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Power and Profits: The Social Structure of Accumulation and the Profitability of the Postwar U.S. Economy

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ABSTRACT: This paper seeks to explain trends in United States corporate profitability since World War II through an analysis of the rise and subsequent demise of a postwar social structure of accumulation (SSA). Building from a formal model of the determinants of profitability, we provide econometric support for the hypothesis that variations in profitability can be explained to a large extent by variations in quantitative indicators of capitalist power in the postwar SSA.

1. INTRODUCTION

Most Marxist economists agree that corporate profitability began to decline in the United States in the mid- to late-1960s, contributing to a growing crisis of the United States economy. Despite continuing debate and investigation, however, there is still little consensus about the causes of that decline.

Some of the disagreement revolves around complex empirical issues of definition and measurement. Further disaccord stems from the difficulty of explaining actual movements in corporate profitability over the postwar period.[1]

But there is an even more important barrier to consensus, we think, stemming from a curious and persistent conceptual lacuna in Marxian economics: the absence of a unified theory of the social determination of profits and accumulation. Marxian economists of all orientations agree that the accumulation process is critically dependent on the institutional structure within which it takes place. Even less controversial is the proposition that profits are central to the accumulation process. Yet there appears to be no widely-shared account of the precise manner in which these two aspects of the accumulation process — its specific institutional environment and the profit rate — are connected.

This shortcoming seems particularly surprising since many Marxian economists insist that the analysis of profits must be grounded in the analysis of social relations. Indeed, the labor theory of value itself — considered by some to be the foundation of Marxian economics — aims precisely at such a social grounding of the analysis of competitive prices and capitalist profits.

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In particular, the profit rate may be expressed in value terms, to choose a quite familiar formulation, as the ratio of the rate of exploitation to one plus a weighted average organic composition of capital. But this expression by itself does not so much illuminate the determinants of the profit rate or its historical evolution as it serves as a framework for further investigation. It tells us where to look. Following such a guide, a social grounding of the analysis of profits would go "behind" this formal expression for the profit rate to explain how and to what degree competition, class conflict, and other social forces determine the rate of exploitation and the organic composition of capital (along with an appropriate weighting scheme).

We pursue in this essay an alternative strategy for a social grounding of the analysis of the profit rate. Our strategy differs in three respects from an analysis which would follow the (at least implicit) guide of the traditional approach. First, our (derived) formal expression for the profit rate does not refer explicitly to value-theoretic categories. Second, our approach complements the traditional Marxian focus on class and competition with a direct analysis of both the state and international economic relations. Third, we explicitly analyze the institutional particularities of the current capitalist epoch by applying the concept of the social structure of accumulation (SSA) as a historically specific expression of the capitalist mode of production.[2]

We build, in this third respect, upon a model of the rise and demise of successive SSAs. According to this perspective, capitalist economies experience periods of relatively rapid and stable growth once a set of socioeconomic institutions comprising an SSA has been established. But any such SSA is subject both to external shocks and to endogenously generated stresses. These frictions 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.[3]

While much recent work has helped theoretically to elucidate the concept of a capitalist SSA and empirically to describe the nature of particular SSAs over the history of capitalist development, the precise connections between the SSA and the accumulation process itself have not been rigorously delineated or quantitatively specified. Perhaps most conspicuously, historical and comparative analyses of the SSA have not yet explored its relationship to the profit rate.[4]

This omission appears to be the result, at least in part, of a divergence between two strands of Marxian theory: the SSA perspective has focused on social institutions and social conflict as critical to the accumulation process, eschewing formal theoretical or econometric analyses of profitability, while most formal models of the profit rate within Marxian theory — whether of classical Marxian or Sraffian origins — have seemed inhospitable to the institutional concerns of the SSA approach, focusing instead on exogenously determined input-output coefficients and real wages.

This divergence between what might be called historical and theoretical accounts of the accumulation process is both debilitating and unnecessary. It is debilitating because it tends to foster a bifurcation between a social theory of accumulation with neither precise analytical content nor empirical referents and

a theory of profits and crisis vulnerable to the charge of technical determinism. It is unnecessary because it can be overcome. The SSA perspective opens up the possibility of specifying coherent models of historical and institutional factors affecting profitability *and* of explaining quite precisely the movements of the profit rate within a given institutional environment. We pursue this analytic opportunity here through a sequence of interconnected steps.

We first examine the empirical relationship between the postwar SSA and United States corporate profitability. If the SSA perspective has merit, we would expect boom periods inaugurated by establishment of a new and viable institutional structure to be characterized by rising and/or relatively high profitability, while we would similarly expect periods of crisis brought on by the demise of an SSA to be marked by falling and/or low profitability.[5] We test these expectations in section 2 by examining the behavior of two alternative measures of profitability in the United States since World War II.

That is purely a descriptive project. The more challenging task is to relate movements in profitability analytically to the consolidation and erosion of the postwar SSA. Toward this end we next develop a theoretical framework for analyzing the profit rate which highlights the importance of power — and the contest for power — in the determination of profitability. It allows us to isolate a set of determinants of profitability, some (but not all) of which can be analyzed with the help of variables reflecting the degree of capitalist power over other relevant economic actors within a given institutional environment.

We then attempt to quantify these several determinants of the profit rate by developing operational measures of the relative power of capital over labor and other potential challengers to capitalist control under the postwar SSA. Utilizing these measures, we specify and estimate in section 5 an econometric model which permits a more formal quantitative analysis of trends in profitability in the postwar United States economy.[6] This analysis substantially confirms our theoretical expectations and appears to provide a much fuller statistical accounting than previously available for the decline of United States corporate profitability since the mid-1960s. It also provides the basis for what we feel is a useful (though preliminary) account of the successes and failures of Reaganomics.[7] We conclude by considering several possible political implications of our analysis.

2. PROFITABILITY IN THE POSTWAR U.S. ECONOMY

The United States economy boomed during the first (roughly) two decades after World War II and then entered a period of spreading and deepening crisis. As detailed in our earlier work (Bowles et al. 1983:Chap. 2), data on such key economic indicators as productivity growth, unemployment and inflation all suggest that the latest economic crisis dates from the mid-1960s. This impression is further strengthened by movements in the ratio of net non-residential fixed domestic investment to net domestic product: this measure of the vitality of accumulation hit a post-World-War II peak in 1965 and then began a downward slide, controlling for the cycle, extending even through the much-touted Reagan recovery.[8] To what extent does the evidence on profitability support this perception of the pattern and timing of the boom and crisis in the postwar United States economy?

Definition

We confine our analysis of profitability to the *domestic non-financial corporate business* sector of the United States economy. We focus on this sector because it represents the capitalist core of the economy.[9] And we focus on the *domestic* operations of nonfinancial corporations — including foreign-owned enterprises in the United States but excluding United States-owned enterprises operating abroad — because we are concerned here with the economic crisis in the United States and the factors that influence profitability in the United States economy.[10] The nonfinancial corporate business sector accounts for roughly 60 percent of United States gross domestic product and is clearly central to the vitality of the United States economy as a whole.

Profitability can be conceptualized and measured in a variety of ways. We utilize here two alternative measures. Our first measure is based on the concept of the rate of return to capital — the ratio, that is, of capital income to capital stock.[11] In measuring capital income and capital stock, six important conceptual choices must be made before one can arrive at a quantitative indicator of the corporate profit rate: (1) to use measures of capital income and capital stock that are gross or net of capital consumption; (2) to evaluate capital income before or after taxes; (3) to adjust or not to adjust corporate profits for the effect of inflation on inventory valuation and the effect of both inflation and changes in tax laws on capital consumption allowances; (4) to include or not to include net interest payments along with corporate profits in the concept of capital income; (5) to include or not to include inventories along with fixed capital stock in the concept of capital stock; and (6) to measure fixed capital stock in terms of its historical cost or replacement cost.

Reflecting our choices on these issues, our first measure of aggregate (non-financial business sector) profitability, which we shall term the *net after-tax profit rate* (or simply the profit rate) and denote by r, is defined as *fully adjusted net corporate profits plus net interest payments minus corporate tax payments* divided by *net fixed capital stock plus inventories* measured at their *current replacement cost*.[12]

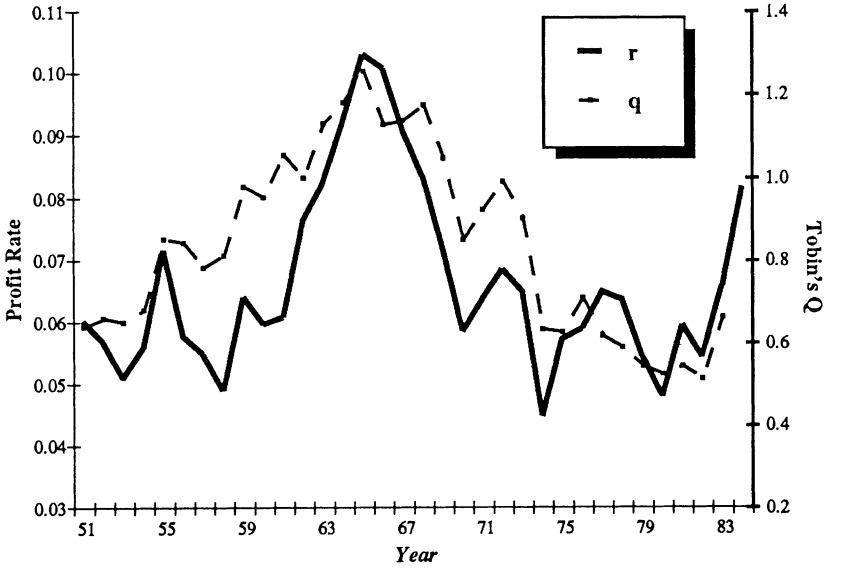
Our second measure of corporate profitability is the index known as *Tobin's Q*, or q for short. Tobin's Q is defined as *the ratio of the market value to the current net replacement cost of capital assets* (Tobin and Brainard 1968). It measures roughly how much one would have to pay to purchase the assets of the average corporation on the stock and bond markets, relative to how much it would cost to build the firm with its current configuration and age structure of equipment, structures, and other assets.

As such, Tobin's Q appears to be a good indicator of capitalists' profit *expectations* relative to current capital goods prices; the more investors are willing to pay to acquire a company (relative to the supply cost of its assets), the more optimistic they must be about their ability to use the company's assets to turn a profit in the years ahead. Profit expectations for the future are likely to be at least as important in influencing capitalist behavior as profits currently being realized. In particular, as Tobin and Brainard remark (1968:104): "Investment is stimulated when capital is valued more highly than it costs to produce it, and discouraged when its valuation is less than its replacement cost." Thus, q provides a useful complement to the current average net after-tax profit rate as a measure of corporate profitability.[13]

Trends

Figure 1 graphs the postwar behavior of our two measures of corporate profitability — r and q — on an annual basis from 1951 to 1984.[14] The two series presented in Figure 1 obviously display short-run cyclical fluctuations, but they also clearly reveal a long-term pattern. Both the net after-tax profit rate and Tobin's Q rose substantially during the postwar boom years and both peaked in 1965. They then plunged to about half of their peak levels within the next decade. Although both measures staged mild upturns after the recession troughs of 1970, 1974–75, 1980, and 1982, these upturns were limited in magnitude; they did little to offset the dominant downward trend from the mid-1960s through the early 1980s. We discuss at the end of section 5 whether the much higher value of r in 1984 augurs a new era of significantly higher profitability.

Figure 1
Corporate Profitability in the Postwar U.S. Economy



We believe that the rise and fall of corporate profitability revealed in Figure 1 can be attributed to the evolution of the postwar SSA. In order to advance this view, we must be able to isolate conceptually the major ways in which a given SSA *might* influence the corporate rate of profit.

3. POWER AND PROFITS IN AN OPEN CAPITALIST ECONOMY

Profits are not a payment to a scarce productive input.[15] Nor can the capitalist class as a whole make profits from its dealings with itself, for as Marx (1967) stressed in the early chapters of *Capital*, the buying and selling of commodities is a zero-sum game for the buyers and sellers as a group: the gains of those who

buy cheap and sell dear are necessarily offset by the losses of those who sell cheap and buy dear.

Profits are, rather, a deduction from net output made possible by the power of the capitalist class over other economic actors with which it deals. Capitalists can indeed make profits through their economic relations with economic actors outside the capitalist class. When workers sell their labor power cheap and buy their wage goods dear, for example, a profit may be made. The capitalist class of a given economy may make profits, similarly, through its exchange with other buyers and sellers outside that economy, given favorable prices of exports and imports.

While some of the relationships between a national capitalist class and other economic actors are market exchanges, many are not. First of all, the worker who sells labor power cheap and buys wage goods dear will not contribute to profits unless the worker's employer also succeeds in getting the worker to work hard and well enough to produce a net output greater than the wage. And while the extraction of labor from the worker is influenced by wages, prices, and other market phenomena, it is approximately effected through an authority relationship at the workplace itself. Second, and similarly, while the international terms of trade depend on import and export prices, the determination of these prices involves the exercise of diplomatic, military and other pressures quite different in character from marketplace exchange.

A third relationship affecting the profit rate — that between the capitalist class and the state — also reflects the exercise of power: the alignment of forces in the formation of state policy may affect the after-tax profit rate directly through the effective tax rate on profits, and it may affect the profit rate as well through state policies affecting the supply of labor, the rate of capacity utilization, the direction of technical change, and many aspects of capital's relations with workers and with foreign buyers and sellers.[16]

It may be illuminating, then, to consider profits 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).[17] The military analogy is deliberate; it is intended to stress the essentially political nature of the profit rate and the strategic nature of the social interactions involved in its determination. The representation of profits as the money measure of the power of capital bids us explore in detail the manner in which the institutions which make up the social structure of accumulation regulate the relative power of the contestants engaged in capital's three-front war.

We begin this effort with a deliberately oversimplified model of a capitalist economy in an open world system. We describe the determination of the net profit rate in this economy by means of a linear model. Unlike the conventional Sraffian, von Neumann, or Marxian linear frameworks, however, ours integrates the political dimensions of the profit-making process into the formal structure of the model through an explicit treatment of the extraction of labor from labor power and of the terms of trade.[18]

Consider an economy composed of capitalist firms producing a single output with current inputs of three kinds — homogeneous labor, the output good, and an imported good — and a stock of homogeneous machines.[19] Workers consume the domestically-produced good as well as the imported good. The

imported good is acquired through exchange, with the number of units of the domestically-produced good required to acquire a unit of the import depending on the terms of trade between the domestic economy and foreign economies. The machines consist entirely of domestic goods and are produced as part of the single output of the firms in the economy.

Let a_{ij} be the amount of the output of good i required to produce one unit of good j. With the subscripts d and f referring to goods produced in the domestic and foreign economies, respectively, a_{fd} is the number of units of the foreign-produced good required to produce a unit of the domestically-produced good, and a_{dd} is the amount of the domestically-produced good required per unit of its own production. The amount of labor — actual work performed — required to produce a unit of output is l_d. In order to secure the input of this amount of labor the employer must hire h_d hours of labor power. Thus we may express the per-unit labor power requirement h_d as the per-unit labor requirement l_d divided by the average amount of labor done per hour, l*, or

$$h_d \equiv l_d/l^* \tag{1}$$

The workers' consumption bundle is represented by b_i, the amount of good i consumed by workers per hour of their work.

To import a single unit of the foreign-produced good, l/p units of the domestically-produced good must be exported. The parameter p thus represents the terms of trade: the higher is p, the *more* favorable the terms on which the foreign-produced good can be acquired. In the simple case of balanced trade accounts, when the money value of exports equals the money value of imports, p is comprised of three elements: the price (in foreign currency) of the good produced abroad, p_f; the price (in domestic currency) of the domestically-produced good, p_d; and the exchange rate, e, the number of units of foreign currency that can be acquired with one unit of domestic currency; see also Dornbusch (1980:58ff):

$$p \equiv ep_d/p_f \tag{2}$$

The acquisition of foreign-produced goods may be treated as a fictitious production activity, with capitalists "producing" the import indirectly by producing l/p units of the domestic good and then exchanging it for one unit of the foreign-produced good. The input coefficients per unit of import acquired are thus h_d/p hours of labor power, a_{dd}/p units of the domestic good and a_{fd}/p of the imported good. The terms of trade, p, may thus be considered a measure of the "efficiency" of the fictive foreign trade production sector.[20]

A necessary condition for profits is the production of a surplus above and beyond both the interindustry demands of the production process and the consumption levels of the workers.[21] Through a relatively simple sequence of additional definitions, assumptions, and algebraic manipulations, which we briefly outline in the Appendix, it is possible to derive from this model a single comprehensive linear expression for the net after-tax profit rate, *r*, which takes account of its dependence on l*, the intensity of labor, and p, the terms of trade:

$$r = \{(\phi/z_d)[1 - a_{dd} - a_{fd}/p - (b_d + b_f/p)(l_d/l^*)](1 - t)\} \tag{3}$$

where l_d, l^*, p, the b_i, and the a_{ij} are defined as above and ϕ is the rate of capacity utilization, z_d is the machine-output coefficient, and t is the tax-rate on net before-tax profits.

The first ratio in this expression, ϕ/z_d, represents the ratio of gross output to the gross capital stock owned by capitalists in the economy. The next (longer) expression in brackets represents surplus output per unit of gross output, involving the deduction from gross output of the costs of intermediate goods inputs and the cost of reproducing the actual labor hours required in production. The final term, $(1-t)$, takes account of taxes deducted from before-tax profits. Equation (3) is reproduced in Table 1 in order to summarize the determinants of the net after-tax profit rate derived from our model.

Table 1
Proximate Determinants of the Net After-Tax Profit Rate

Equation (3) provides a composite expression for the net after-tax profit rate:

$$r = \{(\phi/z_d)[1 - a_{dd} - a_{fd}/p - (b_d + b_f/p)(l_d/l^*)](1-t)\}$$

Thus the determinants of the profit rate may be summarized as follows:

1. input-output coefficients (−): a_{dd}, a_{fd}, l_d
2. machine-output coefficient (−): z_d
3. wage bundle (real wage) (−): b_d, b_f
4. labor extraction coefficient (+): l^*
5. terms of trade (+): $p(\equiv ep_d/p_f)$
6. capacity utilization (+): ϕ
7. tax rate (−): t

Note: the signs in parentheses indicate the direction of change in the profit rate associated with an increase in the variables indicated, on the (artificial) assumption that none of the other variables change their values.

The variables delineated in our linear model (and listed in Table 1) constitute the *proximate* determinants of the net after-tax profit rate. The guiding hypothesis of this essay is that the postwar social structure of accumulation in the United States significantly conditioned the relative power of capital and thereby affected many of these proximate determinants of the profit rate. While the strength of the SSA ensured an increasingly favorable configuration of these variables during the first two postwar decades, its erosion after the mid-1960s led to an increasingly inhospitable environment for the profit-making process. We turn now to an operational specification of the most important dimensions of power relations in the postwar period, leading to a specific delineation of those institutional relations which primarily affected each of the proximate determinants of r as outlined in Table 1.

4. MODELING THE POSTWAR SOCIAL STRUCTURE OF ACCUMULATION

We have elsewhere provided an historical account of the rise and demise of the postwar social structure of accumulation in the United States, describing its

initial consolidation and its ultimate erosion under increasingly effective challenges to capitalist control (Bowles et al. 1983:Chap. 4). We argue there that the postwar SSA rested upon three principal buttresses of United States capitalist power, each of which involved a particular set of institutionalized power relations allowing United States corporations to achieve predominant control over potential challengers in the immediate postwar period.

We refer to these three axes of domination as the *capital-labor accord*, *Pax Americana*, and the *capital-citizen accord* respectively. They remained relatively solid into the 1960s, but the success of the SSA in promoting economic growth proved ultimately contradictory. Tightening domestic labor and international raw materials markets, increasing awareness of capitalist encroachments on the environment, widening differentials between those who benefitted and those who were excluded from the postwar prosperity, and related social and economic pressures led to increasingly significant challenges to the power of United States capital along each of these three power dimensions during the 1960s. Workers, foreign suppliers of raw materials, and domestic citizens began to question and to resist the previously established structures of power. The growing strength of other capitalist nations, as well as the success of anti-capitalist movements in the Third World, further challenged the power of United States capital. The postwar corporate system consequently began to erode; corporate capitalists found it increasingly difficult to control the terms of their interaction with the other major actors on the economic scene.

In order to test our hypothesis that the evolution of the SSA conditioned movements in corporate profitability, we need to quantify these three major axes of capitalist power. We can then trace their pattern of development over the postwar period and link them analytically to the proximate determinants of profitability outlined in Table 1. A compact summary of those analytic links is provided in Table 2 at the end of this section.

The Capital-Labor Accord

The first set of power relations governed relations between capital and labor in the United States after the late 1940s. This accord involved an explicit and implicit *quid pro quo,* assuring management control over enterprise decision-making (with union submission and cooperation) in exchange for the promise to workers of real compensation rising along with labor productivity, improved working conditions, and greater job security — in short, a share in capitalist prosperity. The accord also consolidated the relative advantages of the unionized over the non-unionized part of the work force and contributed to an intensification of labor segmentation along job, gender, and racial lines.

In order to measure the degree of power exercised by United States capital over United States labor, we start from the Marxian premise that capitalist control over workers hinges on (1) workers' dependence on employment for a livelihood and (2) capitalists' control of the conditions on which employment is available. Our analysis thus begins with the threat of unemployment.

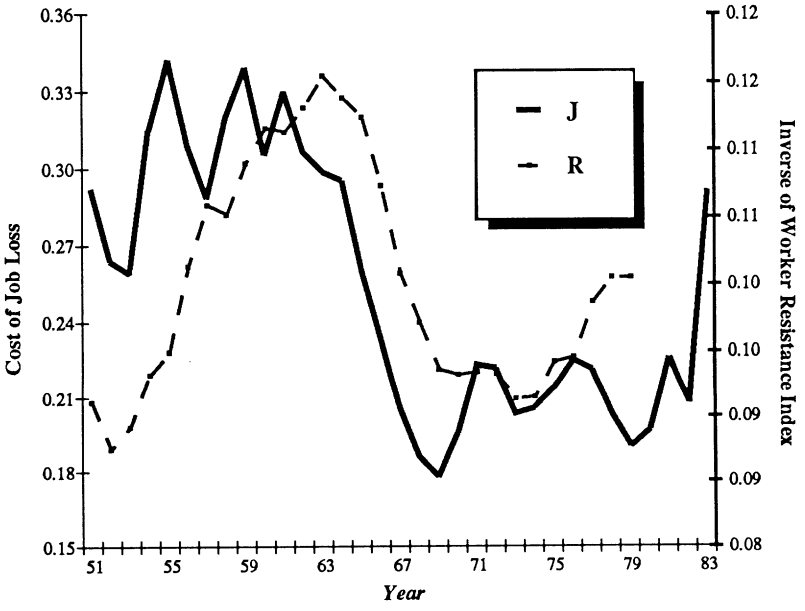
In advanced capitalist economies such as that of the United States, however, the threat of unemployment is cushioned to varying degrees by the availability of income-replacing government benefits for those without paid work. We therefore utilize for our measure of the degree of capitalist control over labor a

more general and inclusive variable than the unemployment rate itself: the cost of job loss, *J*, defined as a representative production worker's expected percentage reduction in annual material living standard in the event of job loss.[22]

This variable is effectively a function of two components: The first is the difference between the worker's after-tax wage and either (1) whatever benefits (in the form of unemployment insurance and other income-replacing social expenditures) for which he or she may be eligible when unemployed, or (2) the wage which the worker may be expected to earn when and if he/she is eventually rehired — with the difference in either case expressed as a fraction of the pre-job-loss living standard (including access to publically provided benefits as well as wages and employer-provided benefits). The second is the expected length of the unemployment spell after job loss, which controls the probabilities upon job loss, expressed as a fraction of a full year, of receiving either income-replacing benefits or another (presumably lower) wage at a new job.[23]

The cost of job loss measures one determinate and manifestly material factor affecting capital-labor relations. We have also sought to test for the independent effect of more qualitative aspects of the capital-labor accord by developing a second indicator of the extent of capital's power over labor in the United States: the inverse of an index of "worker resistance" to their employers, labelled *R*. We constructed the index of worker resistance by undertaking a factor analysis of three variables that are plausibly indicative of the extent to which workers challenge their bosses: (1) the number of workers involved in strikes, expressed as a percentage of all union members (who are most likely to

Figure 2
The Capital–Labor Accord



strike); (2) the ratio of (voluntary) quits to (involuntary) layoffs in the manufacturing sector, a measure of (relative) worker independence; and (3) the proportion of strikes in which demands over working conditions are classified as the principal issue of contention.[24] Our index of resistance is the first component extracted from a principal components analysis of these three variables.[25]

We graph both of these measures of trends in the capital-labor accord in Figure 2, presenting both the cost of job loss [J] and the inverse of the index of worker resistance [R]. The higher is J, the greater is capital's potential power over labor. The higher is R, similarly, the more moderated is worker's resistance to management. The two variables display broadly similar trends over the postwar period although they are hardly coincident.[26] Abstracting from short-run cyclical fluctuations, the indicators show that capitalists gained power over workers from the early 1950s through the early 1960s, then lost considerable advantage during the 1960s, and finally began to recoup some of that loss in the 1970s and early 1980s. As we shall argue below, capital's recent advances have been contradictory, since they have been purchased at the expense of a declining trend in the rate of utilization of productive capacity which itself had an adverse impact on profitability.

Pax Americana

The second buttress of United States capitalist power was the postwar structure of international economic institutions and political relations that assured the United States a dominant role in the world capitalist economy. Pax Americana provided favorable terms for United States capitalists in their interaction with foreign suppliers of both wage goods and intermediate goods and with foreign buyers of United States produced goods.[27] Equally important, the increasingly open world economy gave United States capital the mobility it needed to make its threats of plant closings credible in bargaining with United States workers and citizens over wages, working conditions and tax rates.

Though the United States-dominated world-system conferred significant advantages on United States capital in its relations with workers, it affected profitability in the domestic economy most directly through its impact on the terms on which the United States could obtain goods and services from abroad. This is reflected in the United States terms of trade, as measured by the ratio of the price deflator for exports to the price deflator for imports. The higher this relative price, the cheaper (and thus more favorable) the terms on which United States firms can obtain imported inputs.

We think, however, that the conventionally-measured terms of trade *per se* is an inadequate indicator of the extent of the benefits accruing to United States capital in its dealings with foreign suppliers. It has two limitations. First, it fails to take into account the implications of any imbalance in the current trade account; for example, if the United States imports a higher money value of goods and services than it exports, it is in fact paying less (in exports) for each unit of imports than it would have to pay if the money value of total exports

precisely equalled the money value of total imports.[28] Second, the significance for the United States domestic economy of the terms on which imports are acquired depends on the amount of imports relative to the size of the United States economy as a whole.

These two considerations lead us to define an adjusted terms of trade variable, p_f^m, as the ratio of the (constant dollar) value of imports to the (constant dollar) value of exports, p_f, raised to the power of the import share, m, itself measured by the share of (constant dollar) imports in (constant dollar) GNP. The higher is m, the more important this trade advantage becomes in the domestic economy.[29] An increasing trend in p_f^m, other things equal, would therefore (monotonically) enhance corporate profitability.[30]

We believe that movements in p_f^m are likely to reflect variations in the international political economic power of United States capital in the postwar period — through the construction, maintenance and eventual collapse of financial institutions like Bretton Woods, through negotiation of privileged access to raw materials and product markets, and through negotiation of price- and product-trading agreements. But it might be objected that our indicator is too narrowly economic in focus, or too responsive to factors not obviously related to the international strength of United States capital, to capture the underlying power relationship that we are seeking to quantify. To meet this concern, we have also sought a second, more directly "political" measure of the strength of "Pax Americana." This measure derives from the seminal work of Tom Riddell (1985) in analyzing the relationship between United States military power and United States corporate profitability.

In the course of testing the hypothesis that United States military spending is motivated in part by the economic interests of United States corporations in maintaining a world safe for capitalist expansion, Riddell began with a measure of United States military power based on the number of incidents (per year) in which the United States Government brought its military forces to bear on a situation without actually engaging in active conflict.[31] The rationale for this measure of military power, to quote Thomas Schelling (cited in MacKenzie 1984:52), is that: "Violence is most purposive and most successful when it is threatened and not used. Successful threats are those that do not have to be carried out."

Seeking a more multi-dimensional political measure, Riddell then developed an index of United States international power which takes account of the relative size of its defense arsenal. He used, for this index, the first principal component from a factor analysis of three variables: the number of conflict-free military incidents as defined in the preceding paragraph, the ratio of United States to overall NATO military expenditures, and the ratio of United States to Soviet nuclear warheads.[32] We express this variable as a three-year backward moving average of Riddell's principal component (in order to trace its cumulative effects over time), call it the index of United States military power, and label it P.

Figure 3
Pax Americana

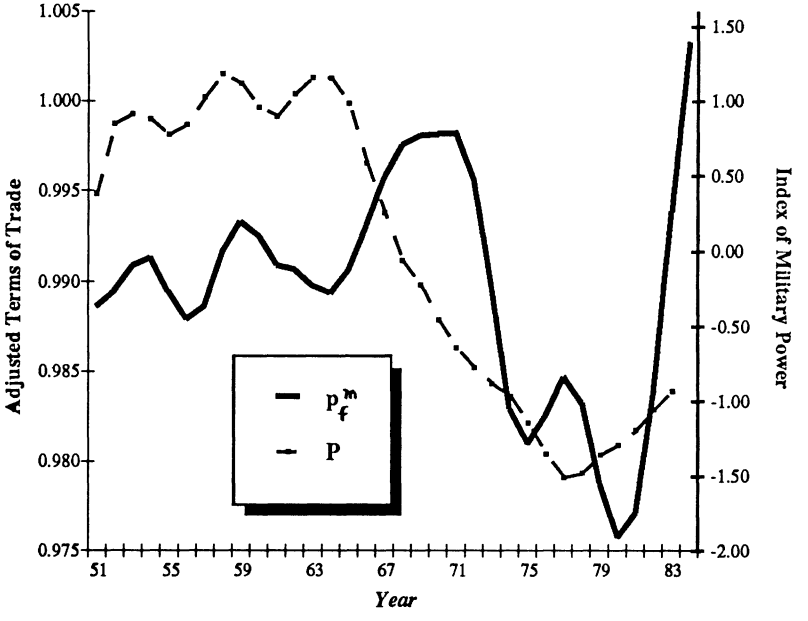


Figure 3 graphs both of our measures of the vitality of Pax Americana, tracing out the adjusted terms of trade [p_f^m], and the index of military power [P] for the postwar period. The adjusted terms of trade showed a gradually improving trend until the end of the 1960s, at which point it turned down precipitously and continued to fall through most of the 1970s before a sharp appreciation of the dollar helped it to turn up again at the end of the decade. The military power index was high from the early 1950s through the mid-1960s and then fell substantially until the onset of remilitarization in the late 1970s. These trends are quite consistent with our understanding that "Pax Americana" held strong during the first two postwar decades and then was eroded by increasingly successful challenges to United States international economic hegemony. They also hint at an interesting lagged relationship between military power and the terms of trade, suggesting that favorable United States exchange relations may indeed depend upon prior establishment and occasional threats to apply a strong military arsenal.[33] Unlike the trends in our measures of relative capitalist power over the domestic working class, finally, there is little indication of a recovery of United States capitalist strength over its foreign challengers before the late 1970s.

The Capital-Citizen Accord

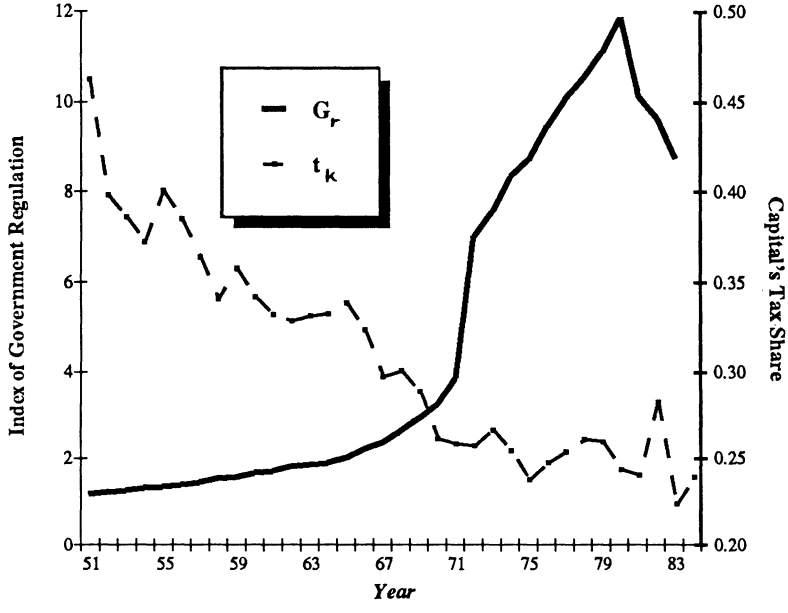
The postwar SSA also included, finally, a set of political arrangements which regulated the inherent conflict between capitalists' quest for profits and people's demands for economic security and for the social accountability of business (at least in such areas as occupational health, consumer product safety

and environmental protection). An expanded role for the state in providing for citizens' needs was suitably circumscribed by the capitalist principle of profitability as the ultimate criterion guiding public policy (Bowles and Gintis 1982).

We have found it especially difficult to model quantitatively the power relationship between United States capitalists and the domestic citizenry, as mediated largely by the state. State policy may affect the profit rate in literally countless ways, and capital confronts popular movements in a great variety of political and economic arenas where policy is made. Some of these arenas have already been considered under the first two dimensions of the SSA. For example, movements in the cost of job loss and the level of military expenditure — which we have considered in our discussions of the capital-labor accord and Pax Americana — were both strongly influenced by the evolution of the capital-citizen accord. Our purpose here is simply to identify a few key quantitative indicators that reflect important additional aspects of the struggle between capitalists and citizens to influence the role of the state in the United States economy.

Our first measure is an index of the intensity of government regulation of business, G_r, which has been compiled by Friedrich Schneider and Wolfgang Pommerehne (1984).[34] This index reflects trends in two somewhat separable components tracing "social" regulation (affecting consumer safety and health, job safety and working conditions, etc.) and "economic" regulation (affecting the environment, energy, banking and general business activities); it was calculated from raw data on expenditures and staffing for Federal regulatory activities. We think that the composite regulation index reflects an important

Figure 4
The Capital-Citizen Accord



dimension of the ability of United States citizens to challenge corporate capitalist priorities.

Our second indicator is an estimate of the percentage of total taxes (paid to all levels of government) which is borne by capital, labelled as t_k. We calculated this index by means of some rough but reasonable assumptions about the incidence of different types of taxes in the United States economy.[35] The share of total taxes paid by capital should provide a useful indicator of another, quite different dimension of the ability of United States citizens to influence state policy against the interests of corporate capital.

Figure 4 traces these two measures of aspects of the capital-citizen accord. It presents movements in the rate of change of the composite index of government regulation of business [G_r], in order to highlight its direction of movement, and our measure of capital's share of total taxes [t_k]. This graph differs from Figures 2 and 3 in two respects. First, our quantitative indicators of the capital-citizen accord are constructed to measure the relative power of the citizenry, while our indicators of the state of the capital-labor accord and Pax Americana are designed to measure the relative strength of capital; thus we would expect the former to be negatively rather than positively associated with profitability. Second, the two indicators of popular state power against capital have moved in opposite directions over the postwar period. On the one hand, United States capitalists have been subjected to an increasing degree of regulation (until the recent rollbacks began to take effect in the early 1980s); the rate of increase was especially rapid in the early 1970s, following the rise of major popular protest movements in the 1960s. On the other hand, capitalists have been able since the Korean War to reduce more or less continuously their share of the overall tax burden.

The Role of Capacity Utilization

In addition to modelling the direct effect of different aspects of capitalist power on profitability, we must also consider one other potentially significant influence on the profit rate: the rate of capacity utilization [ϕ], which we identified as a proximate determinant of profitability in section 3 and in Table 1. Although it is conventionally treated as an exogenous "technical" variable, reflecting and thus controlling for short-term cyclical fluctuations in demand, capacity utilization is endogenously related in complex ways to the social structure of accumulation. We briefly review here both its technical and its social aspects.

The technical influence of the rate of capacity utilization on profitability is quite straightforward. Higher rates of capacity utilization are associated with higher profitability because (1) higher rates of utilization of the available capital stock allow more output to be produced and more income (hence also profits) to be generated with the same level of available capital stock, and (2) a significant fraction of the costs of production are fixed in the short run, so that net profits are disproportionately squeezed when economic activity is relatively slow and disproportionately buoyed when the economy is operating at high steam. These effects clearly apply more directly and more forcefully to the

profit rate than to Tobin's Q, and they are thus reflected (see Figure 1) in a much higher degree of cyclical volatility in r than in q.

But in analyzing the determinants of profitability over the postwar period as a whole we cannot limit our consideration of the rate of capacity utilization to its role as an indicator of (exogenously-determined) short-run fluctuations in demand; demand conditions over the medium- and long-run are *not* exogenous to our model of corporate power. We have argued in *Beyond the Waste Land* (Bowles et al. 1983:Chap. 5) that the evolution of the capital-labor accord, in particular, had a significant effect on secular movements in capacity utilization in the postwar period. The capital-labor accord fostered an ideological climate in which the expansion of government expenditure and the maintenance of relatively high levels of employment became increasingly the common ground of both major political parties (Wolfe 1981). The resulting economic policies contributed to relatively high levels of capacity utilization in the 1960s and early 1970s. As the 1970s unfolded, however, the position of capital shifted. The capital-labor accord began to unravel in the 1960s, and tight labor markets strengthened the hand of labor in its dealings with capital in the late 1960s and early 1970s. Soon enough, capital began to withdraw its support for relatively high employment policies and came to support, first, fiscal restraint and, later, monetarism.[36] The high levels of unemployment and under-utilized capacity that characterized the United States economy in the mid-1970s and early 1980s are attributable in considerable part, we think, to this ideological and policy shift. These more recent efforts, as we show in the final part of our next section on econometric applications, have had clearly contradictory effects on corporate profitability.

We measure the aggregate "utilization rate," ϕ, by the ratio of actual to potential GNP.[37] To help isolate the exogenous short-run cyclical elements in ϕ from the longer-run elements that we believe are endogenous to the structure of the SSA, we have also split ϕ into two separate component variables. The first, ϕ_m, is a five-year centered moving average of ϕ that we call the "long-term utilization rate"; it is designed to represent the more secular trends in ϕ that are presumably most indicative of the endogenous social element in the determination of ϕ.[38] The second, ϕ_d, is the "short-term utilization rate" derived by dividing ϕ by ϕ_m; it simply reflects deviations of ϕ around its long-term trend and is thus a reasonable indicator of short-run cyclical fluctuations in demand.

Although space limitations preclude our presenting a graph of these measures of capacity utilization for the postwar period, the values for those variables clearly manifest the depression of long-term utilization rates in the 1970s and early 1980s (as well as during the late Eisenhower years).

Linkages

We believe that the three major power dimensions of the postwar SSA, interacting with the rate of capacity utilization, conditioned the rise and fall of United States corporate profitability which we have already documented in section 2 and Figure 1. We summarize here, in Table 2, the linkage between the three principal power dimensions of the postwar SSA and the proximate determinants of the profit rate, identified in section 3, that each is most likely to have affected.

Table 2
The Dimensions of Capitalist Power and the Determinants of the Profit Rate

While there is no simple (one-to-one) correspondence between each of the dimensions of capitalist power and the algebraic determinants of the profit rate, we list here the three main dimensions of capitalist power in the postwar SSA of the United States, and the primary variables through which these power relations affected the profit rate:*

Labor Accord	wage bundle (b_d, b_f), extraction of labor from labor power (l^*), capacity utilization (ϕ).
Pax Americana	terms of trade (p), share of imports (m).
Citizen Accord	tax rate (t), choice of technology (a_{ij}, l_d, z_d).

*The variable names and symbols refer to the variables defined in section 3 and listed in Table 1 — with the exception of the share of imports (m), which we introduced subsequently in section 4.

But these are purely conceptual linkages. If we are right that profitability is significantly affected by the degree of power exercised by capitalists in a given SSA, then we should also be able empirically to explain variations in United States corporate profitability, at least in part, by movements in the variables we have used to reflect the relative power of United States capitalists. That requires more formal quantitative investigation.

5. ECONOMETRIC ANALYSIS

In this section we provide a detailed econometric analysis of variations in United States corporate profitability over the postwar period. Drawing on our model of the postwar SSA, we estimate regression equations for the profit rate and for Tobin's Q over the period 1951–1979, test for the structural stability of our equations, and apply our model to analyze the consequence of "Reaganomics" for United States corporate profitability after 1979.[39]

The Basic Model

We use as dependent variables both the (non-financial corporate business) net after-tax profit rate, r, and Tobin's Q, q. We first analyze annual data for the years from 1951 to 1979; we later extend some of the analysis to 1984.[40] We estimate all equations as ordinary least-squares multivariate regressions, correcting them where necessary for evidence of autocorrelated residuals.[41]

The time patterns of our dependent variables — r and q — are displayed in Figure 1 (in section 2). We begin our quantitative exploration of these variables with a simple statistical portrait of their behavior over time, regressing each in turn on the capacity utilization rate ϕ and on time [T] and time-squared [T^2]. Columns [3–1] and [3–2] of Table 3 present these results. As expected, the capacity utilization rate exerts a positive effect on both profitability measures while T and T^2 provide a statistically significant geometric description of the rise and subsequent decline of profitability. The time and time-squared terms project postwar peaks in the predicted values of r and q in 1967 and 1965 respectively.[42]

What accounts for the inverted U-shaped pattern of postwar United States corporate profitability (even after controlling for capacity utilization)? We begin to answer this question with a relatively simple formulation of our SSA model of profitability behavior: we include as independent variables the rate of capacity utilization and the sparest possible representation of each of the three power axes of the postwar SSA reviewed in section 4. To reflect capital's power over domestic labor we utilize the cost of job loss [J]; to reflect its power in the international arena we utilize the adjusted terms of trade [p_f^m]; and to reflect its power in relation to the domestic citizenry we utilize both our index of government regulation [G_r] and our measure of capital's share of the tax burden [t_k].[43] We estimate all of the regressions based upon our SSA model in double-logarithmic (multiplicative) form because we believe that the profit rate is theoretically best conceptualized as the product of the rate of utilization of capital stock and the profit rate on utilized capital stock, implying that the effect of a given level of capacity utilization is interactive with rather than independent of the level of the other determinant variables.[44]

Columns [3–3] and [3–4] present the results of this spare formulation of our SSA model. The coefficients on all five independent variables in the r equation have the expected signs and are highly significant by the usual standards. The coefficients on all the independent variables in the q equation also have the expected signs, although in this case one is not so highly significant. Without recourse to artificial terms describing the inverted U-shaped pattern of either dependent variable, we are able to achieve relatively high explanatory power (with adjusted R^2's of .71 and .73 respectively).

We turn now to a slightly more complex specification of our SSA model, in which the capacity utilization variable is split into its long-term and short-term components [ϕ_m and ϕ_d] and we add variables representing the additional, somewhat more qualitative aspects of the capital-labor accord and Pax Americana, respectively. In order to avoid any concern about our use of principal components as independent variables, we begin by adding individual variables associated with the indices of worker resistance and United States military power: (1) the inverse of strike frequency (the number of workers involved in strikes as a percentage of all union members), or R_s, to help reflect capital's power over the domestic labor force; and (2) the index of conflict-free military incidents (the number of incidents in which the United States Government used its military forces without active conflict), or P_m, expressed as a three-year (backward) moving-average and lagged one year in order to reflect the cumulative character of the impact of trends in military power on capital's international economic power.

Columns [3–5] and [3–6] present the results of regressions with this new specification of the model. All the coefficients on the previously-entered variables retain their signs and comparable levels of significance (with the exception of some loss of significance for the capital-labor variables in the equation for q). The coefficients on the new variables — including both the long-term and the short-term capacity utilization rates — also have the expected signs in the new equations and (with the exception of strike frequency) they are highly significant; the adjusted R^2's are now up to .82 and .88, respectively.

Table 3
Profits, Tobins's Q and the Postwar SSA
(Non-Financial Corporate Business Sector, 1951–1979)

Dep. Var.		3–1 [r]	3–2 [q]	3–3 [r]	3–4 [q]	3–5 [r]	3–6 [q]	3–7 [r]	3–8 [q]	3–9 [r]
Constant	α	−0.26	−2.00	−2.90	0.28	−3.04	−0.45	−1.40	−5.48	−2.45
		(3.33)	(3.56)	(16.55)	(1.43)	(10.44)	(1.64)	(0.72)	(2.14)	(10.73)
Cap. util.	ϕ	0.28	2.13	6.49	3.09	....	....	....	....	....
		(3.72)	(3.86)	(5.21)	(2.39)					
Trend cp. ut.	ϕ_m	....	....	....	....	10.56	2.88	12.05	5.00	11.09
						(6.16)	(1.76)	(10.81)	(3.40)	(10.67)
Dev. cp. ut.	ϕ_d	....	....	....	....	5.39	3.24	4.09	3.70	3.91
						(4.58)	(2.88)	(3.07)	(2.10)	(3.36)
Cost job loss	J_{-1}	....	....	1.39	1.41	1.02	0.43	1.17	0.96	1.19
				(5.62)	(5.18)	(3.22)	(1.40)	(5.04)	(3.12)	(5.94)
Worker resist.	R	....	....	....	....	0.10	0.03	0.85	0.06	0.09
						(1.47)	(0.41)	(2.40)	(0.14)	(2.01)
Terms of trade	p_f^m	....	....	23.64	40.43	12.97	28.73	11.03	26.07	13.34
				(5.18)	(7.73)	(2.98)	(6.92)	(3.00)	(5.36)	(5.10)
Military p'wer	P_{-1}	....	....	....	....	0.15	0.27	0.32	2.14	0.09
						(2.87)	(5.40)	(0.67)	(3.39)	(2.34)
Govt. reg.	G_r	....	....	−1.52	−0.49	−1.19	−0.25	−0.28	−0.18	−0.97
				(4.22)	(1.20)	(4.08)	(0.90)	(1.83)	(0.89)	(4.38)
K's. tax share	t_k	....	....	−2.18	−1.70	−1.80	−0.70	−1.70	−2.02	−1.69
				(6.33)	(4.47)	(4.89)	(2.01)	(5.28)	(4.74)	(7.32)
Time	T	0.006	0.11	....	....	....	....	....	....	
		(5.31)	(13.46)							
Time-squared	T^2	−0.000	−0.003	....	....	....	....	....	....	
		(5.17)	(13.96)							
Vendors perf.	V	....	....	....	....	....	....	0.19	0.20	0.25
								(3.26)	(2.60)	(3.91)
Price cont.	D_{p-1}	....	....	....	....	....	....	−0.18	−0.13	−0.11
								(4.50)	(2.58)	(2.82)

Summary									
$\bar{R}^2$	0.54	0.88	0.71	0.73	0.82	0.88	0.92	0.90	0.94
Statistics									
SEE	0.01	0.07	0.11	0.13	0.09	0.09	0.06	0.08	0.05
MA(1)	....	....	0.56	0.40	....	....	....	....	....
D.W.	0.76	1.43	1.95	1.99	1.88	1.84	1.89	2.16	1.95

Notes: The numbers in parentheses are (the absolute values of the) t-statistics. For reasons explained in the text, the precise specification of three of the independent variables varies among columns:

(1) The inverse of the index of worker resistance is entered in its single-variate form, R_s, in columns [3–5], [3–6] and [3–9], and in its principal component formulation (with a backward moving average) in [3–7] and [3–8].

(2) The index of military power is entered as a moving average, lagged one period, of the single-variate form, P_m, in columns [3–5], [3–6] and [3–9], and in its principal component formulation (without a backward moving average and without a lag) in [3–7] and [3–8].

(3) The government regulation variable is entered as a backward moving average (of the rate of change) of the index of government regulation in [3–3]–[3–6] and [3–9] and as the simple rate of change, without the moving-average smoothing, in [3–7] and [3–8].

We report in Columns [3–7] and [3–8] the results of regressions based on a still more complete specification of our SSA model. In this augmented specification — to which we shall refer throughout the rest of the paper as the "basic SSA model" — we replace the strike frequency and military incidents variables by the corresponding indices of worker resistance and military power derived by the principal component analysis reported in section 4. We also introduce an additional cyclical variable — a measure of late deliveries in product markets — in order to capture elements of the business cycle not reflected in the short-term capacity utilization rate. We use this index of what is often called "vendor performance" to reflect the increasingly supply-constrained nature of key commodity markets toward the end of business-cycle expansions. With a large fraction of supplies reporting late deliveries, price considerations recede in strategic competitive calculations, plausibly leading firms to adopt a higher price markup over costs and thus, other things equal, allowing them to capture a higher profit rate. We also introduce, finally, a dummy variable to control for the effects of the price controls imposed during the Korean War and under President Nixon's "New Economic Policy."[45]

The results presented in Columns [3–7] and [3–8] show coefficients with the expected signs and high levels of significance in virtually every case, and adjusted R^2's of .92 and .90 respectively.[46] As one would expect, the long-term rate of capacity utilization is considerably more significant in the r equation. Of the power-related independent variables all are statistically significant in the profit equation except for the index of military power, while in the Tobin's Q equation only the index of worker resistance and the measure of government regulation fail to show highly significant effects. The cost of job loss, the adjusted terms of trade, and capital's share of the tax burden all continue to register highly significant coefficients as determinants of both the profit rate and Tobin's Q.

Because of the somewhat more complex character and uneven performance of the principal-component formulations, we report in [3–9] a final specification for the profits equation in which we substitute from [3–5] back into the otherwise more complete formulation in [3–7] the single-variate versions of both the worker resistance and the military power indices, R_s and P_m. This specification appears to provide the most satisfactory econometric specification of our model: the adjusted R^2 is now 0.94 while all the variables have the correct signs and are statistically significant (with the indices of worker resistance and military power signficant at 5 percent and all the others at 1 percent on one-tailed tests). Although we cannot technically reject the alternative hypothesis of autocorrelation (since the D.W. statistic falls in the indeterminate range for such a large number of independent variables), no form of ARMA estimation results in a t-statistic on the adjustment coefficient(s) of anything even close to 1.00.[47] We shall refer to this specification in subsequent discussion as the "modified basic SSA model."

Tests for Structural Stability

To examine the robustness of our basic regression model, we now subject it to a stringent statistical test. If the SSA model of the determinants of profitability makes sense, then we should be able to explain the decline of United States corporate profitability "endogenously," without recourse to *ad hoc* postulates about exogenous shocks. The structural relationships which explain the boom should also explain the ensuing years of stagnation and instability.

This line of reasoning points directly to tests of the structural stability of our basic SSA model. If we are correct in our hypotheses about structural stability, our basic SSA model should be able to "explain" the rate of profit just as effectively in the period of boom before 1966 as during the period of decline after 1966; similarly, it should be able to "explain" the rate of profit before 1973 just as well as in subsequent years.

Table 4 presents the foundations for this exercise. Reproducing the results of the basic model for the full period 1951–1979 (from columns [3–7] and [3–8] for ease of comparison) we present in Table 4 the results of two truncated estimations of the basic model — one for the boom years from 1951 through 1966 and the second for the somewhat longer period through 1973. Columns [5–2] and [5–3] present the results of this experiment for r, while [5–5] and [5–6] provide comparable results for q.

The results are reassuring. Virtually all of the independent variable coefficients have the same sign for the different time periods, although as would be expected their significance tends to fall as the time periods get shorter. Moreover, Chow tests for structural stability indicate homogeneity of the equations across periods, with the sole exception that we cannot reject at 5 percent the hypothesis of different structures in the equation for Tobin's Q when comparing 1951–1966 with 1967–1979 (although we can reject it at 1 percent).[48] Particularly for the rate of profit, r, these results appear to suggest comparable structures of determination throughout the whole time span from 1951 to 1979.[49]

In general, then, our basic SSA model appears capable of explaining trends in postwar profitability with substantial statistical power and without recourse

to *ad hoc* time trends or exogenous shocks. In order to provide a final review of the contours of interconnection between the structure of the SSA and the rate of profit, we can utilize the results of the "modified basic SSA model" in [3–9], the most robust of our estimated equations, to decompose changes in (the log) of r into the respective contributions made by the different independent variables in the equation. To control for essentially cyclical fluctuations, we begin by computing the mean values of all the relevant variables over each of three cycles (defined from cyclical peak to peak): 1959–1966, 1966–1973, and 1973–1979. We then calculate the *change* in the mean values of each variable from the first cycle to the second and from the second to the third. The resultant changes in the mean value of (the log of) the net after-tax profit rate are shown in the bottom line of Table 5.

Table 4
Tests for Structural Stability
Selected Periods, 1951–1979

	Profit Rate			Tobin's Q		
	1951–79	1951–66	1951–1973	1951–79	1951–66	1951–73
Independent Variable	3–7	5–2	5–3	3–8	5–5	5–6
α	−1.40	0.75	1.26	−5.48	6.01	4.66
	(0.72)	(0.18)	(0.38)	(2.14)	(1.88)	(1.09)
ϕ_m	12.05	16.33	11.34	5.00	5.28	4.22
	(10.81)	(4.65)	(10.09)	(3.40)	(2.01)	(2.90)
ϕ_d	4.09	0.46	2.65	3.70	−1.14	2.14
	(3.07)	(0.17)	(1.74)	(2.10)	(0.55)	(1.08)
V	0.19	0.23	0.28	0.20	0.24	0.17
	(3.26)	(2.22)	(4.32)	(2.60)	(3.20)	(2.05)
J_{-1}	1.17	1.94	0.88	0.96	0.83	0.28
	(5.04)	(2.60)	(2.59)	(3.12)	(1.47)	(0.64)
R	0.85	1.42	1.50	0.06	1.51	1.92
	(2.40)	(1.91)	(2.43)	(0.14)	(2.71)	(2.40)
P_f^m	11.03	37.50	17.51	26.07	16.31	20.34
	(3.00)	(1.75)	(2.09)	(5.36)	(1.02)	(1.87)
P	0.32	0.60	0.002	2.14	−1.05	−0.14
	(0.67)	(0.44)	(0.002)	(3.39)	(1.03)	(0.14)
G_r	−0.28	−1.61	−0.13	−0.18	−1.75	−0.04
	(1.83)	(1.34)	(0.80)	(0.89)	(1.95)	(0.17)
t_k	−1.70	−1.50	−1.03	−2.02	−1.25	−0.63
	(5.28)	(2.14)	(2.00)	(4.74)	(2.39)	(0.94)
D_{p-1}	−0.18	−0.05	−0.05	−0.13	−0.08	−0.01
	(4.50)	(0.48)	(0.62)	(2.58)	(1.03)	(0.05)
Summary Statistics:						
$\bar{R}2$	0.92	0.93	0.93	0.90	0.96	0.88
SEE	0.06	0.06	0.06	0.08	0.05	0.07
D.W.	1.89	2.44	1.90	2.16	2.73	2.29

Table 5
Accounting for the Decline in Profitability
(Selected Periods, 1959–1966 to 1974–1979[a])

Variables	1959–66 to 1966–73		1966–73 to 1973–79	
	Units of decline in (log of) r	Share of the decline (percent)	Units of decline in (log of) r	Share of the decline (percent)
ϕ_m	−0.181		0.279	
ϕ_d	−0.017		0.020	
V	−0.016		0.016	
Cyclical Variables	**−0.214**	−160.9	**0.315**	144.5
J_{-1}	0.468		−0.038	
R	0.050		−0.026	
Capital-Labor Accord	**0.518**	389.5	**−0.064**	− 29.4
p_f^m	−0.069		0.189	
P	0.085		0.021	
Pax Americana	**0.016**	12.0	**0.210**	96.3
G_r	0.114		−0.056	
t_k	−0.321		−0.149	
Capital-Citizen Accord	**−0.207**	−155.6	**−0.205**	− 94.0
D_{p-1}	0.020	15.0	−0.038	− 17.4
Total predicted decline	0.133	100.0	0.218	100.0
Actual decline	0.126		0.221	

[a]The units of predicted decline in profitability are calculated by multiplying the regression coefficients from the modified basic model, presented in column [3–9], by the change in the average values for the respective independent variables between the periods being compared (respectively) in the two parts of the table.

To calculate the portion of these changes in the dependent variable accounted for by each independent variable, we multiply the corresponding change in each of the latter by its estimated coefficient value in equation [3–9]. The results are shown in Table 5, where the contributions from each type of independent variable are also summed together (in the boldface subtotals) and the contributions from all independent variables sum to the change in the predicted value of the dependent variable.

The evidence in Table 5 shows clearly that the major source of profitability decline from 1959–1966 to 1966–1973 was the erosion of the labor accord — and the decline of the cost of job loss in particular. From 1966–1973 to 1973–1979, by contrast, declines in the utilization variables and in the international strength of United States capital were the major factors contributing to the fall in the profit rate.[50] All in all, we conclude that the structure of power relations in the postwar period does appear to have had an important impact on

the rise and subsequent decline of corporate profitability in the United States economy and that the results of this econometric exploration are fully consistent with the historical and institutional analysis of the trajectory of that decline presented in our earlier work (Bowles et al. 1983:Chap. 5).

The Effects of Reaganomics

As a further test of the robustness of our regression model, and to shed light on the effects of "Reaganomics"[51] on United States corporate profitability, we conclude our quantitative analysis by examining the period between 1979 and 1984. For simplicity of exposition, we confine this extension of the analysis to the profit rate r, while data limitations (at the time of final revision) require truncation of the exercise at 1984.

As we have argued in *Beyond the Waste Land* (1983:Chap. 5), "Reaganomics" can be interpreted, in large part, as a consistent effort to restore corporate profitability by rolling back effective challenges to United States capitalist power: by raising the cost of job loss, improving the terms of trade, more vigorously flexing United States military power, reducing the intensity of government regulation, and dramatically reducing capital's share of the total government tax burden. As any observer could easily report, and as the underlying data for our independent variables clearly confirm, the Reagan Administration made substantial progress on all of these fronts. Did it succeed in reviving the net after-tax rate of profit?

The average net after-tax rate of profit during the business-cycle from 1974 to 1979 was 5.7 percent. The average net after-tax rate of profit during the business cycle from 1980 through 1984 was 6.2 percent; the difference between the cycle means is not statistically significant.[52] The average rate of profit in the 1959–1966 cycle, by contrast, was 8.2 percent. For all of the triumphs of business interests in Washington and throughout the economy, the profit rate barely increased. How could Reaganomics have achieved so little in its apparent mission? We can use our basic model of profitability to explore this question.

First, in order to test the applicability of that model for the years after 1979, we test for structural stability of our SSA model for the full period from 1951 through 1984; the (modified) Chow test reveals that our model is structurally stable across the two periods.[53]

It is therefore reasonable to apply our SSA model to help illuminate trends in the profit rate for the years from 1980 to 1984. For reasons explained in the previous footnote, we use the coefficients from the simpler SSA model, reported in column [3–5], estimated *only* through 1979, for an *ex post* forecast of predicted profitability from 1980 to 1984. While average actual profitability during these years was 6.2 percent, predicted profitability (based on the 1951–1979 coefficients and the 1980–1984 values for the independent variables) was 6.5 percent.[54]

This appears to pose a puzzle. Reaganomics sought to roll back challenges to capital's power and succeeded in obtaining *much* more favorable values for the independent variables along our three SSA power dimensions than had earlier prevailed. And yet, actual and predicted profitability scarcely improved (from their average values during the previous business cycle).

The basic solution to this puzzle, we believe, lies in the inherent contradictions of conservative macroeconomic policy. Reaganomics relied heavily on the monetarist policies initiated in 1979 by Paul Volcker of the Fed and intensified when the Reagan Administration came to power in 1981. These policies resulted in extremely low rates of capacity utilization during the 3-year recession from 1980 to 1982. Another consequence of this policy was a highly inflated value for the dollar; the resultant improvement in the United States terms of trade was similarly contradictory, in that it reduced the competitiveness of United States products on the world market and thus exacerbated the decline in capacity utilization. In sum, Reaganomics won the battle for capitalist power but does not appear to have won the war for corporate profitability because of the high cost of the battlefield victories imposed by the terms of the postwar SSA.

Our SSA model in fact provides dramatic evidence of this basic contradiction. Using the same method applied earlier to decompose the sources of profit rate decline up to 1979 (see Table 5), we can calculate for 1980–1984 how much of an *improvement* in the (predicted) net after-tax profit rate resulted, other things equal, from improvements in the values of the SSA independent variables and how much of a *reduction* followed from the precipitous declines in aggregate capacity utilization prevailing during those years.[55] We compare 1980–1984, the years of what we have called "business ascendancy," with 1974–1979, the years of what we have dubbed "political stalemate" (see Bowles et al. 1983:Chap. 5). According to our estimates, *ceteris paribus,* corporate profitability increased by 2.7 percentage points (over its actual levels in 1980–1984) as a result of gains for capital along our three SSA dimensions and declined by 1.8 percentage points as a result of losses resulting from more adverse utilization conditions.[56] What conservative economics giveth, conservative economics largely taketh away!

To achieve a true victory on behalf of capital, the Reagan Administration would have needed to alter the underlying relationship between the rate of capacity utilization [ϕ] and the SSA power dimensions. If it were possible to enhance capitalist power without having to depress ϕ to such a significant extent, this would permit much higher levels of profitability to be attained over an extended period of time and would amount eventually to a genuine alteration of the postwar SSA. Is there any evidence that this has been accomplished?

As of the time of final revision, our SSA model does not support the hypothesis that Reaganomics has affected the structural environment conditioning corporate profitability. A dummy variable for 1980–1984 included in either the simpler SSA model [3–5] or the modified basic SSA model [3–9] is not statistically significant. We are unable to find evidence, moreover, that the underlying trade-offs between capacity utilization and our respective SSA variables have changed in directions which benefit capital.[57]

These results are not yet conclusive and hardly the last word. At the time of completion of this article, it is still too early to draw a final conclusion on the consequences of Reaganomics. First, because the current business cycle may turn out not to have reached its peak in 1984, our comparison of 1974–1979 with 1980–1984 is subject to revision. Second, and ultimately more important, it is possible that a trade-off between ϕ and some of the SSA variables more

favorable to capital will prove to have emerged after another few years. The verdict will become far clearer when we see how heavy a dose of macroeconomic restraint will be required in the long run to maintain the significant gains that capital had achieved through the monetarist "cold bath" of the early 1980s.

6. CONCLUSION: POLITICAL IMPLICATIONS OF OUR ANALYSIS

We have argued, in this paper and elsewhere, that capitalism may be insightfully analyzed as a contradictory system of power relationships that evolves in large measure through the continuing but changing forms of class struggle, international conflict and other tensions to which its structure gives rise. To analyze the latest capitalist economic crisis we have therefore proposed a theoretical approach to the analysis of a capitalist system which focuses on its historically contingent and inherently contradictory social structure of accumulation.

At the root of the crisis in the United States is the decline in corporate profitability that began in the mid-1960s. We have argued that the initial decline can be explained by a corresponding decline in the power of the United States capitalist class to deal with growing challenges from the domestic working class, the domestic citizenry, and foreign suppliers and buyers — challenges which themselves arose out of the dynamics of the postwar boom. In the last decade United States capital has scored major political victories over all those groups whose challenges form the heart of our analysis of the origins of the economic crisis, yet corporate profitability has remained at a relatively low level. We attribute this outcome to the inherent contradictions of conservative macroeconomic policy. The challengers were turned back at a very high cost in economic stagnation associated with the major recessions of 1974–1975 and 1980–1982.

Our theory of the rise in challenges to capitalist control, and the subsequent cost of re-establishing that control, is supported by our econometric analysis of the determinants of corporate profitability in the United States. We conclude, moreover, that our analysis sheds light on the problems that have confronted the Left as the economic crisis has deepened. Lacking a clear programmatic or visionary alternative to the right-wing strategy of making capitalism work at any price, popular groups were placed on the defensive as the economic crisis deepened. During the 1970s and 1980s the stagnation of the economy and the two engineered recessions of 1974–1975 and 1980–1982 sharpened the teeth of capitalist threats of plant closing and layoffs and tightened the constraints on social programs posed by mounting government budget deficits. Retarded growth of the United States economy and high interest rates also eventually reversed the decline in the United States international terms of trade. Potential challengers to capitalist control are now much weaker than they were in the late 1960s, but only as a consequence of the costly capitalist strategy originally provoked by the weakening of capital's position.[58]

What, then, are the political implications of our analysis? If we are right that profits are central to the vitality of the United States economy as long as it remains capitalist, and that it was rising challenges from non-capitalist forces

that caused the initial decline in profitability and the high costs of keeping people down that perpetuated the profitability problem, how can we confront those who contend that economic recovery hinges on capital's ability to control its challengers firmly and efficiently? How can we derive a progressive political strategy — a strategy designed to foster more popular control, more democracy, more socialism — from an analysis that seems to blame progressive political forces for the economic crisis?

We cannot fully address these complex issues here, in part because it would be mistaken to believe that any political conclusion at all may be derived directly from an analysis which has focused on macroeconomic phenomena to the exclusion of equally important considerations of gender, race, politics and culture. Two observations may nonetheless be in order.

First, the fact that successful challenges initiated the crisis in no way assures that beating back the challenges will be an effective way to boost profits and restore the growth process. This point has been well illustrated by the high cost of United States capital's recent efforts to regain the upper hand after their setbacks in the initial stages of the current economic crisis. The Reagan Administration may ultimately succeed in coming up with a more efficient way to assure United States capitalist control and boost profitability, but it is still quite unclear whether capital has yet amassed the political and economic leverage to accomplish what would amount to the construction of a new capitalist social structure of accumulation.

Second, and more important, there is a flaw in the reasoning that would seek to repress challengers as a basis for economic recovery: it presumes that there is no alternative to capitalism, and that the best we can hope for is therefore the restoration of a more efficient system of capitalist exploitation. But we believe that there *is* a socialist democratic alternative — one that offers both an alternative strategy and an alternative vision of the future.

Our analysis points to a political program based on a critique of the legitimacy of capitalist power and to an economic program highlighting the gains to be made from reducing the waste inherent in the imposition and maintenance of capitalist control. By showing that exploitation is fundamentally costly, and that its reduction is compatible with — if not necessary for — a return to economic security and opportunity, we can potentially undermine a major source of capitalist legitimacy and strength. By highlighting the problem of political power, moreover, our analysis points to popular control in both the state and the economy — that is, socialist democracy — as a progressive political alternative. Rather than legitimizing a repressive *status quo*, our theory of the crisis and declining profitability seems to us to dramatize the effectiveness of popular power and therefore to underscore its potential for social transformation.

APPENDIX
MODELLING THE PROXIMATE DETERMINANTS OF PROFITABILITY

We provide in this Appendix a brief summary of the final steps necessary in our linear model to derive the expression for the net after-tax rate of return presented in equation (3) in the text.

To analyze the conditions necessary for a surplus and therefore for a positive net rate of profit, we define the augmented input-output matrix, **M**, the coefficients of which, m_{ij}, represent the amount

of good i required to produce a unit of good j, taking account not only of the use of intermediate goods (the a_{ij} coefficients) but also of the indirect input of the wage-bundle goods required for the reproduction of the work force at its customary level of consumption per hour of labor.[59] Thus,

$$m_{dd} \equiv a_{dd} + b_d(l_d/l^*) \tag{A.1a}$$

$$m_{fd} \equiv a_{fd} + b_f(l_d/l^*) \tag{A.1b}$$

with the second term on the right representing the indirect wage-bundle inputs required per unit of output, given the unit labor requirements and the extraction coefficient, l^*.[60] The augmented input coefficients for the "production" of the imported good are simply multiples of the domestic good's coefficients reflecting the terms of trade; for example, $m_{df} \equiv m_{dd}/p$. Given this formulation, it is evident that the higher the value of the labor extraction coefficient, l^*, and the higher the terms of trade, p, the lower will be the augmented input-output coefficients m_{ij}.

Let X represent the total number of units of domestic output produced. To determine the corresponding surplus S, we must subtract from X the total direct and indirect input requirements reflected in the augmented input-output matrix **M**. These input requirements consist both of domestic goods and of imported goods. The former are measured in the same units as the output itself; the latter must be paid for at a rate of l/p units of domestic goods for each unit of foreign-produced good. Thus to arrive at the overall surplus S (measured in units of domestic goods), we must subtract both kinds of input requirements from the (gross) domestic output produced to get

$$S = X \cdot (1 - m_{dd} - m_{fd}/p) \tag{A.2}$$

Substituting equations (A.1a) and (A.1b) into equation (A.2), we may express the surplus per unit of output as

$$S/X = 1 - a_{dd} - a_{fd}/p - [(b_d + b_f/p)(l_d/l^*)] \tag{A.3}$$

where the two double-subscripted terms are intermediate goods inputs and the remaining expression within brackets is the real wage multiplied by the number of hours of labor required per unit of output. Equation (A.3) indicates that the existence of a surplus will depend on the terms of trade, the workers' consumption bundle, and the effectiveness of employers' attempts to extract labor from labor power, as well as the material and labor input-output requirements of domestic production.[61]

In conformity with our linear production model, we will assume that in domestic production the ratio of machines required per unit of labor input (in terms of actual work performed) is represented by a constant machine-labor ratio z.[62] We may then express the machines used per unit of domestic output produced as

$$z_d = z l_d \tag{A.4}$$

Recall that all the machines are domestically-produced goods, so that we can measure the size of the stock of machines in the same units as the domestic output produced and the machine-output coefficient z_d is a dimensionless number. Letting Z denote the amount of existing machines (in units of domestic output), the amount of machines actually utilized will be equal to Z times the rate of capacity utilization, which we denote by ϕ. We may therefore express the domestic output produced as

$$X = \phi(Z/z_d) \cdot \tag{A.5}$$

Combining equations (A.3) and (A.5), we can then write the following expression for the surplus per unit of machine stock

$$s = S/Z = (\phi/z_d)[1 - a_{dd} - a_{fd}/p - (b_d + b_f/p)(l_d/l^*)] \tag{A.6}$$

In this expression, s represents a measure of the gross before-tax profit rate, in which the numerator (S) is equal to profits gross of depreciation and taxes and the denominator (Z) is equal to the stock of machines available for production, with everything measured in units of domestic output. To move from s to our final target variable — the net after-tax profit rate r — we need to net out depreciation (D) and taxes (T) from S and convert Z from a (gross) measure of machine stock to a net measure of "capital" stock (K).[63]

To simplify our exposition, we will assume that the net before-tax profit rate (S-D)/K is equal to the gross before-tax profit rate S/Z. This is strictly true only under special assumptions about the

past pattern of accumulation and the rate of depreciation, but it is approximately true in practice for aggregate measures of the average profit rate.[64]

We can then express the net after-tax profit rate as

$$r \equiv R/K = (S - D - T)/K = s(1 - t) \tag{A.7}$$

where t is the tax rate on net before-tax profits or $T/(S - D)$. Substituting equation (A.6) into equation (A.7), we arrive at our final comprehensive expression for the net after-tax rate of profit

$$r = \{(\phi/z_d)[1 - a_{dd} - a_{fd}/p - (b_d + b_f/p)(l_d/l^*)](1 - t)\} \tag{A.8}$$

We reproduce this expression in equation (3) of the text and in Table 1.

NOTES

1. Underconsumptionist hypotheses fare badly, for example, on simple grounds of timing: the profit rate turned down in the mid-1960s and continued to decline for at least half a decade despite exceptionally high levels of capacity utilization and rapid growth in aggregate demand. See Weisskopf, Bowles, and Gordon (1985: section I) for detailed criticism of the underconsumptionist view.

Mainstream explanations of declining profitability are no more powerful empirically; an appendix to this paper, which space limitations prevent from inclusion in this published version but which is available from the authors, compares leading mainstream hypotheses with our own econometric model presented in section 5.

One other prevalent Marxist explanation, based on the hypothesis of a rising organic composition of capital (see Shaikh 1978), is more plausible than the underconsumptionist view by the simple empirical criterion of timing but we think it suffers from critical conceptual problems. Two of us have analyzed this approach elsewhere — see Weisskopf (1979) and Bowles (1981); we also review in the unpublished appendix the relationship of this approach to our own econometric analysis.

2. The concept of a social structure of accumulation was introduced in Gordon (1978) and further developed and applied in Gordon (1980) and Gordon, Edwards, and Reich (1982). As these sources stress, the analysis of social structures of accumulation is closely related to the study of long swings in economic activity and therefore to successive "stages of accumulation"; see also Mandel (1980).

3. As will be apparent even from this brief sketch, the social structure of accumulation is a concept which makes it possible theoretically to differentiate among different forms of capitalist society and different periods in the evolution of these societies. For this reason, it helps rectify the paucity in Marxian theory of what might be termed empirically relevant middle-level concepts — midway, that is, between abstract concepts such as class and mode of production, on the one hand, and concrete historical analysis, on the other.

4. Armstrong, Glyn, and Harrison (1984) provide an admirable (though rare) account of the relationships among social institutions, profits, and accumulation. For a brief review of available data about SSAs, and for discussion of the difficulty in analyzing the relationship of an SSA to movements in profitability, see Gordon et al. (1982: Appendix to Chap. 2 and Chap. 6).

5. We do not mean to suggest that the SSA perspective is the *only* approach which might lead one to expect this particular empirical pattern; other analyses may also generate similar expectations.

6. This paper thus extends, amends, and provides more ample econometric support for propositions developed in our recent book and in earlier papers: see Bowles, Gordon, and Weisskopf (1983); Gordon, Weisskopf, and Bowles (1983); and Weisskopf (1979). It is also closely related to the parallel econometric analyses of productivity and investment in Weisskopf, Bowles, and Gordon (1983) and Gordon, Weisskopf, and Bowles (1986) respectively.

7. However promising our results, two initial methodological qualifications should be stressed. First, we treat the power dimensions of the SSA in this paper *as if* they were exogenous to our model in order to be able to concentrate on our analysis of the determinants of profitability; in fact, within a broader perspective, we believe that internal developments within an SSA must be analyzed as determined at least partly endogenously to the structure and contradictions of that SSA. This requires application of the Marxian theory of the endogenous contradictions of the capitalist accumulation process; see Gordon (1980) and Weisskopf (1981) for development of this approach. Second, we recognize that power relationships — in all their social, political and even cultural complexity — are intrinsically difficult to quantify and that all of the results in this paper are

therefore highly provisional. The efforts outlined here seem essential, nonetheless, precisely in order to help bridge some of the unfortunate gulfs which we feel have plagued Marxian analysis.

8. In 1985 this measure of the rate of investment, though considerably higher than in 1982 or 1983, was still floundering at roughly its levels in the previous business cycle peaks of 1981 and 1979. At the time of writing we do not yet have data for 1986 but it appears unlikely that they will witness a real reversal of this continuing downward slide, since the most recent cycle appears to have peaked in 1984. The investment rates come from underlying data in the *Economic Report of the President* (1986:Table B-15).

9. It excludes non-capitalist sectors such as government services and non-profit institutions. It also excludes unincorporated business, for which the distinction between labor and capital income is rather cloudy, and the banking sector, for which most data are imputed and subject to serious question.

10. We do not intend to imply that the United States economy can be entirely separated or is somehow independent from the global economy; our purpose, rather, is simply to delimit the scope of our analysis in order to keep it within manageable proportions. We devote considerable attention in sections 3 and 4 to the mechanisms through which the global economy affects domestic corporate profitability.

11. This is also the profit-rate concept favored by most mainstream analysts of aggregate United States profit rates; see, for example, Nordhaus (1974), Lovell (1978), and Grimm (1982).

12. Our conceptual choices with respect to items (2) and (4) are important and warrant the most careful consideration, while our choices with respect to the remaining items are relatively uncontroversial and can be justified more briefly:

(2) We focus on *after*-tax profits because there is no theoretical reason for capitalists or potential investors to distinguish between the use of the firm's revenues to pay taxes and their use to pay for inputs used in the production process (such as labor) supplied by non-capitalist economic agents. From the capitalist standpoint both are simply costs. (For similar reasons we make no distinction in our measure of the profit rate between productive and unproductive labor: the wage of the secretary in the advertising department is no less a cost than the wage of the production worker. The concept of unproductive labor *may* be useful in explaining movements in the profit rate, but this is not an argument for considering payments to unproductive labor as profits.) It is the after-tax profit rate which therefore determines the success, survival, or failure of capitalist firms or of particular strategies pursued by them. The after-tax profit rate is also a likely determinant of the level of investment and is hence critical to the accumulation process.

(4) We *include* net interest payments in profits because — unlike labor, material costs, or taxes — they represent a return to capital advanced and are thus a payment circulated within the capitalist class as a whole and not transferred to non-capitalist claimants. The division of total capital income between corporate profits and net interest payments — i.e., between productive and financial capitalists — depends on the extent to which capital investment is financed by equity and by debt and on the relevant interest rate. Since the value of all reproducible capital assets — irrespective of their financing — is included in the denominator of the profit rate, we must include the returns to all these assets in the numerator.

(1) We use a net concept of capital income because gross capital income includes capital consumption allowances, which are not part of property income but a cost of production; for consistency, we must also use a net concept of capital stock in calculating the profit rate. (3) We adjust corporate profits by means of the *National-Income-and-Product Accounts* (NIPA) inventory valuation adjustment and the capital consumption allowances adjustment to approximate a measure of "true" profits that is free of the distortions inherent in unadjusted business accounts. (5) We include inventories in our measure of capital stock because they too represent capital assets in which firms have invested in order to make a profit. (6) We measure the capital stock (including inventories) at its current replacement cost because we seek a measure of profitability that reflects the real rate of return to capital assets; since the numerator of the profit rate is expressed in current dollars, the denominator must also be expressed in current dollars in order to keep inflation-induced nominal capital gains out of the profit measure.

13. While we will focus our econometric analysis on these two measures of profitability — because they are familiar and we can compare our results with those of other studies — we do not think that either or both are sufficient for analyses of the accumulation process. The basic problem is that neither measures the return to capital which it would be reasonable for capitalists to maximize, which is the overall annual increase in real purchasing power accruing to the owners of capital assets. For a useful discussion of this problem, see Holland and Myers (1979).

14. Our measure of r is based on data on factor incomes from the *National Income and Product Accounts* and data on capital stock from the U.S. Department of Commerce (1982), up-dated by pertinent reports in the *Survey of Current Business*. Our measure of q is obtained from a (slightly revised and extended, but unpublished) government series presented originally in *Economic Report of the President* (1982:Table B-88), for the years beginning in 1955, and from the (augmented) series compiled by Holland and Myers (1979:Table 2) for the years prior to 1954.
15. Contrary to the distributional theory of neoclassical economics, neither profits nor wages represent the return to a scarce factor of production; capital is not a productive input (though machines are), while labor is not scarce but rather almost always in excess supply.
16. See O'Connor (1973) for a useful delineation of many of these effects.
17. Throughout this theoretical discussion, when we refer to "profits" and "the profit rate" we mean the *aggregate* amount and the *average* rate that apply to the whole capitalist class of the society under consideration. The profitability of individual capitalist enterprises will of course depend on their relationships with one another, and one capitalist may well exercise power in the competitive struggle against another (on a fourth front of the war for profits). Such internecine uses of capitalist power will not affect the aggregate rate of profit, however, except to the extent that they affect capital's power relations with non-capitalist economic actors.
18. For useful formulations of linear models in traditional Sraffian and/or Marxian terms, see Brody (1970), Medio (1972), and Pasinetti (1977).
19. We abstract from non-reproducible production inputs as well as the heterogeneity of labor and machines.
20. In referring to "efficiency" in this context, we do not intend to suggest a technological connotation. The terms of trade, as well as the consumption bundle elements, the input-output coefficients, and the labor extraction coefficient, are all strongly influenced by class and international conflicts, legal practices and social customs, and the exercise of state power; they are not solely functions of tastes and technical possibilities. These coefficients are thus akin not to blueprints of technical possibilities but to a snapshot of some important aspects of the socioeconomic environment at a given moment.
21. This is equivalent to the condition that labor be exploited, i.e., that the average (net) product per hour of labor exceed the workers' consumption per hour of labor.
22. The microeconomic reasoning behind this variable is developed in Bowles (1985). The variable itself is defined and detailed in Schor and Bowles (1986); we use their data series in our econometric analysis.
23. While this measure is undoubtedly quite indirect, we believe that it does model a crucial dimension of power relations in the workplace and in society. Moreover, the cost of job loss variable has been quite useful in other related work; it provides robust econometric explanatory power, for example, in analyses of productivity growth (Weisskopf et al. 1983) and of strike incidence (Schor and Bowles 1986).
24. We are here following the lead of Naples' (1981, 1982) empirical studies of the capital-labor accord and its demise. Data on strike frequency and strikes over working conditions come from the regular series on strikes in *Employment and Earnings*, updated in *Monthly Labor Review*, and annual U.S. Bureau of Labor Statistics publications on *Analysis of Work Stoppages*. Data on union membership come from U.S. Bureau of Labor Statistics (1980, 1981) and were interpolated to 1984 on the basis of Adams (1985). Data on quits and layoffs come from *Employment and Earnings*.
25. The components were not rotated before deriving the component scores. The (unrotated) principal-component loadings on the three variables were .791 on the index of strike frequency, .777 on the quit/layoff ratio, and .362 on the percentage of strikes over working conditions. We were able to calculate this index only through 1979 due to reduction of data collection during the Reagan Administration. In Figure 2 and our econometric analysis below, we use a three-year backward moving average of this index of worker resistance in order to abstract from short-term fluctuations and highlight more enduring trends.
26. The simple correlation coefficient between the two variables is 0.41.
27. By United States capitalists we mean all owners of capital assets used in production within the United States, not those United States citizens who own capital assets used in production anywhere in the world. This definition reflects our focus on the domestic profitability of the NFCB sector.
28. Of course, any such current account deficit would have to be offset by a corresponding surplus elsewhere in the overall balance of international payments. But this offsetting surplus (e.g., an inflow of foreign capital) does not directly affect the profitability of the current operations of United States producers.

29. If the import share is approximately equal to the share of imports in total costs of production, our measure of the adjusted terms of trade is then equivalent to a geometric index of the relative contribution of import costs to total input costs.
30. Data for real imports, exports and the import share are based on *Economic Report of the President* (1986:Table B-2). In Figure 3 and our econometric analysis below, we in fact deploy a three-year centered moving average of this adjusted terms-of-trade measure in order to abstract from short-term fluctuations and highlight more enduring trends.
31. The compilation of such incidents was carried out by Blechman and Kaplan (1978) for the years 1948 through 1975 and extended by Riddell to 1983.
32. The components were not rotated before scoring. The (unrotated) principal-component loadings were .531 on the military incidents variable, .765 on the United States/NATO expenditure ratio, and .829 on the United States/Soviet warheads ratio.
33. Riddell (1985) reports some econometric tests providing further multi-variate support for this graphical appearance of a lagged relationship between military power and the terms of trade.
34. We are grateful to Friedrich Schneider for making available to us the index for the years from 1947 to 1982; we extrapolated it ourselves from 1982 to 1984.
35. Using data from the *National Income and Product Accounts,* we assumed that all corporate profit taxes and a fraction of personal taxes plus indirect business taxes plus employer contributions to social insurance were borne by capital; capital's fraction of these latter payments was estimated as equal to one minus the ratio of wages and salaries plus other labor income plus government transfer payments to total personal income.
36. We offer some econometric evidence to support this interpretation in Appendix C of Bowles et al. (1983), using a measure of the relative power of capital and labor to predict fiscal restrictiveness, and then using fiscal restrictiveness to predict capacity under-utilization.
37. This is hardly a direct measure of the physical proportion of machine goods utilized in production. Since such direct measures do not exist for the entire corporate sector, however, this indirect measure is commonly used to track aggregate movements in utilization. Our series for potential GNP is based on unpublished data from the Bureau of Economic Analysis and on figures calculated by de Leeuw and Holloway (1982).
38. Since the utilization series extended only to 1985 at the time of writing, we derived ϕ_m at the more recent tail of this series by truncations: i.e., by a truncated four-year moving-average for 1984.
39. In an unpublished appendix, available from the authors, we compare our results with those generated by several alternative empirical analyses of United States corporate profitability.
40. This choice of time spans was dictated both by data availability and by our desire to analyze the effects of Reaganomics through *ex post* forecasting exercises. We have been able to generate data for all our independent variables for the period from 1948 to 1979 and for many variables up to 1984, but the lags used in constructing our variables and in estimating our equations moved the initial observation for the regression analyses up to 1951.
41. We used the following procedures for adjustment for autocorrelation. We first tested for evidence of autocorrelation. If such evidence was found, we then performed a standard one-period moving average process [MA(1)] adjustment. If the adjustment improved the adjusted R^2 and brought the Durbin-Watson statistic within an acceptable range, we retained that autoregressive correction. If not, we then tested for a one-period autoregressive process [AR(1)] in the error terms. If that correction improved the adjusted R^2 and brought the test statistic within the acceptable range, we retained that correction. If not, we explored alternative ARMA specifications. Once we had settled on the appropriate correction for our "basic model," as described below and presented in Table 3, we retained that form of adjustment for comparability across models in all future comparisons; it turned out that no correction was required in the "basic" model reported in columns [3–7], [3–8], and [3–9].
42. These peaks are estimated from the regression coefficients by solving for T in $\hat{\beta}_T = 2\hat{\beta}_T T$.
43. Note that these latter two variables, reflecting the capital-citizen accord, are *inverse* measures of the power of capital; we have used two variables rather than one only in the case of the capital-citizen accord because the two variables introduced in section 4 moved so differently over the postwar period (compare Figure 4 with Figures 2 and 3).

Two additional notes about the specification of [3–3] and [3–4]: we lag the cost of job loss one period in order to embody the further hypothesis that workers' reactions to changes in the cost of job loss are not likely to be immediate. We use a three-year (backward) moving-average of the regulation variable, in order to stress the cumulative character of government regulation, and

measure its rate of change in order to reduce the sensitivity of our results to the heavily-trended movements in the level of the regulation variable (see Figure 4).

44. We estimated the basic models reported in Table 3 in their non-logarithmic or additive form, as well, and we obtained econometrically comparable results; the choice of our logarithmic specification is therefore unconstrained on econometric grounds and preferable on theoretical grounds.

45. The index of "vendor performance" comes from the series published in *Business Conditions Digest*. The price-controls dummy variable takes values of 0.25 in 1950, 1.0 in 1951 and 1952, −0.5 in 1953; of 0.5 in 1971, 1.0 in 1972 and 1973, and −1.0 in 1974 and 1975; and of 0 in other years. The fractional values correspond to controls operating during part of a year, and the negative numbers capture "catch-up" effects that operate in the period following the lifting of controls. See R. J. Gordon (1982) for introduction and justification of this kind of treatment of price controls. This variable also has the most robust effects when it is lagged one period, apparently reflecting the delays between orders and deliveries under conditions of administered controls, so it is lagged one period in this final model specification.

46. In this augmented estimation we switch in the profit equation away from the moving-average version of (the rate of change of) the government regulation index to the simple rate-of-change formulation because of changes in the time pattern of the residuals resulting from the introduction of the vendor performance variable. The military power index is entered contemporaneously, rather than as a backward moving average and lagged, for the same reason.

47. We report this final formulation only for the profit rate in this table since we shall concentrate in further exercises on this measure of profitability, setting our investigation of q aside.

48. One must use a modified Chow test for the 1951–1973/1974–1979 comparison since there are not enough degrees of freedom in the latter period to permit estimation of the equation. We relied for this test on the modification suggested in Fisher (1970); see also Johnston (1984:217–220).

49. We also generated *ex post* forecasts of both r and q for the out-of-sample periods 1967–1979 and 1974–1979. The forecast values were quite close to the actual values. In the case of the forecast using the 1951–1973 coefficients for the profit equation in column [5–3] to forecast the profit rate for 1974–1979, for example, the root-mean-square simulation percent (rms percent) error for the *ex post* forecast period was only 7.0 percent.

50. In each period the variables directly representing the capital-citizen relationship contributed on balance to increasing profitability — particularly because of the extent of reduction in capital's tax share throughout the entire period. Recall, however, that these variables represent only two of many aspects of the complex relationship between capital and the domestic citizenry; the evidence in Table 5 should therefore not be taken to imply that capital was necessarily increasing its overall dominance of the citizenry throughout the period under investigation.

51. Because some of the key macroeconomic policies undertaken by the Reagan Administration were in fact begun toward the end of the Carter Administration, notably the Fed's imposition of tight money under Paul Volcker in October 1979, we use this term to denote the period of economic policy-making from 1979 to the present.

52. Preliminary data available at the time of final revision of this paper suggested that the year 1984 would mark a cyclical peak in the rate of capacity utilization; we have therefore chosen to define the period from 1980 through 1984 as the latest business cycle.

53. In order to focus most carefully on tests for the stability of the SSA model itself, we abstracted from changes in the additional cyclical variables introduced in column [3.7] and estimated the slightly simpler version of the equation presented in column [3.5].

54. These predicted values were obtained by estimating the equation in logarithmic form and then computing the actual levels of profitability through exponentiation. The average actual and predicted profit rates do not differ statistically at even the 10 percent level.

55. In order to build this calculation upon the most efficient estimators available, we rely here on coefficients from the most robust equation, that of the "modified basic SSA model" presented in equation [3–9].

56. For these calculations, referring back to Table 5, we included in the former sum all six variables listed under the three SSA dimensions and included in the latter sum the remaining four variables: both capacity utilization measures, the vendor performance variable, and the price-control dummy.

57. For these explorations, we conducted a variety of piece-wise tests for changes in the slopes of the relationship between capacity utilization and the other independent variables.

58. Our approach also helps to explain why the United States labor movement has fared so badly during the course of the current crisis, in sharp contrast to its growing strength during the crisis of

the 1930s. The economic crisis of the 1930s was attributable to demand constraints on the accumulation process, and this enabled labor to identify its interest in higher wages and increased government expenditures with the national economic interest in higher levels of aggregate demand. The onset of the current crisis, by contrast, occurred during a period of booming aggregate demand and high capacity utilization, and it was attributable largely to supply constraints on the accumulation process resulting from effective challenges to capitalist control. Partly as a result of this shift in the nature of the accumulation process, and with substantial assistance from business-financed think tanks and media campaigns, employers have been able to represent labor's immediate economic interest in higher wages as contrary to the national economic interest in reducing costs of production. For a more detailed discussion of this point, see Bowles (1982).

59. We depart here from the conventional Marxian treatment of the value of labor power in terms of a customary level of real consumption per *day* of labor. This departure does not materially affect our analysis.

60. See discussion in section 3 of text for actual definition of the terms on the right-hand side of the equation.

61. Given the orientation of our effort to connect power relations to the determination of profitability, it is important to note that the effects of exercised power are not merely reflected in the variables p, b_i, and l* but are also reflected in the material and labor input-output coefficients through the embodiment of past and present successes at resource and labor extraction.

62. We are thus assuming also a constant ratio of machine services rendered per machine utilized.

63. The difference between the gross stock of machines and the net stock of capital is that the former is measured by cumulating past investments in new machines and subtracting the full cost of those machines only at the point when they are retired, while the latter is measured by cumulating past investments in new machines and subtracting an estimate of annual depreciation every year until they are fully depreciated. Measures of gross machine stock will therefore always be higher than the corresponding measures of net capital stock, and the ratio of the former to the latter will vary with the pattern of past accumulation and the rates of depreciation of the machines currently in existence.

64. See Hill (1979) for an analysis of the precise difference between gross and net rates of return to capital under varying assumptions about the pattern of accumulation and rates of depreciation.

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