competition between capitals is thus displaced in favour of an overly institutional analysis.

The Parisian TCR is also guilty of sometimes subsuming an analysis of the direct determinants of investment beneath an institutional blanket, but not to the same extent as the SSA approach. The emphasis on class conflict as the main determinant of the institutions which shape a particular mode of regulation is in some respects similar to SSA theory, but the greater proximity of the Parisians to the value-theoretic rate of profit expression rescues the theory from becoming overly institutionalist. The class struggle between workers and capitalists, however, is sometimes viewed as the singular impetus for investment, and this approach neglects any treatment of competition between capitals as part of a theory of investment.

Perhaps the theory which best integrates the class struggle and competition between capitals in a theory of investment is the Grenoble TCR, and this may be directly attributable to its close affinity with the Marxist analysis of the determinants of the rate of profit. In this view, investment is conditioned by the rate of profit, which is in turn directly affected by the dual result of the outcome of inter-class struggles and intra-class conflicts.

The FIH relies for its theory of investment on the Keynesian formula of capital asset pricing and investment goods pricing, the availability of external financing and, above all, the profit expectations of capitalists. This of course does not satisfy the requirements of a Marxist theory of investment since class issues are not present in the investment decision. As a result, the FIH as a theory of crisis is incomplete.

A final methodological issue in the emerging theories is their conceptualization of the state and the role it plays in capitalist growth and crisis. The SSA approach views the state as an integral component of two of its institutional axes in the postwar United States: Pax Americana and the Capital-Citizen Accord. In this dual role, the state is seen as crucial to the earlier profitability of the postwar period by ensuring United States hegemony in the international arena and by brokering the conflictory demands between capital and the general citizenry in favour of the former. As the state's ability to successfully carry out this dual role became attenuated, these institutions began to break down and the crisis ensued.

Both variants of TCR theory go somewhat further than SSA theory in integrating the role of the state into their analysis of capitalist growth and decline. While the

Parisians see the state as the embodiment of class struggle, the Grenoblois see it as the arena in which a multitude of class issues, including worker-capitalist struggles and inter-capitalist conflicts, are decided. Both variants, moreover, view the state as playing a central role in the continued stability of a given regime of accumulation, mode of development or productive system through its interaction with other states on the international stage.

The FIH presents the role of the state in a somewhat less integrated fashion than that of the SSA and TCR approaches. In the FIH view, the state is seen to be somewhat of an "ideal collective capitalist", in the Keynesian tradition of underwriting the efficacy of the system through demand management and income redistribution techniques. Absent from this view of the state is its effect on the rate of profit, except perhaps indirectly through its taxation and redistribution powers.

In general, the conception of the state in the SSA and FIH approaches is one of a more or less independent arbiter of various conflicting interests and demands. The TCR variants, on the other hand, more in line with the traditional Marxist view, consider the state to act first and foremost to guarantee the conditions for continued capital accumulation. This means that the state, although relatively autonomous, usually acts in the interest of the more influential capitalist class.

Finally, although it is recognized that no theory of crisis has yet managed to fully integrate the role of the state into its analysis, it may be noted that as a general rule, the more fully integrated the role of the state, the richer the analysis. In Jessop's words:

> ...the state itself can be seen as a complex ensemble of institutions, networks, procedures, modes of calculation, and norms as well as their

> associated patterns of strategic conduct ... the state itself must be an object as well as an agent of regulation ... this is what gives the political sphere its relative autonomy and means one cannot treat politics just as 'concentrated economics' (1990, p. 200).

Role of the Financial Sector in the Emerging Theories

We have seen that the theories of the emerging radical political economy have attempted in various ways to broaden the analysis of capitalist expansion and crisis offered by the more established Marxist models. While these theories have met with some success and encountered some pitfalls in this pursuit with respect to their analyses of the real sector, it remains to be seen what advances they have made in integrating the role of the financial sector.

It will be recalled that, except for Sweezy's attempt to show how a preponderance of surplus money capital leads to an imperialist thrust outward from the hegemonic country and a corresponding financial explosion, the established theories did not take us much further than a "relatively autonomous" perspective on the financial sector.

The emerging theories have attempted, to varying degrees and with varying degrees of success, to integrate the real and financial sectors more closely together in their analyses than did their predecessor theories. Beginning with the SSA theory, it is recognized that the development of the particular social structure of accumulation which underpinned the United States-led postwar boom necessitated the existence of a stable international monetary regime. Although earlier work in the SSA tradition recognized more or less explicitly the existence of the Bretton Woods monetary system as an institution facilitating capital accumulation both in the United States and abroad, later work in this tradition has shifted the focus away from an explicit treatment of the financial system. Nowhere in the discussion of the four institutional pillars of the postwar SSA can be found an explanation of the way in which the financial sector interacts with the real sector to first facilitate, and later inhibit, economic growth. "This shift in focus means that certain institutions (structural forms) which are important in the regulation approach (such as money, credit, and the structure of final demand) slip from view" (Jessop, 1990, p. 182).

Although it may be argued that the institutional form of Pax Americana implies, for the SSA theorists, a dominant role for the dollar and United States financial institutions in the international monetary system, there is nowhere in the theory an explicit treatment of the way in which money and credit relations directly affect the real sector. As a result, the SSA theory must, by default, implicitly rely on the "relatively autonomous" view of the financial system taken by the established Marxist models.

Both variants of the TCR school, by contrast, have made significant headway in integrating the financial sector with the workings of the real sector to explain economic growth in a given regime of accumulation or productive system. Beginning with the correspondence between the esoteric economy (internal relations) and the exoteric economy (surface relations) of Lipietz (1983), the Marxist correspondence between values and their validation in money price terms is emphasized. To use the analogy of Blaug (1985), the esoteric economy is the "basement" and the exoteric economy is the "first floor" of the house. The money and credit-contract system plays a crucial role in linking the esoteric with the exoteric economy, permeating both commodity and wage relations:

> This legal token of acknowledgement is a social institution, money, and the necessity of obtaining the acknowledgement of the social validity of one's own produce through an exchange for money, if one is to enforce his right to an equivalent part of social labor, constitutes monetary constraint ... It is because the actors are aware that they can validate their products against a quantity of money (realize them in money) that they perceive their products as having 'value' and even 'a' value (Lipietz, 1988, p. 18).

Every transaction along the Marxist circuit of capital, or at an even more abstract level, among economic agents influencing the general rate of profit, must be validated by money and the financial system: "What conditions are required of an institution for it to serve as money? ... it must be socially acknowledged as representing value and it must be unconditionally exchangeable in this capacity, ie., in contrast to commodities it need not be validated but is validated a priori" (Lipietz, 1988, pp. 18-19).

In order for money to unconditionally represent value, it must exist within a stable financial system. TCR theorists accordingly view the financial system as a central institutional pillar in any mode of regulation. Thus, for de Bernis, "A productive system is a monetary economy. Money (bank money in industrial capitalism) is issued within the process of production proper and exclusively there" (1988, p. 49). Similarly for the Parisian TCR theorists, a regime of accumulation requires as a basic condition for its existence a stable monetary system, usually guaranteed by the hegemonic country.

In this view, the development of the real sector and the financial sector are crucially intertwined, each dependant on the other for validation of the correspondence between the world of values and the world of prices. During periods of growth in the real sector, therefore, we may observe a corresponding growth in the financial sector. In this context, Magdoff and Sweezy's comment is relevant: "...banks and other financial businesses, being capitalist institutions, operate under the same growth imperatives as do industrial corporations ... since the commodity they deal in is money, the key to growth and higher profit lies in marketing an ever larger volume of debt" (1987, p. 146).

The financial sector may thus take on an increasingly autonomous character, consistent with the views of the established Marxist crisis theories. At some high enough level of autonomy, the financial sector begins to become immune from a slowdown of growth in the real sector, however caused. Still backed by the institutional guarantee of the prevailing productive sector or regime of accumulation, the financial system increases the growth of credit to validate settlements which would otherwise not be reached. In this way, the financial sector continues to expand and become increasingly fragile even while the real sector stagnates, sowing the seeds of crisis.

For TCR theorists, this crisis begins with a fall in the rate of profit in the real sector, but ultimately detonates in the financial sector: "If the initial expression of an overaccumulation of capital is business euphoria, financial panic is the initial expression of a massive devalorization" (Aglietta, 1979, p. 361). The crisis is thus transmitted from the real sector to the financial sector and back again.

For Minsky and the FIH, the analysis of crisis resulting from increasing fragility in the financial sector is remarkably similar to that of the TCR theories, with one important difference. As we have seen, Minsky does not adequately anchor his analysis with a theory of growth for the real sector. Instead he relies on a "boom cycle" explanation for firms to acquire greater and greater amounts of debt, continually validated by an increasingly fragile financial sector. At some point, an "exogenous shock" triggers financial collapse and ushers in a full-scale depression.

Although Minsky has not integrated his treatment of the financial sector with the real sector as thoroughly as the TCR theorists, his important contribution to a greater focus on financial sector aspects of crisis should not be overlooked. Ultimately, however, it is the TCR approach which yields the most fruitful insights into the symbiotic relationship between the real and financial sectors both before and during an accumulation crisis. In the context of a stagnating production sector, financial crises can easily translate into deflationary depressions. Ultimately, a crisis may be intractable within a given regime of accumulation or productive system: "If the decline in profitability occurs in a context in which countertendencies to equalization are strong, then the crisis cannot be managed within the existing mode" (de Bernis, 1990, p. 34).

Chapter 4

The Signposts of Economic Growth and Decline

The foregoing analysis of the various established and emerging theories of capitalist crisis have provided a useful theoretical backdrop for a review of postwar capitalist growth and decline, with the United States as the hegemonic country and principle guarantor of structural stability. The crisis theories showed, moreover, that fruitful analyses of capitalist economies provide an integrated treatment of real sector accumulation and financial sector intermediation and validation.

To underscore the importance of a thorough treatment of production and accumulation in the context of a monetary economy with sophisticated financial institutions, we return briefly to the analysis by Crotty (1987) of the role of money in Marxist crisis theory. Crotty begins with the premise that "circulation and production constitute a unified whole and ... aspects of production have no a priori logical priority over aspects of circulation in the analysis of accumulation and crisis" (p. 72). A relevant Marxist crisis theory, in his view, must place money and credit relations at centre stage alongside a treatment of production relations. The following summary of the role of money in crisis theory parallels Crotty (1987) quite closely.

Marx begins his analysis of the role of money in crisis by demonstrating that any commodity exchange economy, regardless of its specific production relations, has the potential for crisis. In a simple commodity production economy, money is seen to have five different functions: a measure of value, a means of circulation, a store of value, a means of payment of debt contracts, and a means of international payment. The most important of these for crisis analysis in a simple commodity production environment is money as a means of circulation, while the most important of these in a more complex economy such as advanced capitalism is money as a means of payment of debt contracts.

In a direct barter system where commodities are exchanged for commodities, C - C, money and crisis play no theoretical role. In simple commodity production characterized by C - M - C, however, "money as means of circulation ruptures the simultaneity of purchase and sale" (p. 73). The separation of C - M and M - C into distinct phases, by separating the acts of purchase and sale in time and space, draws many producers into "a complex, interlocked system of social relations of production and exchange" (p. 73). Consequently, money in this system becomes "the medium of social cohesion, the tie that binds the fortunes of economic agents one to another" (p. 73).

Of course, by virtue of the fact that the fortunes of economic agents are bound together through money, the formal possibility of crisis arises. If the velocity of money declines, or in other words, if the desire to hold money as a store of value increases, the consequent decline in the demand for commodities can cause a crisis of overproduction. Marx emphasizes, however, that this formal possibility of crisis is not yet an explanation of crisis in any particular economic setting. To get to this point, Marx first turns to the other formal possibility of crisis, money as a means of payment of debt contracts.

With the separation of purchase and sale in time and space, contractual arrangements to buy and sell commodities at future dates begin to arise between buyers and sellers. Money as means of deferred payment, or credit, "creates a gap of profound theoretical significance between the time when money acts as a means of circulation and the time when money acts as a means of payment" (p. 75). There are now three separate acts, instead of two, required to complete the cycle: C - D, C - M, and M - D, where D stands for a debt contract. The original commodity is sold on credit by means of a debt contract. The debtor must then sell the commodity for money in order to obtain the means to complete the transaction by paying the debt contract.

The crucial point, for Marx, is that the introduction of credit contracts both extends the time and increases the number of transactions which must be made for the conversion of the original commodity into money. This adds an element of complexity, since "the reproduction process must drag its history with it as burden and constraint" (p. 75). Moreover, the growth of credit contracts creates "a variable degree of rigidity or fragility in the reproduction process" (p. 75). This arises because prices must be at sufficiently high levels to enable most contracts to be fulfilled, due to the complex interlocking of credit contracts throughout the economy.

In this situation, the formal possibility of crisis arises during an economic downturn characterized by a fall in prices. With falling prices, economic agents are forced to sell commodities to raise money for the fulfilment of their debt obligations. The crisis is thus characterized by "a collapse in commodity prices and a 'fleeing' to the money-form" (p. 76), resulting in rising interest rates and a flight from all perceived risky assets.

The next step for Marx is to move from this discussion of the formal possibilities of crisis to a treatment of actual crisis in advanced capitalism. Crotty portrays this as a four-step procedure. First, it is established that since capitalism is a commodity exchange mode of production, the crisis potential of simple commodity production in a monetary economy applies. Second, Marx argues that "the historical development of a complex contract-credit system and the rise of capitalism are simultaneous and symbiotic". Third, the movements of the rate of profit over time in capitalist economies are analyzed, demonstrating that it is responsible for unstable growth patterns. Fourth, these tendencies inherent in capitalist production relations are integrated with the analysis of abstract forms of crisis to produce a unified theory of capitalist crisis (summarized from Crotty, 1987, p. 77).

In previous chapters we have attempted to explain the tendency toward crisis in the real sector, generally characterized by an observed fall in the average rate of profit. Assuming that this fall in the rate of profit, however initially caused, is accepted as a general characteristic of a complex capitalist economy, we are now in a position to follow Crotty's analysis through its final stages to arrive at a fully integrated theory of commodity production and financial intermediation in capitalist crisis.

Once the role of money and credit contracts is introduced, it becomes apparent that a growth period driven by an attractive rate of profit in the real sector can be "overheated" by credit availability. As industry confidence grows, investment not only from retained earnings but also from debt financing, grows. Similarly, financial institutions are affected by the general feeling of confidence and expand credit as much as possible. In such a general atmosphere of business confidence, overexpansion is not only possible but probable: "...what might have been a moderate expansion in the absence of cheap and available credit may become a runaway boom when superheated by the credit system" (p. 78). However, we are also reminded that "in Marx's theory the high profit of the expansion is attainable only because the underlying production relations make it possible" (p. 78).

Just as the underlying production relations and the attractive rate of profit make possible such an overheated expansion, so they are also ultimately responsible for sowing the seeds of crisis. Two conditions must hold for the crisis to erupt. First, the increasing fragility of the credit-contract system in the mature expansion causes it to become more and more vulnerable to a decline in the general rate of profit. Second, the tendency for the rate of profit to decline at some point in every expansion provides the shock to the financial system which may precipitate a crisis. "The integration of these two phenomena is Marx's theory of crisis", and moreover, "The critical step in the integration of production and circulation in crisis theory is the recognition that the trend or average rate of profit in any historical period is the center of gravity around which the contract-credit system develops" (p. 78).

Within this general theory of crisis, a particular form of crisis may be touched off in one of two ways. First, a "semi-autonomous" financial shock can cause a sharp decline in credit availability, which may be enough to rupture an accumulation process built on complex credit structures. Second, a significant decline in the rate of profit, resulting in decreased profit flows and an increasing inability to fulfil contract obligations, may rupture the credit-contract system.

The important point is that, regardless of the trigger mechanism, which may take either form depending on the specifics of the accumulation expansion, the roots of crisis are ultimately found in the relations of production conditioning the general rate of profit in the real sector.

Once a crisis is under way, on the other hand, the severity of the downturn depends largely on the robustness of the financial sector, conditioned as it is by institutional guarantees such as a central bank which can rapidly increase liquidity in the economy and act as a lender of last resort.

> The condition of the contract-credit structure is a prime codeterminant of the depth and duration of the economic downturn in Marx's crisis theory. It is the severity of the decline in the profit rate in combination with the condition of the contract matrix that dictates the dynamics of the crisis, downturn and stagnation (Crotty, 1987, p. 80).

In turning to an analysis of the present crisis, we now have a unified theory of how the real and financial sectors interact to produce the conditions for capitalist crisis. In reviewing some of the main institutions and events of United States-led postwar growth, it will be most useful to rely on the analytical framework of de Bernis and the Grenoble school. The reasons for this are threefold. First, we have seen that the Grenoble analysis, along with the Parisian approach, integrated the role of finance with that of the real sector more effectively than the other crisis theories. Whereas the RF, ROC and RSL approaches focused on production relations and their effect on the rate of profit while treating the financial sector more or less in passing, and Minsky's FIH focused on credit growth without being grounded in a theory of real sector production, the TCR school integrated financial aspects of growth and crisis both at the micro level of wage and commodity transactions and at the macro level of productive systems and regimes of accumulation.

Second, the Grenoble approach, through its Marxist focus on the movements of the two laws of the rate of profit (the tendency to decline and the tendency to equalize across branches of production), is more theoretically compatible with any of the three established theories of crisis in terms of the root causes of the rate of profit to fall. While the Parisian approach confines itself to a "productivity-pull wage squeeze" explanation, and the FIH does not recognize any tendency toward a falling rate of profit or investment stagnation in the real sector, de Bernis never commits to a position on any singular factor causing the initial decline in the rate of profit. Rather, his theoretical framework should be seen to expand upon the analysis of a crisis generated around an inherent tendency of the rate of profit to fall.

Third, the theoretical superstructure of de Bernis and the Grenoblois provides a useful taxonomy for an analysis of the present crisis. The analytical triplet of the two laws of the rate of profit, mode of regulation and productive system (akin to the regime of accumulation concept of the Parisians) will prove to be especially relevant. The productive system is the United States-dominated constellation of nation-states comprising "western" capitalist economic and political relations in the postwar period within which growth takes place. Similarly, the mode of regulation is the complex array of institutions underpinning that productive system, first reinforcing its efficacy and later undermining it.

Growth and Stagnation in the Postwar Period

To combine the theoretical perspectives we have developed on capitalist crisis with the facts of the current crisis as given in Chapter 1, it is first necessary to review the conditions under which unprecedented growth was achieved in the United States and other capitalist countries during the postwar period.

It is common knowledge that the United States emerged from the Second World War in 1945 as the economic, political and military superpower of the industrialized world. This status was confirmed and reinforced by a number of institutions built during and after the War. One of these was the North Atlantic Treaty Organization (NATO), in which United States military dominance was secured through the establishment of military bases "in virtually every corner of the globe" (MacEwen, 1990, p. 35). This military superiority ensured a high degree of international mobility for United States capital, guaranteeing at the same time satisfactory rates of profit on investments abroad. A second important institution was the Bretton Woods monetary arrangements, whereby the United States was established as the financial regulator of the international postwar economy. In these arrangements, "the governments of the leading capitalist nations agreed to build the postwar international economy around the U.S. dollar" (MacEwen, 1990, p. 36). This ensured that United States corporations would always have access to funds, since all participating countries would hold dollars in reserve. Another implication of this system was that United States macroeconomic policy would be heeded and followed by other capitalist countries in order to maintain fixed exchange rate levels.

Other international institutions which underwrote the profitability of United States corporations in the postwar period were the International Monetary Fund (IMF), the World Bank (IBRD), and the General Agreement on Tariffs and Trade (GATT). Through its domination of these institutions, the United States government was able to secure a favourable international investment climate for its multinational corporate community (MacEwen, 1990, p. 37). Moreover, United States dominance in international affairs also helped to secure rising domestic profitability, through the establishment of favourable terms of trade which provided relatively cheap inputs for domestic manufacturing. The totality of these international institutions has been labelled "Pax Americana" by SSA theorists (Gordon, Weisskopf and Bowles, 1987, p. 49).

The list of domestic institutions which helped to secure a stable accumulation environment, not only in the United States but in other capitalist countries as well, is formidable. The "collective contractualization" of the wage relation; the growth of the "welfare state"; the growth of the tertiary sector; modifications in the relations between markets, banks and industrial firms; the hegemony of credit money; and the dramatic increase in the power and influence of the state are some of the institutional developments identified by Lipietz (1986, p. 18) which helped to secure continual growth. This was achieved not only by guaranteeing a stable or rising rate of profit, but also by ensuring that the growth in effective demand was sufficient to keep pace with the growth in productive capacity.

Although not exhaustive, this brief summary of national and international institutions of the postwar period demonstrates that a sufficiently coherent mode of regulation evolved and, moreover, was able to effectively counteract any tendency for the general rate of profit to fall for more than two decades by guaranteeing the continued existence of a stable productive system.

From the above analysis of crisis theories, however, we know that any given mode of regulation continues to evolve, to the point where it can no longer guarantee the stability of the prevailing productive system. This was indeed the case with the United States-led productive system in the postwar period, characterized ultimately by the exhaustion of forces counteracting the natural tendency of the rate of profit to decline.

Consistent with the theoretical approach of the Grenoble school, we find that the current crisis began with the reassertion of the declining rate of profit in the real sector, first in the United States and later in other countries within the productive system. The erosion of the efficacy of the mode of regulation in counteracting rate of profit declines was characterized internationally by challenges to the hegemonic position of United States capital resulting from the restructuring of the economies of Europe and Japan, a gradual decline in confidence in the United States dollar which ultimately led to the breakdown of the Bretton Woods monetary system, and the erosion of United States military dominance abroad (MacEwen, 1990, pp. 40-51).

Domestically, factors such as the intensification of competition among various fractions of capital, worker-capitalist struggles over shares of the economic surplus, and the growing taxation and redistribution role of the state contributed to downward pressure on the average rate of profit.

By 1967, the mode of regulation and its specific institutional forms which had helped to counteract the fall in the rate of profit for so long had been sufficiently eroded for that tendency to reassert itself. The postwar productive system, characterized by United States economic, political and military hegemony, was clearly at an end:

> It was general crisis in the sense that the basis for the system's success had broken down, and some great changes would have to take place, some

new modes of international organization and production established, before another era of success could begin (MacEwen, 1990, p. 45).

The Rise of Financial Instability

It has been noted above that, from about 1967 onward, falling profitability in the real sector led to a gradual decline in the rate of investment in commodity production. This should not, however, be taken to mean that the economies of the United States and other capitalist countries have followed a downward trend line in economic activity for over two decades since. Rather, the signs of an incipient economic crisis have gradually been appearing and reappearing, each time with seemingly greater severity. Inflation, unemployment and growing debt foremost among these signs, the main institutions comprising the prevailing mode of regulation struggle to adapt to and address these problems.

What remains to be explained, however, is the way in which the interplay of the financial sector and the real sector both gives rise to these recurring problems and, at least temporarily, overcomes them. In short, how has the financial sector evolved during the postwar period, and how has its relationship with the real sector changed over time?

Consistent with the theoretical perspective offered above by Crotty (1987) on the role of the financial sector in relation to a boom in the real sector, we would expect the postwar financial system of the United States to have grown alongside the real sector, fuelling the expansion through its own pursuit of expanded profit opportunities, but also becoming increasingly fragile as the volume of leveraged debt expanded.

Following the analysis of Henry Martin (1987), we find that this was indeed the case, although the growth of the financial system was somewhat constrained by its own history. After the financial collapse which marked the low point of the Great Depression, the United States Federal Reserve was created, along with the introduction of changes to the banking system designed to avert similar collapses in the future. Among these changes were federal insurance of bank deposits, restrictions on the activities of financial institutions, compartmentalizing of financial institutions for specific types of activities, and prohibitions on the mixing of banking and commerce (Martin, 1987, p. 141).

The net effect of these changes to the banking system was to produce, following the Second World War, an unusually robust financial sector in the United States and in other countries which had made similar changes. Together with the Bretton Woods system, the result was "twenty years of relatively tranquil financial behaviour in the period immediately following World War II" (Martin, 1987, p. 142).

With the rapid growth in the goods-producing sector following the War, credit demand grew correspondingly. However, many large banks and financial institutions began to feel constrained by the strict regulatory control over their operations. Profit opportunities abounded, but reserve requirement ratios and meagre customer deposits hindered the ability of the banks to take full advantage of these opportunities. Magdoff and Sweezy (1987) have documented the way in which banks "reached beyond their traditional roles as recipients of deposits by themselves becoming major borrowers ... [this] enabled them to lend still more money" (p. 125).

The way in which banks and other financial institutions became major borrowers was to purchase liabilities, as opposed to selling assets, to increase their volume of loanable funds. The introduction of negotiable Certificates of Deposit (CDs) by Citibank in 1961 ushered in the phase of liability management for the financial sector as a way to increase its liquidity base. Liability management provided an effective way for large financial institutions to circumvent government controls on their lending capacity. When CDs became noncompetitive due to interest rate ceilings, the Eurodollar market provided the required liquidity for the financial community (Martin, 1987, p. 142).

Over the course of the postwar boom the financial sector, through these innovative techniques, managed to largely circumvent government controls and expand its liquidity base to meet the rising demand for credit. By the late 1960s, many of the original controls were either ineffective or had been removed. These developments buttress the Post-Keynesian contention that the supply of loanable funds is not "exogenously" given by the Federal Reserve's policy decisions and the general public's propensity to save, but rather is "endogenously" determined by market forces: "This approach contends that the supply of credit is a highly flexible magnitude, one that is responsive to profit opportunities in financial markets, and particularly to the forces of loan demand" (Pollin, 1987, p. 148).

The risk, of course, is that an increasingly unregulated financial sector becomes more vulnerable to shocks, whether emanating from the real sector in the form of falling profit rates and cash flows, or from the financial sector in the form of government anti-inflationary policy or a major bankruptcy. As Loxley (1986) notes:

> The growth of the Euromarket is best seen as a reflection of and, at the same time an important component of, the internationalization of capital that has characterized the post-World War II global economy. Its origins can be traced back to the expansion of U.S. transnational activities and the

> growth of the U.S. dollar as a reserve currency. Large and persistent U.S. balance of payments deficits and a desire of U.S. dollar holders to avoid government regulatory restrictions explains its genesis ... there is no machinery to regulate Euromarket transactions and while this is an attractive feature to banks, it is also a potential source of system vulnerability (p. 67).

Although federal deposit insurance is still a key feature of the United States financial system, its effectiveness in averting a financial crisis has been circumscribed by the preponderance of bank liabilities, such as CDs and Eurodollars, which are not covered. As Martin notes, therefore, the United States government has had to resort to curative, as opposed to preventative, methods of guaranteeing financial stability. These methods include the role of lender of last resort, the existence of "automatic stabilizers" in the form of income-sensitive transfers and income taxes, and conscious monetary and fiscal policies designed to allay panic in the event of a threatened financial collapse (1987, p. 143).

The inherent drawback of the government acting as lender of last resort, of course, is that by preventing financial collapse it implicitly validates the workings of the financial system. This serves only to increase the system's fragility and vulnerability to economic and monetary shocks. As a result many financial institutions, although increasingly more cautious about their expansion of credit, have continued to market debt even in the face of a declining average rate of profit in the goods-producing sector.

Credit availability, however, is only part of the picture. Although we have shown that the supply of credit can expand to meet demand despite federal controls, it remains to be explained why the demand for credit should continue to grow in an atmosphere of declining profitability. Pollin (1987) provides some insights into this question in his analysis of corporate, household and government debt expansion in the postwar period.

In an attempt to reconcile the rise in debt financing with the decline in real investment growth in the nonfinancial corporate sector, Pollin shows that stagnating profit levels in the late 1960s reduced the amount of internal funds that corporations had available for new investment. Rather than cut back completely on new investment and risk losing market shares, firms increasingly turned to debt financing for investment. Thus the competition imperative drove the demand for ever higher levels of debt. Similarly, the more recent wave of mergers and takeovers in the nonfinancial corporate sector can be attributed to a combination of low share prices, the availability of credit, and the continuing unattractiveness of real sector investments (Pollin, 1987, pp. 151-152).

Debt at the household level has also risen dramatically during the postwar period, and continues to grow despite declines in real wages and increases in the overall cost of living. Pollin's explanation for this is simply that households are contracting debt in an effort to maintain their standard of living: "...the majority of households have taken on more debt not because they are trying to spend more, but because they are fighting to avoid losing what they have as incomes fall and housing costs rise" (Pollin, 1987, p. 154).

Finally, Pollin reviews the rise in federal government debt in the United States during the postwar period of growth and decline. He finds that the unprecedented rise in government debt is due to its countercyclical impact on the economy. In past periods, a decline in the income of debtors would lead to a general inability to fulfil contracts, resulting in a bursting of the financial bubble and a debt deflation characterized by a depression. In the current period, as part of its role as the institutional guarantor of the credit-contract system, the government borrows and spends to increase the level of aggregate income during a liquidity crisis, thus mitigating the effect of the downturn and forestalling a major debt deflation. "Thus, large-scale government debt financing acts to circumscribe the private economy's contractionary tendencies. However, in accomplishing this task, government debt financing also necessarily acts to nullify the debt deflation process as a financial regulator" (Pollin, 1987, p. 155).

This of course begs the question of how much expansion in the totality of corporate, household and government debt can be accommodated in a climate of continuing real sector stagnation. As long as governments can continue to guarantee the liquidity of the financial system by augmenting aggregate income and acting as lenders of last resort, debt expansion can continue indefinitely. However, there are limits to the government's ability to play this role, with the result that a severe debt deflation and depression is increasingly possible.

Constraints on the State

In the theoretical construct of de Bernis, we could characterize the institutions of the current mode of regulation as struggling to adapt to changing circumstances and thereby continuing to validate the existing productive system. In the context of this discussion, it is the institution of the financial system which is metamorphosing, and drawing with it all other economic agents. Even as the actions of corporations to circumvent financial regulation change the complexion of the financial system, so too do the reactions of government in its efforts to preserve the efficacy of that system.

As the institutional guarantor, as the lender of last resort, as the liquidity regulator, and as the largest single borrower, the state's destiny is bound with that of the financial system in a complex and inextricable manner. We have seen, moreover, that the role of the state has changed over time from that of leading the financial system for the purpose of facilitating capital accumulation, to that of following the financial system for the purpose of averting a major collapse.

In the context of ever-increasing levels of debt, therefore, what remain to be explained are the institutional limitations or constraints on the ability of the state to fulfil its self-appointed role. This is necessary because burgeoning debt levels, both domestically and internationally, appear to be the weak link in the economic system, the most likely place for a rupture which could collapse the entire existing productive system and its mode of regulation.

Perhaps the limitations on the state's ability to underwrite the modern financial system are best profiled in the pioneering work of James O'Connor in his 1973 book entitled "The Fiscal Crisis of the State". Despite legitimate criticisms by Loxley (1982) and Miller (1986) that O'Connor's analysis ultimately rests on a faulty theoretical framework due to an insufficiently rigorous treatment of class issues, some of the basic concepts remain useful. Among these are the twin concepts of "accumulation" and "legitimization": "This means that the state must try to maintain or create the conditions in which profitable capital accumulation is possible. However, the state also must try to maintain or create the conditions for social harmony" (O'Connor, 1973, p. 6).

O'Connor further argues that, especially in the postwar period after the mid-1960s, there is "a tendency for government expenditures to outrace revenues" (1973, p. 2). This tendency he has termed the "fiscal crisis of the state". The fiscal crisis, moreover, arises as a direct result of the state attempting to fulfil its dual role of accumulation and legitimization.

Applying O'Connor's analytical framework to the present circumstances, we observe that the tendency of government expenditures to outrace revenues has not subsided but rather has intensified in recent years. This can be seen as a result of the increasing difficulty the state encounters in fulfilling its dual role in a crisis environment. Expenditure pressures constantly rise due to the accumulation function of acting as lender of last resort and underwriting financial liquidity, and due to the legitimization function of providing expanded government services during a prolonged recession. On the other hand, revenue bases stagnate or increase at decreasing rates due to automatic stabilizers and macroeconomic policies designed to fulfil either or both functions.

Until now, growing government debt has bridged the revenue-expenditure gap for governments. However, with interest on past debt constituting a rising component of national governments' annual budgets, and with creditors becoming ever more suspicious about the solvency of nation-states, debt financing by governments seems to be creeping toward its upper limits. The possibility now exists, as it has at no other time, that the state may no longer have access to the financial resources necessary to fulfil its role as lender of last resort in a generalized financial crisis.

This may be especially true in the case of a major debtor default, such as one of the Latin American countries. It will be recalled that, in 1982, the Third World debt crisis came to a head with the de facto default of Mexico, the single largest Latin American debtor country. Ironically, one of the most important triggers of that crisis was the United States government's anti-inflationary policy of high interest rates in the early 1980s. In any event, the crisis was attenuated by immediate intervention on the part of the government to guarantee the solvency of exposed financial institutions and the overall liquidity of the financial system.

Since that time, the structural causes of the debt crisis have not been alleviated, and therefore the possibility of another major default at some point in the future remains. If and when that happens, the question will arise as to whether or not the United States government will be able to once again organize a successful crisis management strategy and avert a financial collapse. The foregoing analysis suggests that, sooner or later, the upper limit on the state's ability to guarantee the structural soundness of an increasingly fragile international financial system will be reached.

Current Relationship Between Real and Financial Sectors

Having reviewed the various theoretical perspectives and placed a discussion of the evolution of the postwar boom period squarely in the context of an integrated financial and real sector analysis, all that remains is to summarize the present situation as a prelude to reviewing the possible outcomes of crisis in Chapter 5.

Once again at the theoretical level, the tendency of the average rate of profit in the real sector to fall has reasserted itself in the period dating from about 1967. As a result, the pace of investment in the real sector has slowed, giving rise to rapid growth and increasing fragility in the international financial system. The current mode of regulation has all but lost its ability to maintain a stable productive system within which continued growth would be possible.

At a less theoretical level, it is useful to employ the "double analytical schema" of de Bernis to see how the evolving mode of regulation finds its expression in specific institutional forms. First, there is the destruction of the old capitalist order taking place alongside the reconstruction of a new order, ostensibly to create the conditions for a renewed rate of profit and renewed growth. A concrete example of this destruction-reconstruction tension is the decline in the power of individual nation-states, increasingly displaced by the establishment of ultra-national "economic blocs", characterized by the progressive removal of barriers to trade and the move toward common currencies. The painful evolution of the European Economic Community is one such example, with a North American Free Trade Area following ultimately along the same path. The establishment of these ultra-national economic blocs, it may be argued, are crucial to the evolution of new productive systems where the state is large enough to once again be an effective regulator of accumulation in an economic environment dominated by increasingly large international corporations.

Second, there is the inflation-deflation tension, as the international financial community and governments continuously expand the liquidity of the system in an effort to validate credit contracts and avoid a massive debt deflation, while on the other hand governments actively pursue anti-inflationary macroeconomic policies to satisfy domestic concerns. The view of de Bernis is that, in the current period, "the ascendency of deflationary tendencies is greatly increasing the danger of another deep depression" (1988, p. 6).

To once again emphasize the view of capitalist crisis in the current period that has emerged from the foregoing analysis, the initial seeds of crisis are sown in real sector relations of production during a period of growth and are characterized initially by declining rates of profit. In a fully mature crisis, characterized by a stagnant real sector and an overinflated, fragile financial sector, a debt deflation may be triggered in either the financial or the real sector. In the financial sector, government anti-inflationary policy or a major bankruptcy may trigger a collapse. In the real sector, stagnant profits and declining cash flows may lead to bankruptcies, reflecting a general inability of firms to fulfil their debt obligations. In either case, with a fragile financial system, the crisis is immediately transmitted from the originating sector to the other sector, resulting in a collapse of investment in both.

The full circuit of the crisis transmission, therefore, is from the real sector to the financial sector, and ultimately back again to the real sector. With the current crisis latent in the real sector, and given the current fragility of the financial system, this analysis suggests that it may be only a matter of time before structural forces cause a massive debt deflation in the financial sector. This would usher in depression conditions in the real sector, and the full transmission of the crisis mechanism would be completed. Moreover, the analysis suggests that this result is more or less inevitable. We now turn to a discussion of the possible outcomes resulting from such a situation.

Chapter 5

Possible Outcomes of the Current Crisis

To establish the fact that the United States-led productive system of the postwar period is currently experiencing an economic crisis characterized by stagnating real sector investment and a rapidly-expanding but increasingly fragile financial system, and even to have developed an analysis which brings together the elements of the crisis in a coherent fashion, is scarcely enough. What, after all, does the analysis have to say about the forms the crisis will eventually take and, more importantly, how it is to be ultimately resolved?

Following de Bernis (1990), we have identified three different productive systems in the era of industrial capitalism, each characterized by progressively larger capital structures, progressively greater state intervention, and progressively more prevalent international economic and financial activity. If the latest of these systems is on the verge of losing its efficacy in regulating capital accumulation, the question arises as to what institutional forms its successor will take.

More fundamental, however, is the question of whether a new mode of regulation and its attendant productive system can evolve within the overall framework of capitalist economic and social relations, or whether capitalism must finally give way to a whole different set of socioeconomic relations. The remainder of this chapter will be divided into three parts. First, a review of the possible outcomes of the crisis within capitalism. Second, the possibility of the crisis acting as a catalyst for the transcendence of capitalism. Finally, some concluding remarks.

Capitalism Rekindled

As it now stands, the world economy is plagued by an underlying inflationary tendency, currently kept at bay with "cold bath" monetary policies and spending and wage restraints, and coupled with industrial stagnation and latent unemployment. Growth in the present productive system has slowed considerably, yet a new system does not appear to be evolving easily or quickly. The foregoing analysis implies by extrapolation that a new, more efficacious, productive system will be characterized by ever larger and more internationally integrated monopoly corporations, along with evolutionary institutional forms which eclipse the power of nation-states in the regulation of the accumulation process. There is much evidence to suggest that the former trait is gradually coming to pass, but it seems that the latter has been much slower and more painful in its evolution.

At the heart of this problem lies the inherent tension within and between all institutions of regulation, as originally identified by Aglietta (1979) and characterized by de Bernis (1988) in terms of the double analytical schema of destruction and reconstruction. Elements of the old productive system are constantly operating to preserve the efficacy of that system, while other elements are operating to bring about the evolution of institutional structures which will underpin a new era of accumulation.

This shows up most clearly in the present period as the United States attempts to preserve both its own hegemonic position in the world economy and stability in its domestic economy through various political, economic and military means. Nation-state policies such as these, which include interest rate manipulation and high levels of government expenditure, along with rising corporate and household debt levels, underpin the endemic inflationary trend. We have seen that the United States, in an effort to deal with inflation through the use of monetary policy, nearly triggered the collapse of the international financial system in 1982 when the third world debt crisis came to a head. This underscores the more general observation that new productive systems never evolve painlessly, as institutions of the old order struggle to maintain that order.

Newly-evolved institutions nevertheless provide a powerful counterbalance to the efforts of nation-states to preserve the old system. The international financial system, in fact, has evolved to such a great degree that it now operates according to a logic that is well beyond the power of nation-states to control: "The mobility of financial capital created by the present crisis has led to a situation where the state intervenes not to safeguard the consistency of the productive system, but rather to adapt the domestic economies to the international dimension of the crisis" (de Bernis, 1990, p. 36).

According to our analysis, of course, the tension between institutions of the old and the new must eventually be resolved in favour of a new productive system if the capitalist economic order is to survive. Therefore, the actions of the United States to preserve its hegemonic position within the old order may be characterized, to again employ the terminology of Minsky, as an attempt to validate an "underlying inept" mode of regulation. Further, the tension between national and ultra-national institutions poses the threat of turmoil and depression in the world economy: "On this view the inadequacy of state policy, exercised within a national framework, to deal with the increasing internationalization of production, trade and financial transactions, is a major cause of instability in the global economy" (Loxley, 1986, p. 18).

Does this mean that the United States should abandon its domestic and international concerns for the benefit of a new international productive system? It seems naive to expect such a development, but expectations of this kind seem to implicitly underlie proposals for "saving the world economy". This is particularly true of many mainstream reform proposals, put forth by those who nevertheless recognize that structural changes must be implemented if widespread accumulation is to begin anew. While mainstream conservative analysts do not acknowledge the need for structural reform, some mainstream liberal analysts at least see this as a prerequisite for sustained real growth. Their recommendations, however, reflect a fundamental misunderstanding of the nature of capitalism:

> The main flaw in these reform proposals lies in the belief that individual classes and nations will be prepared to forego their specific interests and incur the immediate and certain costs of doing so for the greater good of the world community and the uncertain possibility of longer-run benefits. This is a very naive view of the workings of the capitalist system, one that suggests that class exploitation, competition between the owners of capital, and rivalry among nations induced by the international expansion of capitalism are merely incidental to the working of the system and can be dispensed with. In reality, of course, nothing could be further from the truth (Loxley, 1986, p. 25).

A radical analysis such as the one employed in this paper, one which views the current crisis as being fundamentally rooted in the dynamics of the capitalist system, is the only kind which can predict the outcome of the current crisis with any degree of reliability, and therefore is the only kind which is likely to suggest feasible solutions. Even with the analytical tools we have developed, however, predictions and solutions are difficult.

The three "established" models (RF, ROC and RSL) of capitalist crisis are in agreement that a significant devaluation of debt and capital asset prices must take place, giving rise to a revitalized rate of profit, before a new era of vigorous accumulation can begin. Historical experience shows that this has been the case in previous periods of crisis, and indeed the economic and political power of the United States, which will not be easily relinquished, suggests the possibility of a sharp devaluation and accompanying depression unparalleled in modern history. If this event comes to pass, the conditions may indeed fall into place for a revitalized profit rate and the beginning of a new era of capitalist accumulation characterized by ultra-state institutional bodies.

The three models of the "emerging radical political economy" (SSA, TCR and FIH), on the other hand, do not necessarily agree among themselves as to how a new productive system is to evolve. Two of the models, the SSA and the Parisian TCR, seem to suggest that a new productive system may not require a massive devaluation of debt and capital asset prices. Underpinning both of these scenarios, which the Parisian TCR theorists have called "Neo-Fordism", is a new, ultra-national set of institutions characterized by high wages, mass consumption, widespread technological innovation and rapid capital growth (see, for example, Lipietz, 1988). The difficulty in getting from here to there, however, as Moseley (1988) has correctly pointed out, lies in the answer to the question of how the rate of profit is to be re-established. In fact, he argues, "a restoration of the rate of profit requires a significant devaluation of capital" (p. 5).

This is in fact more in line with the approach taken by both the Grenoble TCR and Minsky's FIH. Both view increasing fragility in the financial sector as the trigger which will ultimately deflate the system. Following such a deflationary depression, the Grenoble TCR sees a restored rate of profit within the context of a new mode of international regulation and an ultra-national productive system as the reconstruction aspect of the double analytical schema prevails.

Capitalism Transcended

The possibility of a financial crash and an accompanying deep depression always leaves open, of course, the further possibility of the eclipse of capitalism by a new set of social and economic relations. With both the accumulation and legitimization functions of the state temporarily stripped away and the previous mode of regulation in tatters, the opportunity to organize economic production and distribution along more democratic lines than capitalism presents itself. The outcome of such a situation can of course never be predicted in advance, but the likelihood of its occurrence may be characterized as an inverse function of the speed and efficiency with which new institutions of capitalist accumulation evolve following such a deflation and depression. The resilience of the capitalist system has, of course, always been underestimated by those who would see it transcended.

Conclusion

Given the analysis developed above, and given the historical record, the most likely outcome of the current crisis is one of economic collapse or managed depression, followed by a restructuring of capitalist relations along the lines of an internationally regulated productive system as described above. The theory of course makes no definite predictions with respect to the timing or the severity of the collapse, given the sophistication of the many and various institutional structures designed to prevent such an occurrence.

The reality of the economic crisis finds its theoretical parallel in the crisis of mainstream economic theory. This crisis is characterized by the inability of mainstream theory to either comprehend the dynamics of modern capitalism or to put forth credible policy options for the alleviation of its problems. If this paper has succeeded in highlighting the difficulties encountered by economic theory in keeping pace with rapidly changing economic realities, it should also serve to underscore the importance of such a task if progress is to be made toward higher levels of economic, political and social organization.

To return once more to the analogy of Lipietz, the cartoon character will, sooner or later, realize that the ground has crumbled beneath him, and he will, after offering a puzzled expression, go crashing down to earth. If that character is the capitalist system, he will probably survive the fall, somewhat bruised but nevertheless intact and ready to begin his walk again.

But then again, maybe not.

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