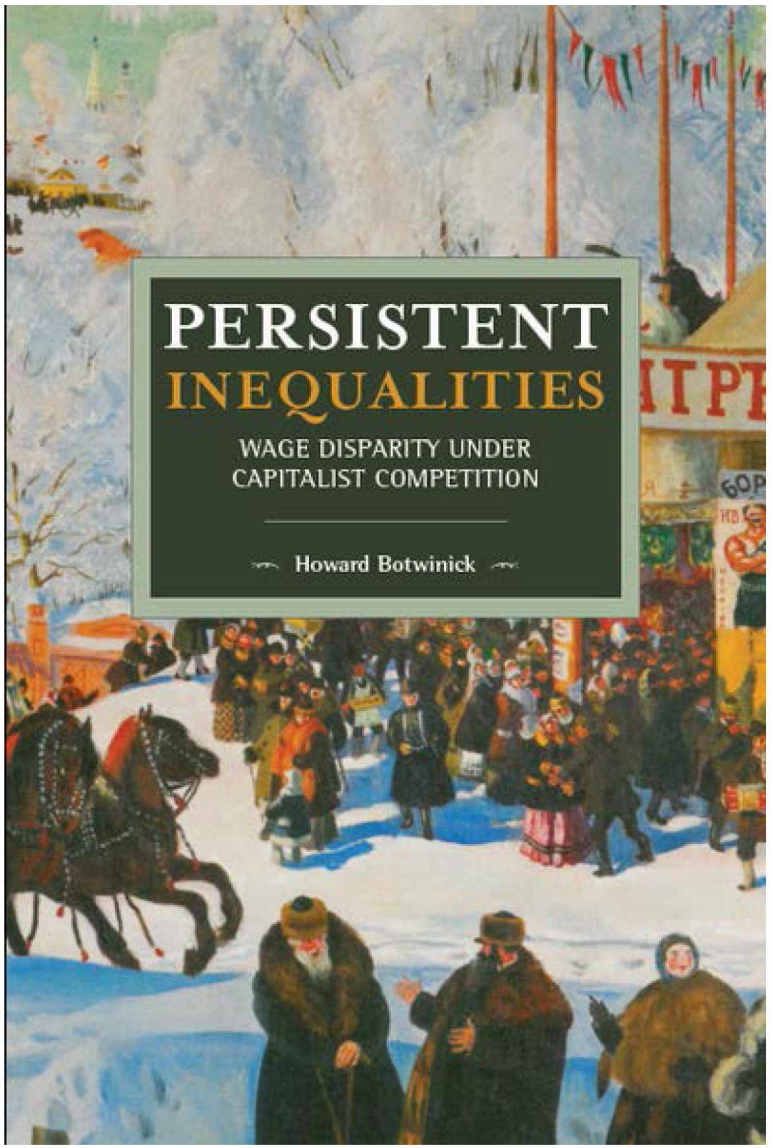


Persistent Inequalities

WAGE DISPARITY UNDER CAPITALIST COMPETITION

Howard Botwinick

1993
PRINCETON UNIVERSITY PRESS
PRINCETON, NEW JERSEY

Contents

Figures

Tables

CHAPTER 1

Introduction

> Any reader who still believes that, somehow or other, the theory of equal wages may be true, should consult a document like the *Annual Report* of the Massachusetts Bureau of Statistics of Labor, for 1883, and ascertain the number of rates of wages paid to unskilled labor in a single state. . . . [T]he daily wages of ordinary laborers engaged in the manufacture of boots and shoes varied from seventy-five cents to two dollars, seven different rates being mentioned, differing from one another by almost two hundred per cent. And yet a comparison is made between the accuracy of political economy and physics.
>
> —Richard Ely, *The Past and Present of Political Economy*

Breaking the Impasse

Since the end of the nineteenth century, the existence of persistent wage inequality among workers with similar levels of skill has presented a serious obstacle to the development of a viable theory of competitive wage determination. According to orthodox wage theory, if capital and labor markets are truly competitive, these unwarranted wage differentials should tend to be eliminated unless they are required to offset nonpecuniary advantages or disadvantages between various jobs. Thus, equally qualified workers who labor under similar working conditions should tend to receive roughly equal compensation.

Despite the claims of traditional theorists, however, far too many empirical studies have repeatedly discovered evidence of persistent patterns of substantial inter- and intraindustry wage differentials that have been extremely difficult to reconcile with the neoclassical theory of competitive wage determination.[1] Commenting on some of the most important wage studies from the past two decades, Martin Segal notes:

> [T]aken as a group, they can be interpreted as showing that wages of employees in the same occupational groups and with other similar human capital characteristics display significant differences; . . . that ceteris paribus, wages are likely

[1] See Dunlop 1948; Garbarino 1950; Slichter 1950; Reynolds 1951; Lester 1952; Bowen 1960; Dalton and Ford 1978; Pugel 1980; Howell 1982, 1989; Reich 1984; Dickens and Katz 1987; and Krueger and Summers 1987.

> to be higher in industries that are relatively concentrated or have relatively high profits; and that there is no evidence that the wage differences of equally qualified workers under different employers are equalizing in nature, that is that they compensate for non-pecuniary characteristics of the particular jobs. (Segal 1986, 399)[2]

Equally important, although neoclassical theory also suggests that wage differentials that are largely due to race and gender discrimination should eventually disappear under competitive pressure, these more pernicious forms of inequality have also managed to stand firm against the equalizing winds of competition (Darity 1989).

Given these long-standing and rather glaring discrepancies between competitive theory and the empirical evidence, discussions of wage differentials have largely been forced into two very different directions. Until the recent development of efficiency wage theory, neoclassical economists adhering to the model of perfect competition and the marginal productivity theory of wages tended to either dismiss these persistent differentials as short-run aberrations (Hicks 1963; Cartter 1959; Reder 1962) or unsuccessfully explain them away by pointing to differences in schooling and other "personal characteristics" (Becker 1964; Weiss 1966a; and Mincer 1974). At the other end of the spectrum, institutional and radical labor economists tended to reject the competitive hypothesis altogether by relying on theories of monopoly power and internal (or segmented) labor markets to explain these empirical anomalies (Dunlop 1948, 1957; Lester 1952; Kerr 1955; Doeringer and Piore 1971; Gordon 1972; O'Connor 1973; Bluestone et al. 1973; Edwards 1979; and Reich 1984).

Over the years, radical and institutional labor economists have repeatedly criticized neoclassical theorists for failing to recognize that industrial concentration, unionization, and many other "noncompetitive" factors have a significant and persistent impact on the real-world wage structure. In return, neoclassical economists have criticized their critics for developing highly indeterminate analyses of wage differentials that fail to recognize the importance of competitive market forces. Thus, while both sides have developed important insights into the wage determination process, there has appeared to be no satisfactory way to reconcile these different levels of analysis. Neither side has been able to advance a theory of competitive wage determination that has the power to explain the persistence of inter- and intraindustry wage differentials while retaining the importance of competition as a fundamental regulating dynamic within the modern capitalist economy.

Over the past few years, this continuing theoretical impasse has provided a major impetus for the veritable explosion of efficiency wage theories that represent the latest attempt to reconcile these unruly wage differentials with orthodox theory. Yet, although labor economists from a wide range of perspectives are hoping that these new theories will finally allow competitive wage theory to successfully confront the reality of persistent inequality within the labor market, this book argues that efficiency wage theories have actually inherited serious weaknesses from both sides of the previous debates. Thus, in addition to borrowing the indeterminate arguments of monopoly power from the institutionalists, these theories also rely on a highly distorted view of the capitalist labor process that is largely inherited from neoclassical economics.[3]

As is often the case within economics, however, the above theoretical disputes are not merely academic. If the dominant theoretical explanations for persistent inequality within the labor market cannot give a consistent and compelling account of how these inequities are continually reproduced, it becomes far more difficult for policy makers and social activists to develop effective strategies to counteract them. Indeed, it would be hard to find more dramatic testimony to the woeful inadequacies of current economic theory than the devastating events of the past decade.

As a result of the repeated failure of Keynesian policies to confront the deepening economic stagnation of the 1970s, the Reagan and Bush administrations were given a free hand to pursue their nineteenth-century, laissez-faire agenda by default. Thus, in the 1980s the heralded normative goals of "competitiveness" were doggedly pursued with an ideological zeal that has been unmatched in the post–World War II era. Contrary to neoclassical theory, however, as the decline of organized labor was often brutally accelerated by both corporate and government attacks, and as both capital and labor markets became increasingly deregulated, labor market outcomes did not become more equitable. As Bluestone and Harrison (1986, 1990a) have clearly shown, inequality among wage and salary earners grew substantially as the growth of mid-level jobs declined and low-wage jobs accelerated. Indeed, in a recent study, *The State of Working America*, Mishel and Frankel (1991) reported that the fraction of the work force earning poverty-level wages increased from 25.7 to 31.5 percent between 1979 and 1989. And this was before the current recession set in!

Despite glowing administration claims to the contrary, Mishel and Frankel's comprehensive study concludes that the so-called economic recovery of the 1980s led to a serious deterioration in the living standards

[2] Other discussions of the inability of orthodox wage theory to explain these wage patterns can be found in Katz 1986; Dickens and Katz 1987; and Freeman 1988.

[3] A detailed discussion of efficiency wage theories is presented at the end of chapter 2. For a very useful survey of these theories see Katz 1986.

of the majority of working people in the United States. Contrary to neoclassical theory, although labor productivity continued to increase during this period, workers did not reap the benefits. Real average hourly wage rates declined by 9 percent and hourly benefits plummeted by 13.8 percent. (Mishel and Frankel 1991, 1). As hourly wages declined, working people did not freely opt for more leisure time in the assumed neoclassical fashion. Instead, they desperately attempted to maintain their previous standard of living by adding more family members to the labor force and by working an average of ninety-five additional hours per year (Mishel and Frankel 1991, 71). Finally, although the decline in official unemployment rates appeared to indicate that labor market conditions were improving, these authors show that the substantial growth of involuntary part-time and temporary work, as well as multiple job holding, has ultimately placed "at least a fifth of the workforce in situations of labor market distress" (1991, 129).

Yet, while real wages declined and working people scrambled to make ends meet, the incomes of the top 1 percent of the population rose by a stunning 74 percent, and the salaries of corporate CEO's grew by 19 percent (Mishel and Frankel 1991, 119). Even *Business Week* appeared to be embarrassed when statistics for 1990 showed that the average chief executive of a major U.S. corporation was now making eighty-five times the pay of a typical American factory worker. They were particularly embarrassed to report that a good number of CEO's like Stephen Wolf of United Airlines collected $18.3 million in annual salary and other perks despite the fact that UAL's profits fell by 71 percent.[4] Thus, as the 1980s wore on, it became increasingly clear that the competitive standard of equal wages for equal work was becoming far more difficult to come by under the growing pressures of competition.

While the 1980s provide a powerful historical critique of the theories and policies of orthodox economics, it is important to recognize that institutional and radical labor economists were also seriously buffeted by the increasing winds of competition. Indeed, the ravages of international competition within heavy "core" sectors like auto and steel have posed serious questions for the long-held radical assumption of "impenetrable barriers to entry" that supposedly surrounded many of these "oligopolies." Within these alternative frameworks, it was generally assumed that economies of scale, prohibitive levels of fixed capital investment, and carefully maintained excess capacity guaranteed that the monopoly profits of these U.S. industries were effectively secured. Yet, over the past decade, firms from advanced nations like Japan and Germany and even

[4] "The Flap over Executive Pay," *Business Week*, May 6, 1991. The article also noted that Wolf's pay was twelve hundred times what a new flight attendant earned at United Airlines in each of the last five years!

newcomers from South Korea and Brazil have somehow managed to shatter those barriers and aggressively *displace* a sizable portion of that existing plant capacity.

Equally puzzling, institutionalists and radicals had repeatedly argued that substantial on-the-job training and the need for internal structures of capitalist control had induced core firms to develop internal labor markets that tended to shield high-wage primary workers from labor market competition. Yet, over the past decade, these same firms have been busy dismantling these long-term arrangements with a vengeance. Two-tiered wage packages have been widely introduced, job classification systems and union work rules have been repeatedly attacked, and multiple sourcing and contracting out have now become routine methods of minimizing labor costs (Moody 1988; and Bluestone and Harrison, 1990a).

Perhaps the most troubling result of the labor market segmentation paradigm has been the apparent inability of many radical labor economists to develop viable strategies for militant, adversarial unionism in today's increasingly competitive environment. Up to now, most progressive economists within the United States have tended to assume that previous union wage gains in industries like steel, auto, and meat-packing were largely dependent on high levels of market concentration and the resulting monopoly pricing power of these large firms. Thus, as these core industries have become increasingly besieged by both foreign and domestic competition, these same economists have been hard pressed to provide coherent alternatives to corporate calls for wage concessions, team concepts, and other forms of nonadversarial labor relations that are now supposedly required to "beat the competition."

This kind of fatalistic resignation to the forces of capitalist competition should come as no surprise. The logic of labor market segmentation theory has repeatedly led radical economists to seriously downplay the potential for unionization to address the long-standing problems of substandard wages and working conditions within very large sectors of the U.S. economy that were traditionally considered to be highly competitive. Indeed, high levels of competition were argued to be one of the key defining characteristics of the chronically low wage "periphery." As more and more U.S. industries have now come under growing competitive pressures, however, the continued failure to develop viable labor strategies to effectively confront the forces of capitalist competition is proving to be devastating for the labor movement.

In sum, from both the theoretical and social policy perspectives, there is a crying need for an alternative theory of competitive wage determination. Based on over one hundred years of empirical evidence, a viable theory must be able to explain how substantial wage differentials among comparable workers can quite obviously persist under highly competitive

conditions. Equally important, it must provide a clear analysis of how unions have repeatedly managed to play a critical role in the final patterning of the wage structure despite these ongoing competitive forces. Ideally, if we can better understand how wage inequality is continually generated by the dynamics of the capitalist labor market, we can better understand how to combat the divisive competitive pressures that continually tend to arise among workers. Moreover, once we understand the ongoing social costs of competition, we may finally be able to escape both the idealism of neoclassical theory and the fatalism of dual economy models.

Toward a Theoretical Alternative

One of the main contentions of this book is that the failure of virtually all of these previous attempts to explain the persistence of labor market inequality is rooted in one of the few points of agreement among all of these otherwise opposed schools of thought. Namely, that wage differentials among workers of similar quality will only tend to persist when competition in the capital and/or labor markets is *seriously restricted*. Thus, rather than attempting to discover how competition might, in itself, be able to explain many of these wage differentials, labor economists have generally been forced to either ignore the empirical phenomena or deny the importance of competitive forces within the modern economy.

This text constructs a way out of this apparent impasse by showing that the classical Marxian analysis of capitalist competition between and within industries can be used to explain how ongoing capitalist competition can actually sustain and accommodate certain systematic patterns of inter- and intraindustry wage differentials among workers of similar levels of skill. Indeed, we will show that the dual processes of capital and labor market competition can often *militate against* the equalization of wage rates for comparable workers.

To develop this alternative framework, this book relies heavily on work by recent writers who have utilized Marx's distinctive analysis of capitalist competition to try to break a similar impasse that exists between theories of competition and the empirical evidence of differential profit rates between and within industries (Shaikh 1980b, 1981b, 1982a; Semmler 1982, 1984; Clifton 1977, 1983; Weeks 1981; and Bina 1985). By carefully reconstructing and extending Marx's analysis of capitalist competition, Shaikh, Semmler, and Clifton have shown that many phenomena previously considered to be evidence of imperfect competition and monopoly power can be explained within the framework of ongoing capitalist competition. Most important, Shaikh and Semmler have shown that many of the observed patterns of profit rate and profit margin differentials across industries and across firms within industries can be directly anticipated from the classical Marxian model of competition (Shaikh 1981b, 1982a; and Semmler 1982, 1984).

Once it is recognized that competition normally results in differential profit rates among firms, it then becomes possible to develop a theory of a similar set of potential wage differentials among workers who are employed in these firms. Once we are no longer forced to interpret the existence of differential profit and wage rates as immediate evidence of monopoly power, we can then go on to investigate how the forces of ongoing capitalist competition may also act to set strict limits to these variations in wages, prices, and profits. Therefore, one of the main thrusts of this work will be to extend the above Marxian model of competition to the question of inter- and intraindustry wage differentials among workers of similar skill levels.

By shifting the discussion back up to the more abstract level of the theory of competition itself, we will show that Marx's analysis of capitalist competition provides a very powerful framework that can allow for substantial wage variation without denying the importance of competitive forces that continue to regulate those variations. Indeed, we will construct a framework for the analysis of *competitive wage determination* that can incorporate many of the most important insights of radical and institutional economists and can also directly account for many of these disturbing patterns of inter- and intraindustry wage differentials. The key point, of course, will be to accomplish this task without being forced to fall back on the increasingly dubious assumption that we have been living in a period of monopoly capitalism where many of the intrinsic dynamics of capitalist development have somehow been suspended within crucial sectors of the economy.

Abstracting from the very important problem of labor market discrimination based on race, ethnicity, and/or gender, we will argue that many of these persistent patterns of wage differentials are largely the result of three key dynamics: (1) the ongoing process of capitalist competition and technical change that continually generates differential conditions of production, productivity, and profitability between and within industries; (2) the continual regeneration of a reserve army of unemployed workers who are constantly driven to seek out employment at substandard wages in order to survive; (3) the uneven efforts of organized workers to raise their wage rates within the strict limits defined by both these differential conditions of production and profitability and by the constant downward pressures of the reserve army.

Implications for the Analysis of Discrimination

Although we will be discussing how different forms of worker organization can have an important and persistent impact on the wage structure,

our discussion will nonetheless remain at a fairly high level of abstraction. Thus, we will unfortunately not be able to develop a detailed discussion of how these patterns of inequality can be seriously aggravated and even partially transformed by various forms of race and/or gender discrimination.

At the risk of oversimplifying these complex dynamics, it may be useful to initially argue that persistent wage inequality resulting from discrimination is caused primarily by the complex interaction of two key dynamics. First, there is the generation of jobs with substandard working conditions and below-average wage rates. And second, there is the discriminatory assignment of a disproportionate number of people of color and women to these low-paying jobs.[5] Although this book will be able to explain how the dynamics of capitalist competition and the reserve army of labor repeatedly lay the foundation for the constant generation of these low-paying jobs, a useful analysis of the question of discriminatory assignment would require a much more concrete discussion of the social and historical forces that have led to particular forms of discrimination against women and people of color within different capitalist nations. As discussed briefly in chapter 4, this would require a detailed analysis of the historical development of the different components of the reserve army of labor, paying particular attention to how various forms of discrimination and subordination have critically shaped the conditions of entry of both women and people of color into the capitalist labor force.[6]

Over the past two decades, a good deal of important historical work has been done to ferret out the institutional and social forces that have played a critical role in the perpetuation of race and gender discrimination within the labor market. Unfortunately, however, neither radical nor mainstream discussions of discrimination have been able to satisfactorily explain how these discriminatory wage differentials continue to be reproduced under the pressures of capitalist competition.[7] As in the case of wage differentials in general, many radical discussions of discrimination have tended to minimize the importance of capitalist competition by suggesting that the divide-and-conquer machinations of monopoly capitalists are the primary force behind the continual reproduction of labor mar-

[5] For similar suggestions concerning the development of a careful analysis of discrimination, see Ryan 1981 and Friedman 1984.

[6] For example, in order to develop a complete analysis of the establishment and reproduction of occupational segregation by sex, Milkman (1980) has usefully identified three critical areas of analysis. In addition to taking account of "the impact of women's family position on their relation to the paid labor market," she also argues that the complex and often contradictory roles of both capital *and organized labor* must also be carefully considered (Milkman 1980, 107). For an interesting historical analysis of the interactions of race, class, and gender within the U.S. labor market, see Amott and Matthaei 1991.

[7] See Darity 1989.

ket discrimination. As Milkman (1980) has pointed out, however, these kinds of arguments not only tend to ignore the fact that capitalist firms often have contradictory interests, but they also tend to minimize the role that organized workers have also played within this process.

By carefully developing our more abstract argument, we hope to provide the foundations for a more satisfactory approach to the issue of discrimination that will finally enable us to systematically link these more concrete social factors back up to the ongoing dynamics of capitalist competition and accumulation. As in the case of wage differentials in general, this alternative path may eventually allow us to show that discrimination is, unfortunately, *perfectly consistent with high levels of ongoing capitalist competition.*[8] Once again, the overall effects of competition may be far less equitable than what both radical and orthodox arguments have tended to assume. Finally, by carefully disentangling the generally inequitable effects of capitalist competition and uneven worker organization from the more concrete dynamics of race and gender discrimination, we may eventually be able to develop more effective strategies for combatting all of these persistent problems.

On Heterogeneous Labor

Because this volume is concerned primarily with wage differentiation among workers with similar skill levels, we will not be discussing the issue of heterogeneous labor in any great detail. Although the controversy over whether or not skilled labor actually produces proportionately higher amounts of value and surplus value (relative to unskilled labor) is an important topic within Marxian political economy, it is not directly relevant to our discussion.[9] Nevertheless, there are several implications of Marx's analysis of heterogeneous labor that do need to be considered here.

It is well known that Marx's analysis of the value of labor power suggests that skilled labor will generally tend to receive higher wage rates relative to unskilled labor. This is primarily because the extra costs of training skilled labor power must also "enter pro tanto into the total value spent in its production" (Marx 1867, 172). It is important to note, however, that this argument does not suggest that workers with similar levels of skill will all receive a uniform wage rate that directly corresponds to the particular costs of production of their labor power. As in the case of

[8] Over the past few years, several writers have begun to develop this alternative approach to the analysis of discrimination which is based on a more classical Marxist analysis of capitalist competition. See Darity 1989; Williams 1991; and Mason 1992, 1993.

[9] For useful discussions of the central issues in this debate, see Roncaglia 1974; Rosdolsky 1977; and Rowthorn 1980b.

prices of production, Marx argues that these differential costs of production will essentially form "centers of gravity" around which actual wage rates will continually tend to fluctuate. Thus, within any particular group of similarly skilled workers, variations in wage rates will generally tend to occur.

In fact, it would be appropriate to argue that these differential costs of production for various types of labor power provide our first set of parameters for the ongoing variation of wage rates within capitalist labor markets. And, as in the case of the regulation of market prices by prices of production, Marx's analysis of the real processes of capitalist regulation through tendential regulation and systematic variation within limits does not at all preclude the development of substantial variations in wages, prices, and profits. Indeed, unlike orthodox models of general equilibrium, we will soon see that systematic deviations in all of these variables are a critical component of the dynamic processes of capitalist regulation.

This is important because it has often been suggested that systematic wage differentials between "core" and "peripheral" sectors of the modern U.S. economy provide strong evidence that wage rates generally bear very little (if any) relation to skill levels. Within Marx's dynamic analysis of competitive wage determination, however, this is not necessarily the case. Although there may be very strong evidence that wage rates are generally higher in core sectors across all skill levels, it may still be the case that different skill levels continue to provide important centers of gravity for the wage levels of similar workers across the entire economy. Thus, although both unskilled and skilled workers in the core consistently receive higher wage rates relative to corresponding workers in other sectors, it may nevertheless be the case that the average wage level of all unskilled workers *throughout the economy* has a lower center of gravity relative to that of skilled labor. Hence, while these systematic patterns of wage differentiation seriously compromise orthodox wage theory, they may be perfectly consistent with Marx's argument.

Although the above argument suggests that different skill levels may continue to play an important role in the overall patterning of the contemporary wage structure, it is critical to remember that Marx had compelling reasons to argue that substantial skill differentials were rapidly becoming a thing of the past within the great mass of working people. Indeed, Marx repeatedly argued that the development of the capitalist labor process would generally tend to lower overall skill levels through ever-increasing levels of mechanization and the detail division of labor. As early as the mid-1800s, it was already his impression that "the distinction between skilled and unskilled labor rests in part on pure illusion, or to say the least, on distinctions that have long since ceased to be real . . . (and) in part on the helpless condition of some groups of the working class, a

condition that prevents them from exacting equally with the rest the value of their labour-power" (Marx 1867, 197–98). Thus, while Marx continued to recognize the theoretical importance of skill differentials when they really did exist, he was quite skeptical concerning the actual extent of these differentials and their long-term prognosis.[10]

Although many sociologists and economists have attempted to suggest that Marx's arguments of deskilling and homogenization of the working class have been greatly weakened (first, by the rapid growth of white collar and service sector occupations, and more recently by the computerized workplace), Harry Braverman's (1974) path-breaking study of the contemporary labor process provides convincing evidence that deskilling continues to remain the dominant tendency within most sectors of the modern capitalist economy.[11] Equally important, Braverman also points out that the very notion of "skill" itself has become so transformed and degraded within the modern economy that a worker who merely requires three weeks of training is now considered to be "semi-skilled" by the U.S. Department of Labor. (Braverman 1974, 430–31)[12]

In sum, while the evidence of persistent wage differentials does not automatically invalidate Marx's claim that real skill differentials may continue to provide important centers of gravity for the overall wage structure, radical economists also have good reasons to be skeptical of the neoclassical claim that wage differentiation is *primarily* the result of individual differences in skill and quality. In fact, in an extensive study of interindustry wage differentials within the United States, Howell (1982) has shown that the size of the wage differential between workers in highly capital intensive industries versus workers in highly labor intensive industries grew from 20 percent in 1947 to over 77 percent in 1978. Yet, during the same period, overall skill differentials throughout manufacturing generally tended to *narrow* (Howell 1982, 150–51).

Comparing our Results to Orthodox and Radical Economics

When our own argument concerning wage differentials and capitalist competition is completed, we will compare our results to both neoclassical and radical discussions of wage determination. As noted earlier, one

[10] As we shall see in chapter 4, there is good evidence to suggest that Marx ultimately intended to develop a more detailed analysis of skill differentials and competitive wage determination in general *after* he finished his analysis of capitalist competition in volume 3 of *Capital*. Unfortunately, however, this project was never completed.

[11] A very helpful discussion of the continuing debates around the issue of deskilling can be found in Thompson 1983.

[12] As Albelda (1985) correctly points out, conventional notions of "skill" can also be seriously distorted by race and gender bias. For a fairly comprehensive discussion of the empirical difficulties of measuring skill levels across the economy, see Spenner 1983.

of the most interesting results of this investigation will be that we will finally be able to incorporate some of the most important insights from radical and institutional discussions within a determinate theory of competitive wage determination. Thus, not only will we be able to develop a more powerful explanation for many of the existing patterns of wage differentiation, but our argument will no longer be vulnerable to the neoclassical critique of indeterminacy.

Neoclassical Economics

> [O]nly through the principle of competition has political economy any pretension to the character of a science. So far as rents, profits, wages, prices, are determined by competition, laws may be assigned for them. Assume competition to be their exclusive regulator, and principles of broad generality and scientific precision may be laid down, according to which they will be regulated.
>
> —J. S. Mill, *Principles of Political Economy*

As the quotation from John Stuart Mill clearly suggests, the attempt to develop a systematic analysis of the competitive forces within the capitalist economy has deep classical roots. Given that both Marx and early neoclassical economists were heavily influenced by the classical arguments of Smith, Ricardo, Mill, and others, there are bound to be a number of superficial intersections between these two divergent schools of thought. And, of course, one of these points of convergency concerns the notion that competition plays a key regulating role within the capitalist economy. Because Marx's analysis of competition and accumulation is fundamentally distinct from orthodox theory, however, this is where the similarity ends.

Although we will be arguing that capitalist competition between and within industries continues to set important limits to wages, prices, and profits within all sectors of the modern economy, the results of this competition will often be diametrically opposed to those that are anticipated by neoclassical economics. What is perhaps most important is that Marx's distinctive discussion of competition and accumulation suggests that the free and unbridled forces of capitalist competition will generally have a devastating effect on virtually all aspects of working class life. Thus, in sharp contrast to neoclassical theory, the collective struggle of workers to defend and improve their wages and conditions can hardly be perceived as irrational or socially counterproductive. On the contrary, given the inherent and ongoing clash of interests between capital and

labor, the class struggle over wage rates must become an essential component of Marx's theory of competitive wage determination.

Continuing our disagreement with orthodox economics, our analysis also suggests that workers and their unions can have a significant impact on the wage determination process despite the ongoing forces of capitalist competition and accumulation.[13] At the aggregate level, for example, we will argue that unions can and do have important consequences for labor's share of the net product. Although increases in the productivity of labor within very specific sectors of the economy *do* provide important limits to increases in the general wage level, these wage increases are not automatically determined by movements in the productivity of labor (marginal or otherwise). Indeed, as both the history of the industrial revolution in England and the recent events of the 1980s clearly attest, in the absence of a well-organized labor movement, increases in the productivity of labor can often be attended by *declining* real wages.

At the level of inter- and intraindustry wage differentials, we will show once again that workers' collective actions can produce important positive results. While capitalist competition and differential conditions of productivity form crucial limits to these wage differentials, there is substantial room for unions to have a sizable effect within these parameters. Perhaps most surprising, although unions generally have a negative impact on capitalist profitability, we will show that unions can often achieve sizable wage increases in single industries without causing any of the harmful "monopoly effects" that are anticipated by orthodox theory.

Finally, from Marx's analysis of the aggregate labor market, we will also see that the presence of permanent underemployment has profound effects on the real dynamics of labor mobility and the equalization of wage rates. Contrary to both orthodox and radical discussions, we will argue that significant patterns of wage differentiation can be sustained for prolonged periods of time despite the presence of substantial labor mobility.

Radical Economics

Although this book argues that workers' collective action can have a very significant effect on both the general wage level and interindustry wage differentials, this analysis will nonetheless maintain that the actions of both labor and capital remain fundamentally constrained by the laws of competition and accumulation. Thus, while vindicating the potentiality of workers' collective action, this work will also pose a partial critique of

[13] For the standard neoclassical perspective on the long-run wage effects of trade unions, see Cartter 1959; Rees 1977; and Ashenfelter and Johnson 1972.

many radical and Marxist arguments that have tended to suggest that the primary and overriding determinant of the wage rate is the shifting balance of power between capital and labor.

Within many of these radical frameworks, for instance, it is often argued that upturns in the business cycle periodically allow workers to acquire the power to raise wages beyond the limits of capitalist profitability and thus precipitate serious downturns in the economy.[14] As noted earlier, however, we will continue to maintain that movements in the real wage will normally tend to be limited by movements in the productivity of labor and therefore remain within the confines of capitalist profitability. To support our argument we will also point to recent empirical research that has carefully translated Keynesian income accounts into Marxian value accounts to show that the Marxian rate of surplus value has been rising throughout the post–World War II period (Shaikh 1987 and Mosley 1985). Thus, contrary to what both neoclassical and radical theorists might expect, this rising rate of surplus value indicates that increases in real wages have consistently fallen short of increases in the productivity of labor.

Other critical differences between our analysis and the radical argument will, of course, concern the discussion of interindustry wage differentials. Although there are a number of variations on the theme of the "dual economy" (e.g., Averitt 1968; O'Connor 1973; Edwards 1979), most labor market segmentationists have generally argued that the modern division of the capitalist economy into "core" (monopolistic) and "periphery" (competitive) sectors has laid the foundation for parallel divisions within the labor market.[15] As noted earlier, these economists have argued that firms in the "core" sectors of the economy are essentially risk free (or "eternal") and possess the market power to raise prices and profits above competitive levels (Edwards 1979, 38, 85). From this it follows that unions and workers in these industries also have the ability to achieve higher wages and better working conditions relative to workers employed in more competitive sectors of the economy. Thus, while unions can achieve significant results within core industries, their analysis also suggests that there is generally very little unions can do to address the low wages and substandard conditions within the "periphery" without "profound challenges to the present structure of the capitalist economy" (Gordon, Edwards, and Reich 1982, 41).

Within our discussion, however, we will generally argue that a firm's ability to incorporate higher wage rates into its cost structure is primarily

[14] See Boddy and Crotty 1975; Glyn and Sutcliffe 1972; Gordon 1980; Bowles, Gordon, and Weisskopf 1983; and Bluestone and Harrison 1990a.

[15] Three excellent and highly critical reviews of the dual and segmented labor market arguments are presented in Rubery 1978; Hodson 1982; and Friedman 1984.

determined not by "monopoly power" but by its relative efficiency within the industry. We will also point to research that raises serious doubts about the empirical evidence for substantial, long-term differential profit rates between concentrated and unconcentrated industries.[16]

Thus, unlike the segmentationists, we will argue that unions can have a significant effect on wages and working conditions within many of the so-called "competitive" sectors as well as within the "core." Indeed, Marx's analysis of capitalist competition provides good reason to suggest that the presence of lower wages within many of these competitive firms may have much more to do with the lack of union organization, or the presence of inefficient conditions of production, than with the difficulty of raising wages in firms that do not possess monopoly pricing power.

Solving Some Anomalies

In addition to providing a very different analysis of the overall dimensions of workers' power in the determination of general and interindustry wage rates, we will also show that a number of important anomalies presented by the labor market segmentation (LMS) literature can now be explained by utilizing Marx's analysis of competition between and within industries. Two of the most serious anomalies concern the above-mentioned assertion that divisions within the labor market will tend to closely parallel core/periphery divisions within the economy as a whole.

Within the United States, several writers have noted that this assumed parallelism has often been seriously violated when unions have somehow managed to force the development of "primary" labor market conditions in "peripheral" industries that were supposedly too unstable, too unprofitable, or too competitive to absorb them.[17] Thus, although the more recent LMS literature has been forced to concede that unions may actually be able to establish primary labor markets within the periphery, these writers have not been able to logically explain these occurrences without seriously violating their original premises concerning the dual economy.[18]

As noted, our analysis does not rely on monopoly power or any other critical assumptions of the dual economy model. Thus, successful unionization within the "periphery" no longer presents a serious analytical problem. While unions may clearly be more difficult to organize and

[16] See Shaikh 1980b, 1982a; Semmler 1984; Demsetz 1973; Brozen 1973; and Gale and Branch 1982. For a very useful review of these studies, see Semmler 1984.

[17] Before the 1930s, the mining, garment, and clothing industries were the most important examples of this anomaly. More recent examples of successful unionization in "competitive" industries are to be found in construction, longshoring, and trucking. See Levinson 1966; Friedman and Friedman 1979; Friedman 1984; Kahn 1979; Gordon et al. 1982; and Reich 1984.

[18] See Edwards 1979; Berger and Piore 1980; Gordon et al. 1982; and Reich 1984.

maintain within industries that have a large number of small firms, our analysis does not suggest that low levels of market concentration, per se, will ultimately prevent these industries from incorporating higher wage rates into their cost structures.

Finally, other related anomalies have recently appeared when labor economists have attempted to apply the theory of the dual economy and segmented labor markets to Western Europe.[19] If many of the economies within Western Europe must also be classified as "monopoly capitalist" or "dual economies" according to LMS criteria, differential conditions of market power, profitability, and structural control should have resulted in similarly segmented labor markets. What researchers have discovered, however, is that the patterns of segmentation and differentiation within the European working class are not only quite diverse, but are often in direct contradiction to arguments based on the centrality of the core/periphery distinction. As a result, many economists have now begun to question the central importance of the dual economy as the key underlying factor in explaining differential wages and working conditions within the working class (Lever-Tracy 1984 and Wilkinson 1981).

Due to the absence of a viable alternative theory of competition, however, this growing disenchantment with dualism has unfortunately pushed many radical writers to increasingly rely on a case studies approach to segmentation within the labor market. Thus, although these writers have continued to uncover valuable empirical information on particular labor markets within different capitalist nations, there has been a tendency to move even farther away from the project of developing a determinate theory of wage differentiation that is based on a systematic analysis of capitalist competition and accumulation.

There is no doubt that differential conditions of exploitation and large groups of extremely low paid workers continue to exist within every major capitalist nation today. In fact, evidence suggests that wage inequality may currently be growing within a number of capitalist countries, including even Sweden (Bluestone and Harrison 1990b). The key question, of course, is why? As noted earlier, this book will argue that systematic foundations for persistent wage inequality are largely generated by the ongoing process of capitalist competition and technical change, the constant reproduction of a reserve army of labor, and uneven worker organization. Thus, references to a "new stage" of dualism (or monopoly capitalism) are no longer required.

Within the determinate limits of capitalist accumulation and competition, we will also show that various levels and forms of worker resistance

[19] See Berger and Piore 1980; Wilkinson 1981; and Lever-Tracy 1984.

will clearly result in a variety of patterns of segmentation and differentiation within the working classes of different capitalist nations. The key analytical point, however, is that we will attempt to lay the foundation for the analysis of these "relatively autonomous" institutional and historical factors while remaining within a determinate theory of competitive wage determination. By attempting to locate these more concrete historical factors within a systematic hierarchy of determinations, we therefore hope to construct an alternative to the case studies approach where institutional factors are necessarily given primary determinacy, and the analysis of general laws of tendency becomes extremely difficult.

Outline of the Argument

Our classical Marxian analysis of competitive wage determination is necessarily composed of four major parts. The first part (chapter 2) provides a critical survey of the important economic debates around the issue of inter- and intraindustry wage differentials. The central point of this literature survey is to show precisely how the general acceptance of the neoclassical framework of perfect/imperfect competition has repeatedly led to the continued impasse between theories of competitive wage determination and the empirical evidence of persistent wage differentials among workers of similar skill. (Nonacademic readers who may want to immediately proceed to the author's own arguments can skip this lengthy chapter with little loss of continuity.)

Chapters 3 and 4 begin our own discussion of competitive wage determination at the most abstract level of analysis by establishing the general relationship between the laws of capitalist accumulation and the dynamics of the aggregate labor market. Thus, chapter 3 abstracts from both the differentiation of capital and the differentiation of labor in order to concentrate on how the dynamics of capitalist accumulation normally tend to regulate and limit movements in the general wage level. Chapter 4 goes on to show how the continual reproduction of the various sectors of the reserve army has important implications for the discussion of labor mobility and the equalization of wage rates.

The third part of this volume (chapter 5) develops our discussion of Marx's analysis of capitalist competition and differential profit rates. Within this section, we will review and elaborate upon recent literature that has attempted to utilize Marx's analysis of competition to explain the empirical phenomena of differential profit rates between and within industries. Chapter 5 also carefully develops the very sharp contrasts that exist between Marx's analysis of *real capitalist competition* and the neoclassical theories of perfect and imperfect competition.

The final part of our argument, in chapters 6 and 7 will then build on these previous levels of analysis to arrive at a systematic discussion of capitalist competition and differential wage rates.

At the end of this long analytical journey, we hope to have constructed an analysis of competitive wage determination that can help us to understand a great deal more about the disturbing phenomena of persistent wage inequality within capitalist labor markets. The persistence of these largely unexplained interindustry wage differentials and of such painfully large numbers of workers who continue to work so hard for so very little has been one of the key stumbling blocks in the development of a unified labor movement within the United States. Equally important, these low-paying jobs are becoming an increasing reality that is taking on alarming proportions.

At the conclusion of this work, we will utilize our analytical framework to present a number of concrete suggestions for how the labor movement can most effectively attempt to raise the living standards of these low-paid workers. To do this, however, it is first necessary to have a very clear understanding of what unions can and cannot expect to accomplish within the confines of capitalist competition and accumulation.

CHAPTER 2

Continuing Attempts to Square the Circle

(Or, Competitive Theory Confronts Differential Wage Rates)

BEFORE DEVELOPING our own analysis of competitive wage determination, it will be useful to review the more important modern debates concerning the issue of persistent wage differentials among workers of similar skill and ability. The primary purpose of this chapter is to show that virtually all previous attempts to develop a theory of competitive wage determination that could properly address these intractable anomalies have been severely constrained by the neoclassical framework of perfect and imperfect competition; hence, the need for a new formulation of the discussion based on Marx's very different analysis of real capitalist competition.

Since the development of classical political economy in the eighteenth century, the theory of wage determination in general, and of wage differentials in particular, has been one of the most important and controversial issues within economics. Along with the theory of value, the development of competing theories of wage determination has been closely linked to two key questions that have plagued economists since the industrial revolution. Do the market forces of the capitalist economy automatically ensure that workers will receive their "fair share" of the output they produce? And if not, is it possible for workers, through collective action, to significantly increase their share of the product within the limits imposed by those same market forces?

EARLY NEOCLASSICAL WAGE THEORY

When Marx developed classical value theory to its logical conclusions and indicted capitalism for the exploitation of labor, he helped to spark the development of an entirely new type of economics that began with the marginalist revolution in the late 1800s (Tolles 1964, 189). In response to Marx's penetrating critique and to the growing trade union movement, one of the key tasks of this new paradigm was to develop a theory of value and wage determination which argued that market forces would guarantee workers were paid their rightful share of the net product (Dunlop 1957 and McNulty 1980, 75).

CHAPTER 3

Capitalist Accumulation and the Aggregate Labor Market

ALTHOUGH this book is primarily concerned with wage differentials, a complete analysis of the determinations of differential wage rates cannot entirely avoid a discussion of the general wage level. If we are ultimately attempting to develop an analysis of the underlying limits to wage differentials, we must first develop a more general analysis of the limits to movements in the *wage level*. Thus, after a brief review of the neoclassical discussion of the aggregate labor market, this chapter follows Marx's methodology by initially abstracting from both the differentiation of capital and the differentiation of labor. As in volume 1 of *Capital*, this procedure then allows concentration on the more general question of how the dynamics of capitalist accumulation will normally tend to limit and regulate movements in the aggregate wage level.

By carefully developing Marx's analysis of the dynamics of the aggregate labor market, we will show that Marx's own argument must be clearly differentiated from both neoclassical economics and various wage-squeeze theories of capitalist crisis. Contrary to neoclassical theory, movements in the wage level are not identically determined by movements in the productivity of labor (marginal or otherwise). We also suggest that workers' collective struggles to improve their standard of living are an absolutely critical factor in the secular rise of real wage rates.

In addition to stressing the importance of class struggle, however, we also show that Marx's analysis of the aggregate labor market clearly suggests that movements in the wage level will tend to be limited by both movements in the productivity of labor and by movements in the reserve army of labor. Thus, contrary to many Marxist writers who argue that serious capitalist crises are often precipitated by rising wage rates, we maintain that Marx provides a number of compelling arguments which suggest that movements in the wage level will normally tend to remain within the confines of capitalist profitability.[1]

[1] For examples of various wage-squeeze theories of capitalist crisis, see Dobb 1937; Boddy and Crotty 1975; Glyn and Sutcliffe 1972; Gordon 1980; Bowles, Gordon and Weisskopf 1983; and Bluestone and Harrison, 1990a.

MARX VERSUS NEOCLASSICAL ECONOMICS

It will be useful to first briefly review the key elements of the neoclassical discussion of wage determination within the aggregate labor market. This will allow us to derive the distinctive elements of Marx's argument in their sharpest contrast.[2]

Within neoclassical theory, the determination of the general wage level is primarily discussed within a static general equilibrium framework. This framework abstracts from the essential dynamics of capitalist accumulation in three key ways. First, the discussion begins by assuming that there is a given endowment of capital and labor. Second, the development of the labor process is not only frozen in time, but any given level of technology is assumed to be exogenously determined outside of the social relation between capital and labor. Finally, the supply and demand for labor are primarily analyzed as separate and stationary entities that have little dynamic interaction.

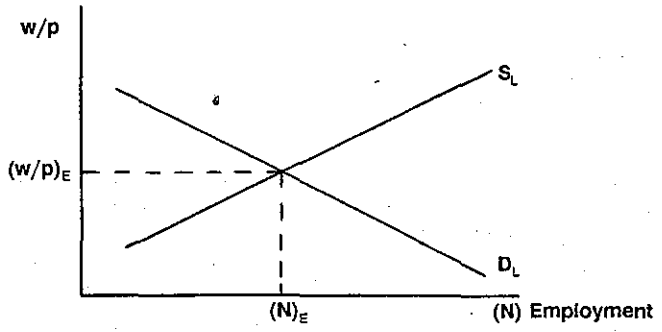
Given the additional assumptions of perfect competition and profit maximizing behavior based on the principle of diminishing returns and the marginal substitution of inputs, the equilibrium wage rate is then determined by the interaction of supply and demand within the aggregate labor market (see fig. 3.1).

In the familiar graph the equilibrium price of labor $(w/p)_E$ is determined essentially like any other commodity by the intersection of the appropriate supply and demand curves. The demand for labor (D_L) is identical to the marginal product of labor, and its downward slope is derived from the "law" of diminishing returns. The analysis of labor supply (S_L) is based on the assumption that workers are like all other suppliers who freely offer their goods and services in order to maximize their individual self-interest. Here, however, the worker's goal is to maximize utility (not profits), and the marginal calculus is based on the trade-off between work and leisure. Except at fairly high levels of income, it is generally argued that an increase in the price of leisure time (i.e., the hourly wage rate) will primarily induce workers to pursue less leisure time and so, work more. Consequently, the supply of labor will be positively related to the wage rate.

As figure 3.1 clearly indicates, the assumed shapes of the demand and

[2] Within this discussion of orthodox wage theory, we will be abstracting from recently developed efficiency wage arguments. As noted in chapter 2, these arguments do attempt to revise the neoclassical framework so that it can at least theoretically account for the persistence of both involuntary unemployment and noncompetitive wage differentials. As we have already pointed out, however, these theories have more than their fair share of logical and empirical problems.

FIGURE 3.1
The Neoclassical Aggregate Labor Market



supply curves for labor ensure that the wage level will eventually settle at a wage rate $(w/p)_E$ that is precisely equal to physical labor's marginal product. From the assumptions of general equilibrium theory, it also follows that if all imperfections and frictions are absent from both capital and labor markets, all markets will clear. As a result, all resources are fully and efficiently utilized and maximum benefits accrue to all participants. Both capital and labor receive their rightful share of the net product, and the full utilization of capital results in the full employment of labor.

Within orthodox theory, it is also important to point out that the long-run equation of the wage rate with labor's marginal product is ultimately guaranteed by competitive market forces and the profit maximizing behavior of the firm. Thus, deviations of the wage level from the marginal product of labor are strictly limited to minor, short-run variations. As Cartter explains:

> [T]he marginal productivity principle states that there is a direct functional relationship between the level of wages and the level of employment, and that a rational employer will attempt to adjust one or both of these variables so that the marginal product of labor is equal to the wages of labor. Only in a case where an employer had no control over the wage rate and the amount of employment would the marginal productivity principle be inapplicable. (1959, 19)

Given this rigidly defined relationship between the wage rate and the marginal product of labor, there is little room and little rationale for workers and their unions to attempt to increase their wage share. Indeed, if workers should "irrationally" attempt to alter this competitive outcome by forcing wage rates above their equilibrium level, they will be forcing the economy to move away from this maximally efficient position, causing both output and employment to decline. Thus, it is not terribly surprising that neoclassical economists who continue to maintain that the above arguments provide a good first approximation of the real underlying forces within the capitalist economy have very few positive things to say about the aggregate economic effects of trade unions.[3]

Once this analysis of full employment and perfect equity within the aggregate labor market is accepted, it is simple to derive a similar set of optimal results regarding the analysis of wage differentials among workers of equal skill and ability. In addition to the assumptions concerning perfect competition and the profit maximizing behavior of the capitalist firm, all that is needed is the further assumption of the "perfect mobility of labor."

If wage rates within any particular industry should momentarily rise above the average rate for similar workers in other industries, the assumption of perfect labor mobility suggests that workers will immediately migrate toward this high-wage sector. As long as workers offer to work at slightly lower wage rates, the high-wage firms will be induced to increase their employment levels by moving down their marginal product curves. In the meantime, the exodus of workers from the lower wage sectors will cause these low-wage firms to increase their wage rates as they are forced to move up their marginal product curves in order to hold on to their declining work forces. Within a short period of time, capitalist competition and the mobility of labor will tend to eliminate any unwarranted differentials in inter- and intraindustry wage rates. And, once again, there is very little room for the substantial and persistent variation of wage rates.

Within the neoclassical framework, it is also important to note that capitalist competition and labor mobility will generally tend to protect workers from employers who might otherwise attempt to force them to work at substandard wage rates. Summarizing this argument in his introductory text, Kaufman notes:

> Because workers are free to quit one employer and find another, the existence of labor mobility acts as a check on the employment practices and compensation policies of employers. In a competitive market workers will leave an employer who pays below the going rate or has substandard working conditions and will seek employment elsewhere. *The competition between employers thus serves as an automatic policeman on social conditions of labor* [emphasis added]. (1986, 16)

Of course, the ability of workers to "seek employment elsewhere" requires the ample presence of other job openings or full employment. This

[3] See Lindbloom 1949; Cartter 1959; Rees 1977; and Friedman and Friedman 1980.

is not a serious difficulty, however, because full employment has already been assured by the same market forces that also determine the general level of wages in the aggregate labor market.

Given these assumptions concerning labor mobility and the tendency toward perfect equity, union efforts to increase wage rates within any particular sector will once more spell disaster. If workers should succeed in artificially raising their wage rates above other sectors, declining levels of employment within the high-wage sector will tend to result in overemployment and declining wage rates in the nonunion sectors. Thus, it is generally argued that the "the gains that strong unions win for their members are primarily at the expense of other workers"[4] (Friedman and Friedman 1980, 233).

In sum, by carefully abstracting from the historical development of capitalist property relations, all potential class antagonism within the capitalist labor process, and the essential dynamics of capitalist accumulation, the neoclassical picture of the competitive labor market presents workers with the best of all possible worlds. Workers are free to exercise their own individual choice between work and leisure, and the forces of competition automatically ensure perfect efficiency, perfect equity, and a decent job for all who are "seriously" looking for work.

It is well known that Marx's analysis of the underlying dynamics of the capitalist labor market is diametrically opposed to the neoclassical view. In addition to arguing that workers are systematically exploited, Marx also argues that the combined effects of unbridled capitalist competition and continual underemployment are absolutely disastrous for the working class and many other sectors of the population. Therefore, unions are not only morally justified, they are essential to allow workers to protect themselves from capital's continual onslaught (Marx 1849, 1865, 1867).

What is not often pointed out, however, is that contrary to both institutional and radical critiques of neoclassical theory, Marx's scathing indictment of the capitalist mode of production did not require arguments of monopoly or any other type of market imperfections. In fact, Marx derived his far more devastating critique of the system when capitalism was not yet encumbered by modern state intervention and all precapitalist barriers to competition were increasingly being broken down.

In order to understand Marx's distinctive analysis of the capitalist labor market, we must therefore begin from completely different starting points that have very little in common with neoclassical assumptions or methodology. We must abandon the methodology of comparative statics which abstracts from the essential dynamics of capitalist accumulation,

[4] It is interesting to note that even ardent defenders of the merits of unions like Freeman and Medoff (1984) essentially accept these logical assumptions concerning the "monopoly effects" of unions within competitive economies.

and we must develop a very different conception of the real dynamics of capitalist competition. We must also remember Marx's warning that "the labor market is ruled by other laws than the product market" (Marx 1857, 521). Contrary to neoclassical theory, we must therefore pay careful attention to the unique features of the labor market that fundamentally distinguish it from all other markets in the capitalist economy.[5]

The Special Commodity Labor-Power

Although the two main forms of wage payment (i.e., piece rates and hourly rates) appear to indicate that workers are paid for all of the labor that they actually perform, Marx begins his analysis of wage determination by arguing that what workers really sell to the capitalist is not their actual labor, but their "labor-power" (or their ability to work). Consistent with Marx's labor theory of value, the value of this commodity labor-power is then determined, like all other commodities, by the socially necessary labor time which is required for its reproduction.

In the case of unskilled labor, the reproduction of labor-power primarily requires a daily subsistence bundle which will allow the worker and his(her) family to survive in a normal and healthy state (Marx 1867, 171–72). The value of this type of labor-power is therefore largely determined by the value of these daily means of subsistence. In the case of skilled labor-power, the costs of training must also "enter pro tanto into the total value spent in its production" (Marx 1867, 172). Thus, different types of labor-power have different costs of production and hence, different centers of gravity around which daily wage rates will tend to fluctuate. Regardless of whether workers are paid by the week, the hour, or the piece, however, it is the *value of their labor-power* that will ultimately regulate all of these more complex forms of actual wage payment.[6]

[5] Like Marx, the postwar institutionalists also argued that the labor market had a number of critical and unique properties. For a useful review of these properties, see Kaufman 1988b. Efficiency wage theorists have also begun to recognize that the labor market has its own peculiar dynamics. To develop Marx's analysis of the aggregate labor market, we will be drawing primarily from his most important writings on this subject. These include chapter 25 of volume 1 of *Capital* (1867), an address to the First International that was eventually published under the title "Wages, Price and Profit" (1865), and last, a much earlier essay entitled "Wage-Labour and Capital" (1849).

[6] Although neoclassical economists vehemently reject Marx's argument, it is interesting to note that Frederick Taylor apparently had a similar view of the underlying determinants of the daily wage. In his explanation for the prevalence of "systematic soldiering" among workers, he pointed out that "the causes for this are, briefly, that practically all employers determine upon a maximum sum which they feel it is right for each of their classes of employees to earn per day, whether their men work by the day or piece" (And regardless of how much work they ultimately do!; Taylor 1911, 21–23). Of course, Taylor's own peculiar notion of a "fair day's work for a fair day's pay" was exemplified in his famous Schmidt Pig

The most critical distinctive aspect of the commodity labor-power is that it is the only commodity within the capitalist economy whose use-value is capable of generating not only new value, but a surplus of value over and above what it costs to daily reproduce it. The generation of this surplus value simply requires that capitalists possess the ability to force workers to work beyond the period of time necessary to reproduce the value of their labor-power and hence, their daily wage. And, of course, it is this surplus value that is produced over and above the worker's daily wage that is the ultimate source of the capitalist's profits and the principal goal of all capitalist production. Moreover, it is the rate of surplus value (or the proportion of unpaid to paid labor) that forms the foundation for Marx's analysis of the more complexly determined rate of profit.

In the initial stages of capitalist development, increases in the rate of surplus value are primarily achieved through the forced extension of the working day without commensurate compensation. This is what Marx called the generation of "absolute surplus value." Once modern industry is developed and limits are imposed on the extension of the work day by the state, the rate of surplus value is mainly increased through the generation of "relative surplus value" or the reduction of the necessary portion of the work day that is required to reproduce the value of the worker's labor-power (Marx 1867, 312–15). This is achieved through increases in the productivity of labor that reduce the value of the required subsistence bundle and hence the value of labor-power.

Once the secret of profit making is revealed in this manner, we obviously arrive at one of the most fundamental distinctions between Marx and neoclassical theory. Not only is the wage determined by something quite distinct from the value of the worker's marginal product, but the systematic deviation of the wage rate *below* the value that workers produce is absolutely essential for the continued reproduction of the capitalist mode of production. Consequently, within the Marxian analysis of the aggregate labor market, one of the most critical issues becomes the investigation of how the unique properties of the labor market interact with the dynamics of capitalist accumulation to ensure that movements in the wage level will generally remain within the limits of capitalist profitability.

As we shall see shortly, Marx argued that one of the primary determinants of the aggregate wage level is the class struggle between capital and labor. Indeed, because of the constant reproduction of a reserve army of labor, he argued that workers would only be able to raise their wage rates

Iron experiment where he managed to raise Schmidt's productivity by almost 400% and merely raised his wages by 60% (Taylor 1911, 47).

through sustained and organized warfare with their employers. Yet, although the class struggle clearly has a very significant impact on wage levels, Marx also argued that both the rate and the mass of surplus value must continue to rise in order to sustain accumulation. As the following analysis of the aggregate labor market unfolds, we will therefore see that the regulation of movements in the wage level involves a complex dialectic between worker efforts to raise their wage rates and the conditions of capitalist accumulation that can only allow wages to rise within strict limits.

In the remainder of this chapter, we will argue that capitalist economies have two sets of mechanisms that regulate movements in the general wage level. The first mechanism is initially provided by what Marx called the "primitive accumulation of capital," whereby the means of production are essentially monopolized by the capitalist class and the nascent working class is forced to become "doubly free." The second set of regulating dynamics concerns the capitalist mode of production proper and involves the laws of capitalist accumulation that constantly mechanize the labor process and continually generate a reserve army of labor.

Before going on to a detailed discussion of these arguments, it is important to note that the key entry point for the class struggle over wages and conditions is provided by Marx's discussion of an "historical and moral" element within the determination of the value of labor-power (Marx 1867, 171; 1865, 225). In addition to the previously discussed physical element which is determined by the means of subsistence which are "physically indispensable" for the worker's reproduction, Marx also argued:

> [T]he value of labour is in every country determined by a traditional standard of life. It is not mere physical life, but it is the satisfaction of certain wants springing from the social conditions in which people are placed and reared up. . . . This historical or social element, entering into the value of labour, may be expanded, or contracted, or altogether extinguished. (1865, 225)[7]

Although some Marxist (Meek 1967) and non-Marxist (Hollander 1984) writers have argued that Marx generally supported the classical notion of an "iron law of wages" whereby wage rates would be continually reduced to the bare subsistence level, Marx eventually argues that real wages would tend to rise given two essential conditions. First, the system had to be in a period of healthy accumulation where productivity and the rate of

[7] Although this social element in the determination of the going wage appears to be a new discovery for efficiency wage theorists like Akerlof (1982) and Solow (1990), it was obviously a critical component of Marx's wage theory. Postwar institutionalists also wrote extensively on this issue.

surplus value were rising. Second, workers had to be effectively organized so that they would be able to *fight* for these improvements in wages and conditions.[8]

The key point here is to recognize that it is precisely by struggling to alter the historical and social elements of the value of labor-power that workers can achieve long-term gains in their standard of living. As Engels once noted:

> The average rate of wages is equal to the sum of necessaries sufficient to keep up the race of workmen in a certain country according to the standard of life habitual in that country. . . . The great merit of Trades Unions, in their struggle to keep up the rate of wages and to reduce working hours, is that they tend to keep up and to raise the standard of life. (quoted in Draper 1978, 95)

It is also important to note that Marx's discussion of an historically determined "standard of living" was not limited to the wage level. Bound up with the determination of the average wage level was also the social determination of the average length and intensity of the work day, and the average number of family members that would be required to enter the labor force in order to reproduce the family.[9] Thus, in sharp contrast to neoclassical discussions of labor supply that primarily stress individual free choice, Marx argues that changes in the wage level, the length of the work day, and the average number of workers per family are all bound up with the dynamics of accumulation and class struggle.

Primitive Accumulation and the "Doubly Free" Laborer

> The capitalist system pre-supposes the complete separation of the labourers from all property in the means by which they can realize their labour. As soon as capitalist production is once on its own legs, it not only maintains this separation, but reproduces it on a continually extending scale.
>
> —Marx, *Capital*, Volume 1

In *Capital*, Marx argues that a fundamental precondition for the proper functioning of the capitalist labor market is the creation of the "doubly free" laborer. Because capital must be able to move freely and rapidly into new areas of profitable production, the capitalist system requires a highly mobile work force that is free to transport its labor-power wherever and whenever capital demands it. Capital must also have the ability to sever its relations with labor whenever conditions of profitability no

[8] See Marx 1867, 523, 604. See also Marx 1865.

[9] See Marx 1867, 395, 519. See also Humphries 1977.

longer warrant labor's continued employment. Thus, unlike previous modes of production that also exploited the laboring masses, the capitalist system requires laborers who are "free" from all of the old precapitalist fetters: the bondage of slavery, the feudal obligations of serfdom, and the many restrictions of the guild system.

Unfortunately for the laborer, however, capitalism also requires workers to be "free" in a very negative sense. In order to create the necessary conditions for the continued exploitation of labor-power, capitalism also requires the laborer to be *free of all means of production*. As long as laborers have access to the land and other independent means of livelihood, it is extremely difficult for capital to establish a permanent supply of workers who are willing to submit to such exploitation. When workers have no alternative, however, they are *forced* to sell their labor-power to capital. As noted in chapter 2, this is what Marx terms the "formal" subordination of labor.

The other side of this process of separating the means of production from the potential working population is the monopolization of this property within the hands of the developing capitalist class. This dialectical process, which masses capital at one pole and labor at the other is what Marx termed the "primitive accumulation of capital." In a detailed account of the genesis of capitalist property relations within England, Marx argues that this process of primitive accumulation took its "classic form" (Marx 1867, 716). Here the primary mechanisms for divesting the vast majority of the population from the means of production were outright theft, fraud, and terror.

> The spoilation of the church's property, the fraudulent alienation of the State domains, the robbery of the common lands, the usurpation of feudal and clan property, and its transformation into modern private property under circumstances of reckless terrorism, were just so many idyllic methods of primitive accumulation. They conquered the field for capitalist agriculture, made the soil part and parcel of capital, and created for the town industries the necessary supply of a "free" and outlawed proletariat.[10] (Marx 1867, 733)

As Marx noted, as soon as the monopoly of the means of production is firmly established, the capitalist mode of production proper will automatically tend to reproduce these peculiar property relations on a "continually extending scale." Briefly, as modern large-scale production increasingly erodes the viability of petty commodity production and the domestic economy, more and more sectors of the population are forced into the proletariat. Even within the capitalist class, the relentless concen-

[10] The work of a number of contemporary historians has largely supported Marx's historical analysis of primitive accumulation. See Dobb 1954; Hill 1969; and Brenner 1977.

tration and centralization of capital consolidates the means of production into relatively fewer and fewer hands. Finally, this same process, which continually increases the necessary capital requirements within more and more spheres of production, increasingly narrows the opportunities for workers to move up and out of the working class.

Within the United States, this process of proletarianization possessed several unique characteristics as a result of the unusual availability of "free" land (largely seized from Native Americans) and the extensive use of immigrant labor. Nevertheless, the long-run results of the concentration and centralization of wealth have been quite compelling. In the early 1800s, approximately 80 percent of the U.S. population was self-employed. By 1970, however, only 10 percent of the population retained this independent status (Braverman 1974, 53). Of course, at the other end of the spectrum, there has been an equally impressive concentration of productive wealth within the hands of capital. As the now infamous 1986 JEC report on the "Concentration of Wealth in the U.S." has shown, the wealthiest 10 percent of the population now owns over 80 percent of the productive wealth. Excluding the ownership of private homes, this includes 77.8 percent of all real estate, 89.3 percent of corporate stock, and 90.4 percent of all bonds.[11]

Thus, it is one of the great ironies of the capitalist mode of production that the essential mechanisms of "free" capitalist competition and accumulation both require and reproduce this growing monopoly of the means of production. And it is precisely this monopoly which denies the laborer any realistic access to the means of production that is one of the most essential conditions for the functioning of the free labor market.

It is characteristic of neoclassical economics that it tenaciously holds onto the positive side of free labor while it carefully ignores this darker side. Indeed, by treating current property relations in the means of production as "given endowments," neoclassical economics carefully abstracts from the historical process of primitive accumulation altogether. Moreover, by clinging to the worker's legal right to hold property, orthodox economics generally chooses to ignore the immense barriers that make the realistic acquisition of these means of production a virtual impossibility for the vast majority of the working class. As chapter 5 explains in greater detail, the adoption of an essentially idealized notion of capitalist competition also allows orthodox theory to ignore the painfully compelling logic of the concentration and centralization of capital.[12]

[11] See Kloby 1987. For an interesting account of the political scandal that this report subsequently generated at the Federal Reserve, see *Dollars and Sense*, April 1987.

[12] Unlike neoclassical economists, Adam Smith was acutely aware of the fact that the development of capitalism meant the accumulation of capital ("stock") into the hands of one class. He also clearly understood that these new property relations gave the manufacturing class a decisive advantage in the conflict over wage rates:

The Unique Logic of Labor Supply

Before developing Marx's analysis of the dynamics of capitalist accumulation, it is important to note that the unique characteristics of the capitalist labor market that have already been presented have important implications for the discussion of labor supply. As noted previously, neoclassical theory tends to analyze the labor market in precisely the same way that it analyzes product markets. Thus, just as declining prices will tend to eliminate excess supply in the product market, it is also argued that declining wage rates will tend to eliminate excess labor in the labor market. Or, in other words, decreasing wage rates will supposedly induce a significant number of excess workers to voluntarily withdraw from the labor force.

Once we recognize that the key impetus pushing the *doubly free* worker into the labor market is not individual free choice but the often brutal compulsion of having to survive, the reaction of labor supply to declining wage rates is likely to be quite the opposite. Given that the primary motivation of the vast majority of workers is to maintain an historically established customary standard of living, the reduction of the wage below this normal level will tend to *increase* the supply of labor, not decrease it. As real wages fall, more members of the family will be forced into the labor market and those already working will generally be pushed to work longer hours. Hence, both the number of workers and the average hours worked will tend to rise.[13]

> It is not, however, difficult to foresee which of the two parties must, upon all ordinary occasions, have the advantage in the dispute, and force the other into a compliance with their terms. The masters, being fewer in number, can combine much more easily. . . . In all such disputes the masters can hold out much longer. A landlord, a farmer, a master manufacturer, or merchant, though they did not employ a single workman, could generally live a year or two upon the stocks which they have already acquired. Many workmen could not subsist a week, few could subsist a month, and scarce any a year without employment. (Smith 1776, 66)

Of course, while Smith's rather astute comments were curiously missed by neoclassical economists, they were not lost to Marx.

[13] During the industrial revolution in Great Britain, Marx documents how the labor supply was greatly increased as real wages were driven downward and increasing numbers of women and children were brutally propelled into the work force (Marx 1867, chapters 10 and 15). As real wage rates declined between 1973 and 1986, a similar change in labor supply occurred within the U.S. economy. In their recent study on *The State of Working America*, Mishel and Frankel point out that the average worker had to work 95 more hours in 1987 (as compared to 1979) "in order to prevent a large drop in annual earnings." Thus, "the average worker in 1987 was working 5.7% more hours at an hourly wage 9.3% less than 1979" (1991, 71). Within the same period, there was also a 22% increase in the average number of wage earners per family (1991, 39). Finally, both Humphries (1983) and Mishel and Frankel (1991) argue that the 1980s witnessed an increasing number of women who were primarily entering the labor force "because of pressures on working class standards of living" (Humprhies 1983, 14). See also Power 1988.

In other words, we can already see that the process of eliminating unemployment that is generally assumed within neoclassical economics defies the unique logic of labor supply. In fact, within the contemporary work force, the only people whose labor supply may actually decline as wage rates fall are those *outside of the working class* who clearly have more to fall back on than their labor-power (i.e., doctors, lawyers, working proprietors, etc.). Between 1900 and 1970, Braverman argues that this far more privileged group decreased from 50 percent of the broadly defined civilian labor force down to 30 percent.[14] Thus, neoclassical economics not only carefully abstracts from all notions of class based on property relations, but it derives its essential dynamics of "labor supply" from a declining minority within the civilian labor force. A peculiar method of abstraction to say the least!

Capitalist Accumulation and the Reserve Army of Labor

From our initial discussion, it should be clear that the labor market can not be analyzed like any other commodity market. When Marx stated that "the labor market is ruled by other laws," however, he was primarily referring to the fact that the dynamics of capitalist accumulation will tend to regulate *both* the supply and the demand for labor in such a way as to ensure that an excess supply of laborers (or "reserve army of labor") is constantly reproduced.[15] It is to this argument that we must now turn.

Contrary to John Bates Clark, who claimed that "static laws will never cease to be dominant,"[16] Marx's analysis of the aggregate labor market is inextricably intertwined with his dynamic analysis of the laws of capitalist accumulation. Moreover, it is only within this dynamic context that is so foreign to neoclassical comparative statics that he is ultimately able to unearth the unique central tendencies of the capitalist labor market.

In chapter 25 of *Capital* (volume 1), the argument for the continual generation of the reserve army of labor relies on the dynamic interaction of three key factors: changes in the rate of accumulation (or the rate of growth of capitalist investment), changes in the organic composition of capital[17]; and changes in the labor force participation rate of the potential working population. Although all of these factors interact with one another, it will be useful to initially develop these arguments one at a time.

[14] See Braverman 1974, chap. 17.

[15] "What experience shows to the capitalist generally is a constant excess of population, i.e., an excess in relation to the momentary requirements of surplus labor absorbing capital" (Marx 1867, 269).

[16] Cited in Cartter 1959, 219.

[17] In Marxist terminology, the *technical composition of capital* is the ratio of the mass of means of production (i.e., plant, equipment, and raw materials) relative to the number of labourers who are employed by that same mass. Thus, it is essentially equivalent to the more traditional "capital labor ratio" in physical units. The closely related *value composition of capital* is the ratio of the *value* of this means of production relative to the value of the total labor power employed (i.e., total wage costs). Finally, the value composition "in so far as it is determined by its technical composition and mirrors the changes in the latter" is termed the *organic composition of capital* (Marx 1867, 612).

Changes in the Rate of Accumulation

Abstracting from technical change, increases in the rate of accumulation will tend to generate proportional increases in the demand for labor. Thus, *in the early stages of capitalist development* when capital intensity was not yet rising significantly, Marx pointed out that prolonged periods of accelerated accumulation often tended to put pressure on the "customary" supply of labor. Hence, wage rates sometimes had a tendency to rise due to market forces alone (Marx 1867, 613).

Although capital's ability to regulate the labor market is far more limited under these special circumstances, Marx nevertheless convincingly argues that the dynamics of accumulation will tend to ensure that movements in the wage level will remain within the boundaries of capitalist profitability. In other words, it is the rate of accumulation that remains the critical "independent" variable, and not movements in the supply of labor, or movements in the wage level (Marx 1867, 619–20). If an accelerated rate of accumulation should begin to put pressure on the supply of labor and rising wage rates do actually begin to push profit rates below their normal level, Marx argues that the tempo of accumulation will merely slow down until a more suitable relation between the demand and supply of labor is reestablished.

> If the quantity of unpaid labour supplied by the working class, and accumulated by the capitalist class, increases so rapidly that its conversion into capital requires an extraordinary addition of paid labour, then wages rise, and all other circumstances remaining equal, the unpaid labour diminishes in proportion. But as soon as this diminution touches the point at which the surplus-labour that nourishes capital is no longer supplied in *normal* quantity, a reaction sets in: a smaller part of revenue is capitalised, accumulation lags, and the movement of rise in wages receives a check. *The rise of wages therefore is confined within limits that not only leave intact the foundations of the capitalist system, but also secure its reproduction on a progressive scale* [emphasis added]. (Marx 1867, 620)

Before discussing changes in the organic composition of capital, we must point out that most wage/profit-squeeze theories of capitalist crisis have

been either explicitly or implicitly drawn from this very incomplete discussion of the general law of capitalist accumulation within the first section of chapter 25.[18] In addition to the obvious error of deriving an analysis of the modern labor market from an analysis that abstracts from one of the most important modern elements of the accumulation process (i.e., rising capital intensity), these arguments have also tended to misinterpret Marx's preliminary argument even on its own limited grounds.

The above passage makes it clear that Marx is essentially discussing a *dynamic* process whereby the tempo of accumulation is tendentially adjusted in order to assure that movements in the wage rate and movements in the demand and supply for labor will remain within the confines of "normal" capitalist profitability. In a sense, the dynamic interaction between the demand and supply of labor is like that of repelling magnets of the same pole. As the demand for labor approaches a critical distance from labor supply, it is automatically repelled long before these two sides of the market are able to meet.

To establish the grounds for a profit-squeeze argument, however, this portion of Marx's argument is generally interpreted as a *static* argument whereby rapid accumulation virtually depletes the reserve army and rising wage rates eventually cut deep into profit rates. Hence the crisis.[19]

As both Shaikh (1978) and Weeks (1979) have correctly pointed out, however, Marx's argument merely suggests that accumulation "slackens" or "lags." Indeed, long before the reserve army is significantly depleted and capitalist profitability is seriously compromised by sharply rising wage rates, the deceleration in the rate of accumulation will have already resolved the initial problem. Thus, even under these very limited circumstances when the level of capital intensity is held constant, Marx's discussion does not imply that rising wage rates will periodically precipitate serious downturns in the economy.

An interesting illustration of how one might begin to more formally model the dynamic interaction between the rate of accumulation, rising real wage rates, and movements in the reserve army was originally presented by Richard Goodwin in 1967. In an attempt to develop an explanation for capitalism's recurrent business cycles, Goodwin developed a model of the aggregate labor market which assumes that capital intensity and productivity will both tend to increase at the same rate. Thus, the

[18] See Dobb 1937 and Boddy and Crotty 1975.

[19] For example, Boddy and Crotty use the identical passage from chapter 25 of *Capital* to argue that "Marx saw the relentless drive for capital accumulation leading, through conflict between capital and labor over wage and profit shares, to cyclical booms and busts" (1975, 2). They also go on to argue that "evidence" from the postwar economy clearly shows that "profits come under severe pressure during the latter part of the expansion" presumably due to rising wage rates (1975, 9). We will refute this empirical claim at the end of this chapter.

capital/output ratio also tends to remain constant.[20] Given these assumptions, he then shows how fluctuations in the size of the reserve army and corresponding fluctuations in the growth rate of wages will tend to regulate the aggregate labor market so that the system cycles endlessly around a tendential average level for both the reserve army and the rate of surplus value. As in Marx's own argument, capitalist accumulation remains the "independent variable" and is never seriously disrupted, the rate of growth of wages is kept in line with productivity growth, and the reserve army is continually reproduced (Goodwin 1967 and Gandolfo 1980).

As will soon become apparent, Marx's analysis of the dynamics of technical change is somewhat different from Goodwin's model. In addition to arguing that both capital/labor and capital/output ratios will tend to rise over time, Marx also argues that real wages will normally tend to rise more slowly than productivity. Thus, not only will the reserve army tend to grow larger over time, but the rate of surplus value will continue to rise.

Finally, from a methodological standpoint, it is also important to note that in volume 1 of *Capital*, Marx is not yet ready to discuss the critical point at which falling profit rates will actually bring about a halt to accumulation and general crisis will ensue (Shaikh 1978). In fact, the analysis of general crisis can not be logically derived until Marx has developed his argument concerning the rising organic composition of capital and the "tendency of the rate of profit to fall" which occurs in the third volume of *Capital*. When he does finally develop his argument for the falling rate of profit, he notes that "the tendency of the rate of profit to fall is bound up with a tendency for the rate of labour exploitation to rise. Nothing is more absurd for this reason, than to explain the fall in the rate of profit by a rise in the rate of wages, although this may be the case by way of an exception" (Marx 1894, 240). In order to explain why rising wages will only cause a fall in the rate of profit "by way of exception," we must continue to develop Marx's argument within chapter 25.

Movements in the Composition of Capital

The first two sentences of chapter 25 make it quite clear that the key element in Marx's analysis of the aggregate labor market is capitalism's modern tendency to increase the organic composition of capital.

> In this chapter we consider the influence of the growth of capital on the lot of the labouring class. The most important factor in this inquiry, is the composi-

[20] This result follows from the fact that the capital/output ratio (K/Y) can be written as $(K/L) \div (Y/L)$.

> tion of capital and the changes it undergoes in the course of the process of accumulation. (Marx 1867, 612)

Given the inherent antagonism between capital and labor that is rooted in capital's unrelenting need to maximize the extraction of surplus value, Marx argued that the long-run tendency to mechanize and continually raise the capital intensity of production is a necessary and logical development of the capital/labor relation.[21] Within the capitalist production process, mechanization acts as a powerful lever to raise the exploitation of labor in a number of important ways. At the aggregate level, it is the primary means of increasing the productivity of labor within those industries that either directly or indirectly produce workers' means of subsistence. Thus, it is also the key means for reducing the value of labor-power and increasing relative surplus value.

Within particular industries, mechanization also tends to reduce the average skill levels of the majority of workers employed. This deskilling process not only directly lowers the value of labor-power (and so wage rates), but it also greatly reduces the ability of workers to control both the organization and the intensity of the labor process. As mechanization increasingly takes hold of production, the subjective elements of the labor process are constantly reduced, and workers are forced to work at a pace that is increasingly dictated by the objective demands of the machinery.[22] Finally, as labor intensity is increased and the required training time of the average worker is decreased, workers become increasingly vulnerable to competition from the reserve army of labor.

In sharp contrast to neoclassical economics, technical change is not exogenous, and the choice of technique is not primarily determined by the socially arbitrary selection of the proper input mix based on relative factor prices. Quite the contrary, as Shaikh has aptly noted, "automation is intrinsic to capitalism and is its dominant form of technical change. It is the technological expression of the social relations of production under capitalism"[23] (Shaikh 1978). Contrary to efficiency wage theories, mechanization and deskilling (and not the payment of above-average wage rates) are also the primary mechanisms for increasing the intensity of labor.

Within our present discussion of the aggregate labor market, the most important result of this continual mechanization is its long-term effect on

[21] See Braverman 1974; Rosdolsky 1977; and Shaikh 1978.

[22] Marx's classic discussion of the "real subordination of labor" via mechanization and deskilling is in chapter 15 of *Capital*, vol. 1 (1867). Modern discussions that have done an excellent job updating his analysis of the long-run effects of mechanization can be found in Braverman 1974 and Zimbalist 1979. For contrasting viewpoints, see Hirschhorn 1984; Piore and Sable 1984; and Wood 1989.

[23] See also Marx 1867, 361.

the demand and supply of labor. Once accumulation is accompanied by a tendency for the organic composition of capital to rise, an increase in the rate of accumulation no longer implies a proportional increase in the demand for labor. To the extent that capital intensity is increased, Marx notes that "the additional capital formed in the course of accumulation attracts fewer and fewer laborers in proportion to its magnitude." Moreover, the periodic conversion of the old existing capital "repels more and more of the labourers formerly employed by it" (Marx 1967, 628). Thus, *even within periods of rapid accumulation*, the mechanization of the labor process will continue to generate a sizable reserve army of labor by expelling established workers on the one hand and repelling new workers on the other.

If we now combine our first two factors which regulate the reserve army, overall movements in the demand for labor appear to be the indeterminate outcome of two contradictory effects. On the one hand, increases in the rate of accumulation tend to enhance the demand for labor. On the other hand, increases in the organic composition tend to contract it. What is not often recognized, however, is that Marx argued that the latter effect would tend to limit the former for three reasons. First, the accumulation process is also accompanied by the centralization of capital that "simultaneously extends and speeds those revolutions in the technical composition of capital" (Marx 1867, 628). Second, "the change in the technological composition of the additional capital goes hand in hand with a similar change in the technological composition of the original capital" (Marx 1867, 629). And finally, increases in the organic composition of capital will tend to lower the rate of profit and therefore dampen the rate of accumulation. Thus, although the absolute demand for labor will tend to rise during periods of normal accumulation, Marx argues that increases in the composition of capital will tend to ensure that this growing demand for labor will not overtake the available supply.

> It is not merely that an accelerated accumulation of total capital, accelerated in a constantly growing progression, is needed to absorb an additional number of labourers, or even, on account of the constant metamorphosis of old capital, to keep employed those already functioning. In its turn, this increasing accumulation and centralization becomes a source of new changes in the composition of capital, of a more accelerated diminution of its variable, as compared with its constant constituent. This accelerated relative diminution of the variable constituent that goes along with the accelerated increase of the total capital, and moves more rapidly than this increase, takes the inverse form, at the other pole, of an apparently absolute increase of the labouring population, an increase always moving more rapidly than that of the variable capital or the means of employment (Marx 1867, 629–30)

In sum, while the dynamics of capitalist accumulation under conditions of constant capital intensity tend to preserve the reserve army at a particular level, Marx argued that the rising organic composition of capital would tend to generate an ever increasing number of surplus workers.

Despite these compelling arguments, both Rosdolsky (1977, 298–90) and Weeks (1979, 269) have correctly pointed out that increases in the organic composition do not guarantee that labor power will "always" be in adequate supply at any particular moment in time. Indeed, Marx also recognized that under certain historical conditions where the means of production have not yet been successfully monopolized by the process of primitive accumulation, "the law of supply and demand favours the working man" (Marx 1865, 226). During the 1860s, for example, he noted that the relatively high wages of U.S. workers were primarily due to "the continuous conversion of wage laborers into independent, self-sustaining peasants" (Marx 1865, 226).

Within fully developed capitalist economies, however, there are two additional dynamics at work that *will* generally tend to ensure the reproduction of the reserve army. Although the first mechanism is essentially a more complex and more powerful form of the dynamic we have already discussed, the second concerns changes in the labor force participation rate. From our initial discussion of capitalist accumulation under conditions of constant capital intensity, we have seen that substantial inroads into the reserve army that do tend to raise the wage level will be automatically corrected by a deceleration in the rate of accumulation. Once changes in the organic composition of capital are introduced, however, periods of abnormally high demand for labor that seriously reduce the reserve army are much less likely. Nevertheless, if an exceptional situation does arise whereby wage rates are significantly pushed upward, capital now has an additional mechanism to correct this momentary imbalance. Indeed, not only will the rate of accumulation tend to decelerate, but the long-run tendency to increase capital intensity may also accelerate. Thus, excessive reductions in the reserve army may be corrected through the accelerated expulsion of employed laborers. As Marx noted in his argument against citizen Weston, "This is the general method in which a reaction, quicker or slower, of capital against a rise of wages takes place in old, settled countries"[24] (1865, 227).

[24] Although Marx does suggest that the secular tendency toward more capital-intensive production may tend to be accelerated by rising wage rates, this argument should not be confused with neoclassical theory where relative factor prices are considered to be the primary determinants of the choice of technique. In neoclassical economics the secular rise in real wage rates is often used to explain the secular rise in capital intensity. In Marx, however, the explanation for these secular tendencies is clearly reversed. It is rising capital intensity that causes the productivity of labor to increase. And as we shall soon see, it is these increases in productivity that then create the potential basis for limited increases in the real wage.

Changes in the Labor Force Participation Rate

The third and final factor that forms an essential element in the continual generation of the reserve army is the effect of accumulation on the labor force participation rates of the potential working population. Although Marx clearly rejected Malthusian arguments that directly linked movements in the wage rate to changes in the supply of labor via changes in population growth,[25] he did argue that the modern process of capitalist accumulation would tend to have very profound effects on labor force participation rates. Once the monopoly of the means of production has been secured and the exit of labor out of the labor market is virtually sealed off, the further development of modern industry continues to force larger and larger sectors of the population into the labor market. As a result, the field of capitalist exploitation is no longer restricted to the "customary" working population, and much more elastic boundaries can be established for potential labor supply.

In the initial stages of modern industry when the developing working class has not yet begun to organize, the potential sources of labor supply are expanded in the most brutal fashion. As the detailed division of labor takes on its most hideous form within modern industry, the value of labor-power and the resistance of skilled labor is greatly diminished. Thus, as wage rates are dramatically forced even below the value of labor-power, the supply of labor hours is also increased through the inhuman extension of the working day beyond its natural limits. Finally, the inadequate wage rate is then coupled with the commodification of the domestic economy and the lightening of factory labor. Thus, both the necessity and the possibility are developed for substantial increases in the labor force participation rates of unskilled women and children[26] (Marx 1867, 394–402).

Once the working class has begun to organize and the state has placed certain minimal limits on both the use of child labor and the length of the work day, the primary mechanism for increasing labor force participation rates becomes the continual encroachment of large-scale enterprise on

[25] "A beautiful mode of motion this for developed capitalist production. Before, in consequence of the rise of wages, any positive increase of the population really fit for work could occur, the time would have been passed again and again, during which the industrial campaign must have been carried through the battle fought and won" (Marx 1867, 638).

[26] Although Marx argues that lesser physical strength was a significant barrier to the earlier entrance of large masses of women into the labor force, Veronica Beechey (1987) points out that a more important force defining both the timing and the specific points of entry for female factory labor was the patriarchal ideology embodied within the family and the closely related sexual division of labor.

more and more spheres of petty commodity production. Here, of course, the most massive recruitment for the working class takes place through the destruction of independent crafts and small-scale agriculture.[27] An important source of female labor is also provided by the gradual erosion of domestic household production.

Marx's Reserve Army within the Modern Period

When we now consider the dynamic interaction of all of the above elements of capitalist accumulation, it certainly appears that Marx has developed a powerful argument for the constant reproduction of the reserve army of labor as a central tendency within capitalist economies. Because Marx's argument was developed in the late 1800s, however, objections to its relevancy within more modern capitalist economies may be raised. Two of the most frequently raised objections will be briefly discussed here.

Within advanced capitalist nations, for example, it may be argued that the potential sources of the reserve army will tend to become exhausted as the latent reserves of petty commodity production and small-scale agriculture eventually dry up. In addition, this shortage of labor reserves may be further aggravated in advanced nations as their domination of the world market tends to enhance the internal demand for labor due to the rising demand for exports. This argument must also recognize, however, that the decimation of precapitalist forms of production, which has already largely taken place in the advanced capitalist nations, continues in very dramatic form within the less developed nations whenever these countries are penetrated by advanced foreign capital.[28] Equally important, the penetration of foreign industrial capital within these less developed countries implies that the reserve army of the advanced nations now takes on worldwide dimensions. Thus, as the *Dictionary of Marxist Thought* appropriately states in its entry on the "reserve army of labor":

> Modern capitalism spans the whole globe, and so does its reserve army. The starving masses of the third world, the importation and subsequent expulsion of "guest workers" by the industrialized countries, and the flight of capital to low wage regions, are simply manifestations of this fact. (Bottomore 1983, 423)

[27] Within the United States, Braverman (1974) argues that this process was the primary factor causing the working class portion of the "civilian labor force" to grow from 50% in 1900 to over 69% in the early 1970s (Braverman 1974, 381). For an interesting conceptual framework that attempts to see how capital actually works on both sides of the labor market (supply and demand), see Humphries and Rubery 1984.

[28] See Mandel 1977; Braverman 1974; Shaikh 1980a; and Sassen 1989.

More concretely, the rapid expansion of "maquiladora" plants along the U.S./Mexican border is a dramatic example of U.S. capital's growing access to low-wage labor reserves in less developed countries. As Rachael Kamel (1989) recently pointed out, the past two decades have witnessed the creation of more than 1,000 assembly plants employing approximately 300,000 Mexican workers at wage rates that are generally less than 10 percent of the U.S. average. Moreover, within the United States, both Fernández Kelly (1989) and Sassen (1989) have persuasively argued that the rapidly increasing migration of low-wage labor from Mexico, the Caribbean Basin, and Southeast Asia has been closely articulated with the rapid growth of foreign capital investment within these same areas.

Finally, in *Labor and Monopoly Capital*, Braverman does an impressive job of demonstrating that the modern U.S. economy is still quite capable of generating its own internal reserve army of labor. Indeed, even at the tail end of the most prolonged period of capitalist expansion in history, he convincingly argues that all three components of Marx's reserve army—floating, latent, and stagnant—were very much alive and well in the United States (1974, 386–401). Within the post-World War II period, Braverman points out that two of the most important sources of the reserve army have been the dramatic and complimentary movements in male/female labor force participation rates. Although the overall labor force participation rate (LFPR) for the entire eligible population has not changed significantly since 1950, the male LFPR has declined from 86.8 percent in 1950 to 76.8 percent in 1984. Of greater importance, the female LFPR has increased dramatically from 33.9 percent to 53.0 percent[29]

Although neoclassical explanations for these changes primarily rely on changing preference structures based on income and substitution effects, Braverman argues that both of these statistical movements actually represent a significant increase in the "relative mass of the industrial reserve army."

> Among male workers this takes the form of a sloughing off into the ranks of the so-called nonparticipants in the labor force, or in other words an increase of the "stagnant" portion. Among female workers it takes the form of a growing body of female labor which is drawn from the mass of women who previously did not work, and hence represents an enlargement of the "floating" and "stagnant" reserve army of labor by additional hundreds of thousands and even millions each year. . . . The opposing forms taken by this basically unitary movement simply reflect the different starting points of male and female labor . . . as well as the strong demand for female labor in the expanding mass occu-

[29] These more recent figures are taken from Kaufman 1986, 92.

pations in contrast to the relative stagnation of the male mass occupations. (Braverman 1974, 391–92)

Reinforcing Braverman's earlier arguments, Jane Humphries (1983) has recently suggested that the declining standard of living in the late 1970s and 1980s has been an increasingly important factor driving more and more women from the latent to the floating sectors of the reserve army.

The second major objection to the reserve army as a central tendency within modern capitalist economies generally comes from Keynesian economists who are convinced that correct economic policies can essentially eliminate the problem of chronic underemployment. Here, it is important to remember that Marx's argument suggests that the continual generation of unemployment is not a product of disequilibrium. Nor is it a dysfunctional outcome of the capitalist system that can ultimately be rectified by good economic policy. On the contrary, it is an essential component of the process of capitalist accumulation for two fundamental reasons. First, as we have discussed throughout this chapter, the reserve army of labor provides capital with a critical mechanism for regulating movements in the wage rate. Second, it also provides capitalism with a necessary degree of flexibility.

Unlike neoclassical theorists who find it quite plausible to analyze movements of the system through minuscule changes suitable for the differential calculus, Marx argued that modern capitalist society must essentially be characterized as a system that is prone to sudden fits of expansion and frantic shifts of capital from one branch of production to another. Thus, "in all such cases, there must be the possibility of throwing great masses of men suddenly on the decisive points without injury to the scale of production in other spheres. Overpopulation supplies these masses" (Marx 1867, 632). Normal periods of accumulation therefore generally require both significant degrees of reserve capacity in industrial plant and a sizable reserve army of labor. Indeed, even in exceptional periods of accelerated accumulation, there is no necessary guarantee that full capacity utilization will imply full employment.

> The industrial reserve army, during the periods of stagnation and average prosperity, weighs down the active labour-army; *during the periods of overproduction and paroxysm, it holds its pretensions in check*. Relative surplus-population is therefore the pivot upon which the law of demand and supply of labour works [emphasis added]. (Marx 1867, 639)

Finally, at the empirical level it is difficult to argue that capitalism has exhibited any kind of tendency toward full employment even within the era of modern state intervention.[30] Even in the best of periods between

[30] As noted in the previous chapter, the chronic presence of involuntary unemployment has actually persuaded some neoclassical economists (i.e., efficiency wage theorists) to suggest that there may be some merit to Marx's claim that unemployment is a necessary "worker discipline device" (Shapiro and Stiglitz 1984). Unfortunately, however, Marx's causal argument has been turned on its ear. As we have just seen, Marx argues that the reserve army is the result of rising labor intensity via mechanization and the peculiar dynamics of the aggregate labor market. Moreover, the combined action of mechanization and the reserve army exerts substantial *downward* pressure on wage rates. Yet, in efficiency wage theory, unemployment is supposedly generated by capital's need to *raise wage rates* above the market clearing level in order to induce workers not to shirk.

1950 and 1969, when state intervention appeared to be most effective, the official unemployment rate averaged 4.2 percent—despite two wars. Since that time, unemployment rates have begun to increase secularly as the average rate between 1975 and 1984 moved up to 7.5 percent (Kaufman 1986, 532).

Unlike the official unemployment rate, however, Marx's discussion of the reserve army includes both workers who are discouraged by continual failures to secure employment and underemployed workers who can only find part-time or irregular full-time employment. And, as radical economists have repeatedly pointed out, the inclusion of these groups of workers increases the official unemployment rate significantly. In June 1983, the official unemployment rate reached a post–World War II high of 10.4 percent. When the BLS estimates for discouraged workers and part-time workers seeking full-time work are included, however, the "underemployment" rate jumps up to 14.8 percent.[31]

Even more striking, if the alarming growth of involuntary part-time work is taken into account when evaluating the so-called "jobs boom" of the 1980s, Mishel and Frankel (1991) show that "the rate of underemployment was essentially the same in 1989 as in 1979, 9.8%" (1991, 129). Thus, in sharp contrast to the "full employment" claims of the neoconservatives, these writers argue that "the trend toward part-time and temporary work and the growth of multiple job holdings has placed, along with unemployment, at least a fifth of the workforce in situations of labor market distress" (1991, 129).

In conclusion, it is interesting to note that even in the boom years of the early 1950s when almost anything seemed possible, a few courageous institutionalists argued that any meaningful analysis of the aggregate labor market had to accept the reality of chronic underemployment. Thus, in 1951, Lloyd Reynolds impatiently defended his assertion that underemployment is the realistic norm despite government efforts to eradicate it.

> I am aware that some economists are annoyed by this sort of statement. In support of it I would point out that, except for war and immediate postwar years, the rate of full-time unemployment among manual workers has typically been in excess of 5 percent; that the amount of part-time unemployment proba-

[31] See *Dollars and Sense*, June 1983.

> bly approximates the amount of full-time unemployment in most years; that there are many additional workers who would enter (or remain in) the labor force if jobs were available to them; that there is a large chronic surplus of workers in agriculture, as well as much disguised unemployment in relatively unproductive urban occupations. When one considers all these things, it is amazing that anyone should deny the prevalence of underemployment. (1951, 246)

On the Necessity of Worker Resistance

Once careful attention is paid to the dynamics of capitalist accumulation that are largely derived from the production of absolute and relative surplus value, the neoclassical visions of perfect equity and full employment within the labor market are replaced by a very different view. From Marx's historical analysis of primitive accumulation we discover that an essential precondition for the "free" labor market is the virtual class monopoly of the means of production by a small minority of the population. And from his analysis of the central dynamics of modern capitalist accumulation, we find increasing rates of exploitation, the continual degradation and deskilling of labor, and the constant reproduction of a growing reserve of unemployed workers who are forced to live under the most brutal and inhumane conditions. Marx therefore concludes his discussion of the general law of capitalist accumulation with one of his most scathing indictments of the highly acclaimed "free" labor market.

> The law, finally, that always equilibrates the relative surplus population, or industrial reserve army, to the extent and energy of accumulation, this law rivets the labourer to capital more firmly than the wedges of Vulcan did Prometheus to the rock. It establishes an accumulation of misery corresponding with accumulation of capital. (Marx 1867, 645)

Of course, given this very different analysis of the laws of the capitalist labor market, Marx also had a very different view of the role of trade unions and class struggle. Within this setting, the economic and political organization of the working class could hardly be seen as "suboptimal," irrational, or counterproductive. Quite the contrary, worker organization and resistance were absolutely essential in order to guarantee that capital would not use its monopoly of the means of production to reduce the working class to subhuman conditions (Marx 1849, 1864, 1865, and 1867).

During the initial stages of modern industry in England from 1780 to the 1860s, we have already seen what becomes of the working class when capital truly has a free rein within the labor market. In the midst of unprecedented leaps in the productivity of labor, wages and working conditions deteriorated so severely that the state had to intervene in order to place certain minimal restrictions on the length of the work day and child labor.[32] Thus, if there is any merit at all to the neoclassical claim which suggests that increases in the productivity of labor will automatically raise the standard of living of the laborer, it can certainly not be made for the period when capital truly had an unfettered rein in the labor market. In fact, there is substantial evidence indicating that real wages did not begin to rise significantly until the trade union movement became effectively organized in the second half of the nineteenth century. Before this period, real wage rates were continually forced down to bare subsistence, and often below it (Emmanuel 1972).

Also contrary to neoclassical theory, *Capital* contains a number of striking passages from both state inspectors and factory owners which clearly show that the heralded forces of capitalist competition were anything but the guardians of labor. It was often this very competition that compelled many individual capitalists to exploit labor to degrees that even they could not easily justify. For example, a Children's Employment Commission Report of 1863 states that "in Birmingham there is so much competition of masters one against another, that many are obliged to do things as employers that they would otherwise be ashamed of."[33] In other passages Marx also notes that periods of enhanced capitalist competition during downturns in the industrial cycle often pushed the wage rate below the value of labor power.[34] Thus, for Marx, real capitalist competition (as opposed to "perfect" competition) clearly had a very different role to play within the labor market. As he noted a number of times, "free competition" merely "brings out the inherent laws of capitalist production, in the shape of external coercive laws having power over individual capitalists".[35] (Marx 1867, 270).

Within this far more realistic assessment of the dynamics of competition and accumulation within the aggregate labor market, class struggle and the organization of trade unions become an absolute necessity not because of "imperfections" in the capital and/or labor markets, but because of the essential dynamics of competitive capitalism. Or, to put it another way, *labor suffers not because the laws of competition and accumulation are being inhibited or restricted, but because these laws work far too well in the service of capital.*

[32] During this period Marx argued that "Apres moi le deluge!" was the "watchword of every capitalist nation. Hence capital is reckless of the health or length of life of the labourer, unless under compulsion from society" (1867, 269). For similar accounts of the abominable conditions of the English working class at this time, see Engels 1844; Hobsbawm 1969; Hill 1969; and Thompson 1968.

[33] Cited in Marx 1867, 453.

[34] See Marx 1867, 270, 453, and 599. See also Marx 1894, 235.

[35] See also Marx 1857, 649–652.

Once worker resistance and state intervention have finally managed to place certain minimal limits on some of the worst abuses of capital, Marx also repeatedly warned that it would be naive to conclude that the necessity for class struggle is thereby eliminated or even slightly diminished. For, as soon as workers let down their guard, any gains that they may have achieved through years of past struggle would be placed at risk.

Unlike all other commodities where the continual deviations of the market price above and below the regulating price will tend to ensure that these products will generally be sold at their true value (or price of production), labor-power must contend with a reserve army even during periods of rapid growth. Thus, while downturns may certainly cause wage rates to fall *below* the value of labor-power, wage rates will not automatically rise above it during upturns. Given these unique dynamics within the labor market, workers must therefore repeatedly struggle just to maintain the customary value of their labor-power over the industrial cycle.

> During the phase of sinking market prices and the phases of crisis and stagnation, the working man, if not thrown out of employment altogether, is sure to have his wages lowered. . . . If during the phases of prosperity, when extra profits are made, he did not battle for a rise of wages, he would, taking the average of one industrial cycle, not even receive his *average wages* or the *value* of his labour.[36] (Marx 1865, 223)

Of course, if workers eventually hope to *increase* their real wage level as labor productivity rises, they will have to wage an even more determined struggle. Once wages rise substantially above the minimum (physical) subsistence level, workers can no longer rely on the state to intervene in order to ensure that an adequate supply of exploitable labor will continually be reproduced. Quite the contrary, in times like the current period when the labor movement is extremely weak and capital has ready access to low-wage reserves around the globe, U.S. workers are unfortunately discovering that the social determinations of the minimally acceptable standard of living are quite flexible *in the downward direction*. They are also discovering that the state can be quite willing to encourage this decline.

As Mishel and Frankel (1991) have pointed out, the past decade has resulted in a serious deterioration in virtually all aspects of working class life. Since 1980, average hourly wages have fallen more than 9 percent and hourly benefits have fallen by almost 14 percent (1991, 1). Furthermore, as a result of cutbacks in government assistance, the erosion of the real value of the minimum wage, and the unprecedented growth of low-wage jobs, a rising fraction of the work force is now earning poverty-level wages [increasing from 25.7 percent in 1979 to 31.5 percent in 1987 (1991, 69)]. Finally, we have also witnessed the reemergence of the dynamics of "absolute surplus value" as increasing numbers of workers are now working longer hours, and more family members are entering the labor force in order to make ends meet.

Contrary to neoclassical theory, this considerable decline in the living standards of the working class has taken place despite continued increases in productivity.[37] As noted in the Introduction, it has also occurred while the salaries of CEOs went up by 19 percent and the wealthiest one percent of the population saw their incomes grow by 74 percent! (1991, 25, 119). Thus, from this writer's standpoint, Marx's claim that "the periodical resistance on the part of the working men . . . is inseparable from the wages system" still retains a great deal of merit (1865, 224).

Capitalist Accumulation and the Limits to Rising Wage Rates

Once we have recognized that class struggle is a necessary part of the wage system, we must also inquire into the limits of this struggle. Consequently, we finally arrive at our original question concerning the limits to rising wage rates within the dynamics of capitalist accumulation. And, now that we have carefully developed our analysis of the underlying dynamics of the aggregate labor market, we are finally ready to address it.

It should be no surprise that the critical question of what workers can potentially accomplish within the confines of Marx's laws of capitalist accumulation is a highly controversial issue. It is somewhat curious, however, that two of the most common interpretations of Marx's argument are diametrically opposed to one another.

As noted earlier, some writers have argued that Marx's analysis of the reserve army clearly implies that Marx subscribed to an iron law of wages whereby real wage levels would be continually reduced to the physical subsistence level *despite worker resistance* (Meek 1967 and Hollander 1984). Yet although this essentially classical argument may have been a component of Marx's earliest discussions concerning the wage level, a number of Marxist scholars have clearly shown that there is very little evidence of an iron law of wages in Marx's later writings.[38] Although

[36] Although some Marxist writers (Rowthorn 1980a) have suggested that wages tend to rise automatically during upturns, Marx clearly argued that workers must fight for these increases. Once we understand that the reserve army continues to keep the "pretensions of the active army in check" even during periods of rapid accumulation, this is certainly a reasonable conclusion (Marx 1867, 639). For a similar interpretation of Marx, see Mandel 1977, 67.

[37] As Mishel and Frankel point out, "Slow productivity growth can only partly explain the slow wage growth of the 1980s. After all, compared to the 1970s, productivity grew slightly faster but real wages fell faster in the 1980s" (1991, 6).

[38] See Rosdolsky 1977; Mandel 1977, 1971; Rowthorn 1980a; Bottomore 1983, 362–63; and Draper 1978. For a useful and largely neutral discussion of this debate, see Cottrell and Darity 1988.

Marx did continue to argue that the dynamics of the labor market would repeatedly tip the balance of power against the worker, he eventually realized that well-organized workers would be able to achieve certain long-run gains in their standard of living. Thus, although Marx clearly suggested that workers would continue to become worse off relative to the wealth that they create for the capitalist, there is no necessary law of *absolute* impoverishment.[39]

At the opposite end of this controversy are the various proponents of the profit-squeeze argument who have generally attempted to suggest that the class struggle is the overriding determinant of movements in the wage level, and not the forces of capitalist accumulation.[40] Thus, the only real constraint on rising wage rates is the ultimate limit of capitalist crisis.

Although some Marxist writers have suggested that "the theory of the profit-squeeze has the considerable merit of bringing the class struggle into the very heart of a theory of accumulation and crisis" (Wright 1977, 217), I will argue throughout this work that it is precisely *how* the class struggle is "brought into" the analysis of accumulation and competition that makes all the difference. Contrary to profit-squeeze arguments, in the remainder of this section we will show that while class struggle is certainly fundamental to movements in the wage rate, these movements are nevertheless limited and regulated by the dynamics of capitalist accumulation.

We have already developed a number of arguments which strongly tend to support Marx's claim that "the very nature of accumulation excludes every diminution in the degree of exploitation of labour, and every rise in the price of labour, which could seriously imperil the continual reproduction . . . of the capitalist relation" (*Capital*, volume 1, 621). One of the most central factors here is the constant downward pressure on the wage level that is exerted by the ever-present reserve army. It is also important to remember that the same process of mechanization which generates both the rising organic composition and the reserve army also tends to lower the level of skill and training required by the average worker. Thus, in addition to losing ground against capital within the labor process, employed workers are also increasingly besieged by competition from workers within the reserve army.

In order to complete our discussion of the limits to rising wage rates, however, there is one key factor that has not yet been discussed in sufficient detail. This is capital's relentless tendency to increase the productivity of labor through the very same process of mechanization.

[39] See Bottomore 1983, 362–63.

[40] In one of the earliest statements of this position, David Gordon suggests that "the dynamics of class division and class conflict have an overriding influence on the determination of income and individual productivity" (see Gordon 1972, 95).

As noted earlier, when increases in productivity take place within industries that are either directly or indirectly connected to the production of workers' means of subsistence, this provides an important limited space for real wages to rise without forcing the value of labor-power to rise. In fact, as long as real wages rise more slowly than labor productivity, the value of labor-power will continue to fall and the rate of surplus value will continue to rise (Marx 1867, 523). Once labor begins to effectively organize, it is therefore possible for workers to achieve certain limited increases in their real wages without seriously impinging on capitalist profitability.

Contrary to any iron law of wages, Marx therefore argued that periods of normal accumulation would generally tend to be accompanied by rising capital intensity and a sizable reserve army, as well as by rising productivity, and the potential for rising real wages. In general, however, Marx remained quite insistent that real wages would not rise as rapidly as productivity. Hence, normal accumulation would also mean a *rising* rate of surplus value despite effective worker efforts to raise their real wage level. "[H]and in hand with the increasing productivity of labor, goes as we have seen, the cheapening of the labourer, therefore a higher rate of surplus value even when the real wages are rising. The latter never rise proportionally to the productive power of labor"[41] (Marx 1867, 604). The reasons for Marx's argument should now be clear. Even in periods of rapid accumulation and relatively high labor demand, there is still a sizable number of unemployed workers who are in serious need of employment. Thus, in order for workers to raise their wage rates at all, they must constantly maintain a certain level of effective organization. To push wage rates beyond the limits of productivity growth and hence capitalist profitability, however, workers would require a qualitative leap in their degree of organization and consciousness. As we argued earlier, in the exceptional case where workers do somehow manage to achieve the strength to begin to push wage rates beyond the normal limits of capitalist accumulation, the tempo of accumulation will decelerate and the mechanization of production will tend to accelerate. And of course, both of these tendencies will tend to increase the size of the reserve army. Thus, not only would actively employed workers have to develop an exceptionally high degree of solidarity with those who continue to be unemployed, but they would have to maintain that solidarity and their militant demands for ever higher wage rates in the face of the *increasing threat of layoffs*.[42]

[41] See also Marx 1894, 240.

[42] In some wage-squeeze explanations for the secular crisis beginning in the late 1960s, it is argued that falling levels of unemployment and a rising "social wage" (i.e., unemployment insurance, AFDC, etc.) greatly reduced the "costs of being fired" (see Gordon, Bowles, and Weisskopf 1979, and Schor 1987). Thus, with the reserve army effect sharply weakened,

Long before the system is brought to the point of serious crisis by rising wage rates, it is quite likely that the dynamics of capitalist accumulation will have already placed a "check" on the rise in wage rates.[43] Even in the case of the most militant unions, wage demands will be painfully brought back into line as the laws of accumulation begin to be asserted in an increasingly direct manner. Finally, although we can not develop this point here, it is important to recognize that movements in the wage rates of any particular industry will also be fundamentally constrained by the conditions of capitalist competition.

In response to this argument, class struggle theorists may nevertheless argue that it is precisely during these moments when workers have achieved such a high level of organization and consciousness that they will also be ready to step outside of the descending limits of the system by seizing control of the means of production. For reasons that have already been stated, however, we suggest that this is also an unlikely scenario. Not only would it become increasingly difficult to maintain the militant demand for higher wages in the face of rising layoffs, but within the above scenario, capitalist arguments for wage concessions would become quite persuasive. Indeed, within this profit-squeeze scenario, excessive increases in wage rates supposedly have precipitated the deepening economic crisis in the first place.

It is much more plausible to argue that workers will achieve a clearly anticapitalist consciousness (as opposed to merely trade union consciousness) in a period when the accumulation process has been brought to crisis as a result of its own internal contradictions. Within this situation of general crisis, workers will be facing the hardships of unemployment not because wages were pushed "too high," but because the maximization of profitability has met its own internal limits due to the rising organic composition of capital.[44]

In this case, capital's calls for the moderation of working class demands

workers were supposedly emboldened to push the system into crisis. Indeed, these writers argue that workers not only forced wage rates up, but they also firmly resisted capital's efforts to increase productivity. In addition to providing very weak evidence for this crisis-provoking, widespread labor revolt in the late 1960s, these arguments grossly underestimate the real economic and psychological costs of losing one's job—particularly within this country. Like neoclassical economists, they sidestep the considerable difficulties of finding another job after a worker is fired for "insubordination" and other forms of worker militancy. They also ignore the very real possibility of losing ones' mortgaged home and financed car, as well as one's pension and vacation benefits, seniority rights, and health insurance. Finally, as we will see at the conclusion of this chapter, the evidence suggesting that wages rose more rapidly than productivity is also quite weak. For very different accounts of the short-lived worker resistance in the late 1960s, see Davis 1986 and Moody 1988.

[43] For excellent critiques of the profit-squeeze argument as a theory of general capitalist crisis, see Yaffe 1973; Shaikh 1978; and Weeks 1981.

[44] See Marx, *Capital*, vol. 3, part 3.

will have very little rationale and are far more likely to be resisted. As the crisis eventually unfolds and capital begins to mount an all-out attack on the wages and conditions of the working class in order to restore profitability, extremely militant class struggle will be required just to allow workers to hold onto the modest gains that have been achieved in the past. It is within this scenario that workers will truly have very little to lose by stepping outside of the limits of the system. On the contrary, they will have everything to gain. For Marx, it was clearly this type of historical conjuncture that promised to be the most pregnant with revolutionary possibilities (Marx and Engels 1848b, 45).

Empirical Evidence for Limits to Rising Wage Rates

Even the most powerful logical arguments must eventually be able to explain the real underlying patterns in concrete reality. Here, once again, Marx's arguments appear to be extremely useful. Although some writers have argued that empirical evidence suggests that a wage-profit-squeeze is the underlying cause of the current, prolonged capitalist crisis that began in the late 1960s,[45] other empirical investigations have strongly supported Marx's general argument. In order to confirm Marx's argument, however, Keynesian income accounts must be systematically transformed so that they will more closely correspond to Marxian value categories.

Once careful attention is paid to the critical distinction between productive and unproductive labor, and the Marxian categories of surplus value, constant capital, and variable capital are properly measured at the aggregate level, it can be shown that the rate of surplus value has actually been rising throughout most of the post–World War II period (Shaikh 1987 and Mosley 1987). Shaikh's empirical work suggests that productivity consistently rose faster than the real wages of productive workers throughout the postwar period between 1947 and 1985. Using the ratio of productivity to the real wages of productive workers as an index of Marx's rate of surplus value, he also shows that this index rises by 46 percent. Consistent with Marx's argument concerning the mechanization of the production process, Shaikh further shows that the ratio of capital to production workers' wages (i.e., Marx's "value composition of capital") rose by 103 percent over the same period. Thus, just as Marx's tendency of the falling rate of profit predicts, Shaikh concludes that the U.S. profitability crisis was primarily caused by a long-run rise in the organic composition of capital—not rising wage rates.

Mosley's (1987) study arrives at similar conclusions. Although Mos-

[45] For the original profit-squeeze argument that developed within the context of Great Britain, see Glyn and Sutcliffe 1972. The most detailed argument for the U.S. crisis has been developed by Bowles, Gordon, and Weisskopf 1983. See also Weisskopf 1979; Schor 1987; and Bluestone and Harrison 1990a.

ley's calculations suggest that the rate of surplus value fell slightly between 1965 and 1982, he estimates that the overall increase in the rate of surplus value between 1947 and 1982 was approximately 35 percent. Mosley also calculates that there was a 46 percent increase in the organic composition of capital over this same period. Thus, he too finds strong support for Marx's original arguments. While debate over the empirical evidence for all of these phenomena is bound to continue, it is certainly fair to say that Marx's arguments can not be easily dismissed. Indeed, when one considers all of Marx's long-run predictions regarding the concentration and centralization of capital, the mechanization and deskilling of the labor process, the constant reproduction of a reserve army of labor, the falling rate of profit, and the necessity of periodic general crises, his analysis of the "laws of motion" of the capitalist economy is really quite impressive.

CHAPTER 4

Wage Differentials and the Aggregate Labor Market

IN THE PREVIOUS chapter, we abstracted from both the differentiation of capital and the differentiation of labor in order to derive the central tendencies of capitalist accumulation within the aggregate labor market. By following Marx's procedure in the first volume of *Capital*, we were able to discover how the dynamics of capitalist accumulation continually tend to reproduce a reserve army of labor. We also saw how movements in the real wage level generally tend to be limited by very particular movements in the productivity of labor (i.e., those directly and indirectly associated with the production of workers' means of subsistence).

In sharp contrast to the neoclassical method of abstraction, the purpose of this highest level of abstraction was not to set up an idealized set of laws or properties that will only operate effectively under extremely limited and equally idealized sets of conditions. Rather, it was necessary to reveal our first set of *real* underlying forces that will continue to channel and regulate the movements of other, more concrete determinants of wage rates as they are subsequently introduced. Moreover, our success in developing a systematic analysis of inter- and intraindustry wage differentials will partly depend on our ability to keep track of these regulating dynamics as they continue to work their effects in an increasingly complex manner at each successive stage of analysis.

Now that we have explained how the laws of accumulation will tend to limit movements in the wage *level*, we are ready to begin our analysis of wage *differentials*. Although most writers have assumed that Marx's analysis of the equalization of wage rates among comparable workers is very similar to neoclassical theory, we will show that a careful development of Marx's discussion of competitive wage determination reveals something quite different. Once Marx's distinctive analysis of both the aggregate labor market and capitalist competition has been examined, it will become clear that Marx's discussion of wage equalization allows for the development of numerous patterns of substantial and persistent wage differentials within clearly defined limits. Thus, as in our previous discussion of the regulation of the general wage level, the key to understanding the dynamics of wage differentiation will once again require the notion of *systematic variation within limits*.

This chapter will continue to concentrate on Marx's dynamic analysis of the aggregate labor market in order to show that the constant presence

of underemployment has profound consequences for labor market competition, labor mobility, and the general dynamics of wage equalization. Although most radical and/or Marxist writers have incorporated certain elements of Marx's analysis of the reserve army within their own discussions of the aggregate labor market, few have recognized the critical importance of the reserve army for the development of inter- and intraindustry wage differentials. The main contribution of this chapter will therefore be to show that important foundations for differential wage phenomena can actually be developed even at this fairly abstract level of analysis. Chapter 5 will then present the more concrete discussion of capitalist competition and the continual reproduction of differential profit rates.

Capitalism's Active and Reserve Armies—Differentiation and "Segmentation" in Their Most Basic Forms

Before we discuss the more particular problem of wage differentials among homogeneous workers, it is essential to recognize that Marx's analysis of the complex interaction between the active labor army and the various sectors of the relative surplus population establishes the basis for a far more general process of differentiation that affects virtually all conditions of working class life. It will also be important to show that this general process of differentiation is an integral part of Marx's general law of accumulation, which is developed in chapter 25 of *Capital.*

Abstracting from the short-run employment effects of the industrial cycle, Marx utilizes the degree of access to stable, full-time employment as the primary criterion for defining four groups of workers who make up the "relative surplus population" [or, the reserve army of labor (Marx 1867, 640–44]. The first sector of the reserve army is the *floating* sector, which is mainly attached to "the centers of modern industry." Although this group is not clearly defined by Marx, these workers appear to act as a reserve labor force for relatively stable modern industries that must nevertheless respond to constant changes in market conditions by adjusting their output and employment levels accordingly. The attachment of these workers to the active labor army is therefore characterized by constantly interrupted periods of employment as they are continually "repelled and attracted." In Marx's time, this sector also included large numbers of young men who were systematically discharged and replaced when they reached the "age of maturity" (Marx 1867, 641).

The second component of the reserve army is provided by the *latent* surplus population, which is "constantly on the point of passing over into an urban or manufacturing proletariat, and on the look out for circumstances favorable to this transformation" (Marx 1867, 642). In the 1800s, this latent source of surplus labor was mainly provided by the

continuing expulsion of the agricultural population under the weight of modern industry. For the agricultural laborer who was most directly threatened by the actual or potential unleashing of these latent reserves, wage rates were generally reduced to the lowest possible levels.

The third category of the relative surplus population is not on the verge of entering the labor force, nor is it primarily defined by high degrees of mobility between various modern industries. Rather, it is the *stagnant* sector, which "recruits itself constantly from the supernumerary forces of modern industry and agriculture" and especially from those "decaying branches of industry" that are being gradually phased out by mechanization (Marx 1867, 643). Like the floating sector, here again we find a group of workers who only periodically form part of the active labor army, but with much less regularity and under far less advantageous circumstances. Thus, Marx notes that these unfortunate workers:

> [F]urnish to capital an inexhaustible reservoir of disposable labour power. Its conditions of life sink below the average normal level of the working class. This makes it at once the broad basis of special branches of capitalist exploitation. It is characterised by maximum of working-time, and minimum of wages. (Marx 1867, 643)

Finally, there is the "lowest sediment of the relative surplus population," which dwells in the sphere of *pauperism.* This group includes both those who are able to work but who are only called upon during the height of the industrial cycle, and those who are no longer able to work on a steady basis.[1] Although we cannot examine these sectors of the surplus population in any detail here, it is important to recognize that Marx's analysis of these different components of the unemployed is quite distinct from modern neoclassical discussions of frictional and structural unemployment. Unlike neoclassical theory, Marx is not primarily describing groups of workers who are *temporarily* passing through periods of heightened discomfort and instability before they go back into the work force armed with the appropriate new skills. Indeed, he argues quite adamantly against the apologists of his time who conveniently assumed that these displaced workers were only momentarily placed in a disadvantaged position (Marx 1867, chap. 15, sec. 6).

Within Marx's more realistic assessment of the plight of the unemployed, workers who lose their jobs due to mechanization or the permanent decline of their original sectors of employment are often placed in very difficult circumstances for a large part of the rest of their working

[1] In Marx's time, as in our own, this latter group of disabled workers included the "demoralised and ragged who succumb to their incapacity for adaption due to the division of labour; people who have passed the normal age of the labourer, (and) the victims of industry, whose number increases with the increase of dangerous machinery" (Marx 1867, 643).

lives. This is particularly true for older, skilled workers who are often thrown into competition with younger workers who can work harder and adapt more easily to the ever changing conditions of modern factory work.

Regardless of age and skill levels, however, all of these displaced workers must attempt to reestablish their connection to the active army in a labor market that is generally characterized by an excess supply of labor even during periods of rapid growth. As a result, the competition for scarce jobs can often become quite fierce, and even the most skilled and energetic among the unemployed may find it difficult to reestablish themselves in the active labor army.

For Marx, the "real facts" that were often "travestied by the optimism of economists" were the following:

> The labourers that are thrown out of work in any branch of industry, can no doubt seek for employment in some other branch . . . (But) Crippled as they are by division of labour, these poor devils are worth so little outside their old trade, that they cannot find admission into any industries, except a few of inferior kind, that are over-supplied with underpaid workmen. Further, every branch of industry attracts each year a new stream of men, who furnish a contingent from which to fill up vacancies, and to draw a supply for expansion. (Marx 1867, 441)

From the previous description of the "stagnant" sectors of the reserve army, we should also remember that many of these displaced workers often form the basis for "special branches of capitalist exploitation." Thus, even when these workers do have the good fortune to find other employment, it is frequently with wages and conditions that are significantly inferior to their previous jobs.

Within the past decade, this point has taken on special significance as laid-off workers who have been expelled from key manufacturing sectors in the United States (auto, steel, etc.) are increasingly being forced to accept low-wage jobs in the service sector. According to a 1986 study by Bluestone and Harrison, 40 percent of the approximately 11.5 million industrial workers displaced by plant closings between 1979 and 1984 had not yet found new jobs. Among those who had found employment, two-thirds were working at substantially lower wages. Similarly, Fernández Kelly's (1989) recent study of industrial restructuring in southern California argues that the layoffs of more than 16,000 manufacturing workers in the late 1970s and early 1980s provided a key basis for the subsequent expansion of low-wage employment in the high-tech electronics industry in and around Los Angeles.

Over the past decade, a number of writers have begun to investigate how Marx's analysis of the reserve army may provide an important foundation for understanding the modern processes of segmentation. Some of the most interesting work has attempted to utilize the categories of latent, floating, and stagnant sectors of the reserve army to analyze the particular conditions surrounding the entrance of women and African Americans into the labor force.[2] As noted in the previous chapter, Braverman (1974) and Humphries (1983) have done important work arguing that increasing numbers of women are gradually being forced from the latent to the floating sectors of the reserve army. Friedman (1984) has also developed interesting arguments suggesting that we need to distinguish between Marx's general reserve army and various "reserve labor forces" that service particular industries. Finally, Fernández Kelly (1989) and Sassen (1989) have done very useful work attempting to analyze the growing role of low-wage, immigrant labor in particular U.S. labor markets. Their studies of low-wage labor markets in Los Angeles and New York City clearly show that some of the most horrendous consequences of Marx's reserve army are once again reappearing in the United States as subcontracting, industrial homework, and sweatshop conditions are spreading within growing sectors of the electronics and garment industries.

Far more work must be done in order to extend and deepen Marx's analysis of the various components of the reserve army so that this framework can be more successfully utilized within the contemporary period. Nonetheless, it is important to note that Marx's general argument for the ongoing reproduction of these differentiated groups of workers has two critical implications for his analysis of competition and differentiation within the working class that have often been ignored by radical segmentationists. First, given that this process of differentiation is an integral part of Marx's *general law of capitalist accumulation*, it must also be considered when attempting to assess the current relevancy of Marx's argument concerning capitalism's long-run tendency to homogenize the working class. Second, the presence of these groups of workers who are in various degrees of desperation can often create an intense degree of competition and antagonism between employed and unemployed workers that is not merely generated by capital's attempts to divide and conquer the working class. Thus, as painful as this conclusion may be, we must begin to assess the extent to which employed workers themselves have often played an important role in the sustained differentiation of the working class as they attempt to protect themselves from this intense competition within the labor market.

Before examining the role of workers in the segmentation process in more detail, a few comments on Marx's analysis of the homogenization

[2] See Humphries 1977, 1983; Simeral 1978; Beechey 1978; Rubery 1978, 1988; Rosenberg 1977, 1981; Darity 1982; Friedman 1984; and Mason 1993.

of the working class are necessary. Like most of his arguments concerning the long-run tendencies of the capitalist mode of production, this argument is far more complex than has often been assumed.[3] Although Marx is often accused of suggesting that capitalist development must inexorably lead to a perfectly linear descent to ever lower skill levels, a careful reading of chapter 15 of *Capital* shows that he clearly did not rule out episodes of *rising* skill levels or the development of new processes of skill differentiation. He also recognized that new technologies may sometimes raise the skills of certain groups of specialized workers while they simultaneously lower the skills of many others.

Thus, within chapter 15, Marx notes that the development of modern industry not only creates a vast army of machine operators and attendants, but that it also generates the need for a numerically unimportant "superior class of workmen" who are required to "look after the whole of the machinery and repair it from time to time" (Marx 1867, 420). Marx's key point, however, is that once a new technology is finally rationalized in order to prepare it for mass production, it *will* generally have the long-run effect of deskilling most workers who are forced to utilize it. As we argued in the previous chapter, the development of the capitalist labor process is not a socially arbitrary process based on relative factor prices. On the contrary, mechanization and deskilling are the logical outcome of capital's need to exploit living labor and the necessary antagonisms which flow from that exploitation.[4]

Of greater significance for our present purposes, the above discussion of the various sectors within the reserve army clearly shows that Marx's analysis of the general law of capitalist accumulation is also far more complex than is often assumed. In fact, out of the very same processes of accumulation and mechanization that will tend to deskill workers in the

[3] Marx's argument for the homogenization of the working class is formulated in its most bold and least developed terms in early political tracts such as the *Communist Manifesto*: "The various interests and conditions of life within the ranks of the proletariat are more and more equalized, in proportion as machinery obliterates all distinctions of labour, and nearly everywhere reduces wages to the same low level" (Marx and Engels 1848, 43).

[4] Although Braverman has also been accused of arguing for a linear process of deskilling, his analysis of the modern effects of mechanization and computerization shows how skill levels are sometimes raised in the short run before capital has developed an effective way to rationalize these new processes. But as computers were eventually introduced on a mass scale, Braverman also shows how highly skilled computer programmers were increasingly replaced by less skilled programmers who required only a few weeks training and who were accompanied by a vast array of keypunch operators (Braverman 1974, chapter 15). Since Braverman wrote his book, we have seen this deskilling process continue as computer programmers are being further displaced by computer operators who can now run sophisticated canned programs with only a few days of training. Indeed, even the skills required for computer repair are gradually being diluted with the introduction of automatic diagnostic tests and modular replacement parts.

long run, there comes a profound process of *continual redifferentiation within these narrowing limits*. What results is an increasingly deskilled work force and a constantly redifferentiated working class. This is a working class that necessarily includes very different groups of workers who are not only being thrown from "pillar to post" as their connections to stable employment are repeatedly disrupted, but who are also being forced to reestablish those connections under very different sets of circumstances.

Thus, contrary to the arguments of many segmentationists, the modern rediscovery of these continually reproduced pools of chronically low paid workers does not necessarily require the construction of a qualitatively "new stage of accumulation" within the era of "monopoly capital."[5] Nor does it require us to reject the validity of Marx's extremely important argument concerning capitalism's long-run tendency to homogenize the working class in terms of skill levels.

Before we have even begun to develop our argument concerning capitalist competition and the differentiation of capitals, we can already begin to see that many aspects of "segmentation" within the modern working class may merely be the most modern expressions of the contradictory aspects of the general law of capitalist accumulation. Viewing the modern process of segmentation within this light would also help to explain why many of the segmentationists' descriptions of the modern "secondary labor market" curiously bear such a striking resemblance to Marx's discussions of the floating and stagnant sectors of the reserve army in the nineteenth century.[6]

The Role of Workers in the Segmentation Process

Once we have established that capitalist accumulation both deskills labor and generates a sizable reserve army, we must also recognize that actively employed workers who are attempting to protect (and improve) their standard of living must conduct their struggle against capital on two main fronts. In addition to resisting capital's attempts to deskill and intensify labor at the point of production, workers must also find ways to protect themselves from capital's ready reserves of unemployed workers within the aggregate labor market.

As labor movements have developed within all capitalist economies (but particularly within the United States), one of the most vexing problems has been that on both of these fronts, workers' immediate short-run

[5] As noted in chapter 2, the main proponents of this argument are Gordon, Edwards, and Reich 1982.

[6] For an even earlier description of these pools of chronically low-paid workers, see J. S. Mill 1848.

attempts to protect themselves have often had very negative long-run effects on workers who have been excluded from these efforts. Thus, not only have these short-run actions frequently led to further differentiation within the working class, but they have often had the unintended effect of undermining working class solidarity and organization in the long run. Ultimately, both the short- and long-run effects of these struggles have largely depended on the particular methods that organized workers have developed in order to protect themselves both inside and outside of the workplace.

In the United States, organized workers have historically moved in two very different directions. On one hand, "pure and simple" trade unions such as the old AFL craft unions have tended to develop very *exclusive* and highly undemocratic forms of organization that have often led to very harmful forms of segmentation. Indeed, in their negotiations with capital, these business unions have frequently managed to secure their privileged status within the working class in exchange for maintaining both tight control over their own memberships and a firm commitment *not to organize* wider groups of workers. At the other end of the spectrum, labor organizations such as the Knights of Labor in the 1880s and the CIO in the 1930s tended to pursue far more *inclusive* and democratic strategies that attempted to minimize the possibilities for segmentation by organizing workers as widely as possible. Within these far more solidaristic forms of organization, workers achieve their power primarily from their ability to disrupt production on the shop floor and withdraw their labor power during strikes. Thus, strong rank-and-file participation has always been an essential element of their success. Moreover, the more inclusive and classwide these organizations become, the more effective they are in confronting capital.

In order to more clearly illustrate how these divergent organizational paths can have quite different effects on the degree of segmentation within the working class, the remainder of this section will briefly present several key examples of how unions have historically developed different kinds of strategies for defending themselves inside and outside of their own workplaces.

Within the workplace, the harmful effects of mechanization and deskilling have often been partially offset by unions that have managed to force employers to continue to recognize highly structured job classification systems and training programs that are no longer required by capital. When these classification systems are successfully transformed by democratic unions that force management to adhere to equitable job bidding procedures based on plantwide seniority rights, they have often been an effective way to block capital's increasing dominance on the shop floor. As Rubery (1978) points out:

> [T]he existence of a structured labour force, where jobs are strictly defined, and workers are not interchangeable, provides a bargaining base for labour against management's attempts to increase productivity and introduce new technology. Changes in job ladders, skill demarcations and the pace of work become areas for bargaining, whereas a homogenous labour force, interchangeable in function, would lay itself open not only to competition from the external market but also to further declines in workers' control of production and a continuous undermining of bargaining power.[7] (Rubery 1978, 29)

To the extent that wage differentials are restricted to those justified by real skill differentials and capital's efforts to discriminate are effectively blocked by a democratic seniority system, this inclusive method of worker differentiation on the shop floor can be a valuable method of worker control with positive short- and long-run results.

Within a different context, however, these classification systems can also have very negative consequences. To the extent that unions become undemocratic, unwarranted wage differentials begin to appear, and various forms of worker and employer discrimination begin to proliferate, these structures will tend to degenerate into mechanisms for protecting privileged sectors at the top of the job ladder at the expense of those at the bottom. Moreover, these policies will not only harm those workers who are denied access to better jobs, but they will ultimately undermine the long-run organization and solidarity of the union.[8]

Outside of the workplace, worker efforts to shield themselves from competition from the reserve army are another potential source of sustained differentiation within the working class. If a sizable reserve army is constantly reproduced within the aggregate labor market, then the efforts of employed workers to ensure that they are not repeatedly thrown back into that reserve army may also have very negative effects on those workers who are currently unemployed. Indeed, the stabilization of one group of workers within the active army can often lead to the stabilization of other groups within the reserve army.

[7] Within labor market segmentation theory, elaborate job hierarchies are primarily assumed to be the result of capital's conscious attempts to divide and conquer the working class. Rubery was one of the first radical labor economists to criticize segmentationists for failing to recognize that the differentiation of labor through these rigid job classification systems is often the result of *labor's* defensive actions *against capital*. Another good way to see which side has ultimately been benefiting from many of these rigid classification systems is to witness the recent all-out attacks on these systems by U.S. capital. See "Work Rules Overtaking Pay as Key Labor Talk Issue," in *New York Times*, October 26, 1986. See also Slaughter 1983 and Katz 1986.

[8] Useful discussions of the long-run necessity for democratic procedures within unions that wish to remain effective can be found in Freeman and Medoff 1984 and Moody 1988. For a concrete example of how union-sanctioned job classification systems can sometimes exclude workers on the basis of race and gender, see Williams and Smith 1990.

As a growing number of writers have recently suggested, we must finally begin to recognize that the efforts of employed workers to build shelters from competition within the labor market may play an important role in the segmentation process.[9] Moreover, if these shelters exclude certain groups of workers on the basis of race, gender, or ethnicity, they can have extremely harmful and very prolonged effects on those who have been excluded. Once again, however, these negative effects will largely depend on precisely how these shelters are being constructed and on how widely the working class is organized.[10]

As Rubery (1978) and Wilkinson (1981) have noted, worker attempts to construct shelters from labor market competition go back as far as the development of craft unions themselves. Thus, they are clearly not a new phenomenon unique to the era of "monopoly capital." As already suggested, within the United States this form of worker-generated segmentation developed some of its most antagonistic and negative forms in the early stages of the labor movement when AFL craft unions actually blocked the entrance of new laborers by controlling apprenticeship programs. It is also well known that many of these craft unions tended to play (and still do play) a leading role in the practice of racial exclusion.[11] Similarly, many of the early union struggles to achieve a "family wage" were often based on the attempt to control and limit the supply of female labor. Thus, as Humphries has correctly noted, while the British working class as a whole was able to achieve important gains in higher wage rates and the protection of the working class family, it often did so by "reinforcing sex-based relations of domination and subordination" (Humphries 1977, 158).[12]

As modern mechanization and deskilling began to force masses of unskilled workers into the industrial labor force, however, craft unions increasingly lost their ability to control labor supply in any form. Despite numerous short-sighted and highly divisive attempts by AFL unions to block the organization of the unskilled, new industrial unions were eventually developed on a much broader basis.

[9] See Bonacich 1972, 1980; Freedman 1976; Hartmann 1976; Rubery 1978; Friedman 1984; Darity and Williams 1985; Botwinick 1988; Williams 1991; and Mason 1993.

[10] In some of the earliest theoretical discussions of worker-generated segmentation, writers sometimes argued that the interests of unionized white males were necessarily and invariably opposed to the interests of female and black workers who were often excluded from their unions (Hartmann 1976 and Bonacich 1972). More recently, writers like Milkman (1980) have examined the historical record to show that unions have actually behaved very differently within varied historical contexts. Milkman has further shown that the type of union organization (i.e, craft vs. industrial) has also played a critical role in determining how organized male workers have ultimately responded to the rights and concerns of female workers.

[11] See Herbert Hill 1968; Spero and Harris 1972; and Foner 1974.

[12] For useful discussions of the "family wage" and other gender-related issues within the early AFL unions, see May 1987 and Milkman 1980. See also Foner 1982.

Within these more modern forms of labor organization that finally achieved some measure of stability in the 1930s, workers have not primarily attempted to block the entrance of new laborers into their trades. Rather, they have attempted to impose certain conditions of entry *on capital*. Thus, rather than hampering capital's efforts to hire additional workers, industrial unions have more appropriately tried to prevent capital from using these new workers to either replace those already employed or to undercut established wage rates.

In the United States, this type of industrial unionism achieved its strongest and most inclusive form with the development of the Congress of Industrial Organization (CIO) in the 1930s. Due in part to the organizational needs of the times and in part to the key role of leftists and other militant activists, divisions between employed and unemployed, male and female, and black and white workers were significantly reduced.[13] The new industrial unions combined their efforts to organize within the shop with equally serious efforts to organize nationwide demonstrations to demand decent jobs and adequate social services for the unemployed. Moreover, these unions attempted to organize workers across a wide variety of industries and pursued a solidaristic wage policy which greatly reduced wage inequality between and within these industries. Finally, although CIO leaders clearly could have done more to fight discrimination within their ranks, there is little question that "CIO practice on race and sex discrimination was much more advanced than that of the AFL craft unions" (Moody 1988, 23).[14]

Thus, with the potential for long-term segmentation significantly reduced, union organization took its most progressive and most effective form in the 1930s and 1940s. A testament to the labor movement's success in bridging these divisive gaps was its ability to organize the most powerful unions in U.S. history during a period when unemployment rates were extremely high.

Unfortunately, the political and economic organization of the working class does not proceed in a neatly linear fashion toward ever higher levels of solidarity, class consciousness, and classwide organization. There are often serious setbacks as political and/or economic conditions change and capital regains the upper hand. It is also within these periods of retreat with weak organization and weak leadership that unions are most

[13] See Foner 1974; De Caux 1970; Davis 1986; and Moody 1988.

[14] As Moody has accurately pointed out, "The practice of the CIO leadership in fighting race and sex discrimination was limited. It did not include any conception of affirmative action. Most important at the time, it did not include an activist policy of fighting discrimination within industry or even the union. The CIO leaders opposed the 'hate strikes' of 1943, but they did not put the weight of the union hierarchy behind the promotion of blacks or women into the better jobs" (Moody 1988, 23). For a more detailed account of the CIO record on gender issues, see Milkman 1980 and Foner 1982. On the issue of racial discrimination and the CIO, see Foner 1974 and Meier and Rudwick 1979.

likely to pursue short-run goals that attempt to maintain their declining memberships at the expense of those outside of the existing union structures. And, of course, these short-sighted, opportunistic tactics often have very negative long-run implications for the organization of the working class as a whole.

As several trenchant analyses of the current crisis within the U.S. labor movement have pointed out, one of the most critical periods of union retreat, which has continued to have very negative effects on labor today, actually took place in the late 1940s and 1950s. During this period, the vibrant social unionism of the original CIO was eventually replaced by a new form of business unionism that Mike Davis has appropriately termed "an unholy amalgam of craft and industrial union principles" (Davis 1986, 95). Although space does not permit us to go into great detail here, several key factors laid the foundations for this unfortunate transformation.[15]

As Moody (1988) has pointed out, some of the initial seeds for the decline of social unionism took place during World War II when the CIO unions were increasingly bureaucratized by the highly formalized industrial relations system that was set up by the War Labor Board. The second critical factor was the passage of the Taft-Hartley Act in 1947. In addition to aiding the deradicalization of the CIO by requiring all trade union officials to sign noncommunist disclaimers, this act carefully outlawed many of the solidaristic tactics that had made the CIO so effective in the 1930s. With one stroke of the pen, sympathy strikes, secondary boycotts, wildcat strikes, and mass picketing were all declared illegal. Equally important, the "right to work" provision of Taft-Hartley helped to create a vast nonunion getaway for U.S. capital within the nation's hinterlands and particularly in the South.

The final factor that greatly weakened the CIO was the massive political repression of leftists and other labor militants which ultimately resulted in the expulsion of eleven CIO unions in 1950.[16] As Davis points out:

> The anti-communist inquisition within the CIO, in particular, produced a staggering series of losses: the "deunionization" of the electrical and textile industries, the destruction of promising beachheads in the tertiary, professional and agricultural sectors, and the collapse of "Operation Dixie."[17] These reverses, in turn, had long-range effects on the structure of both the working class and of the trade-union movement in the 50s and 60s. (Davis 1986, 94)

[15] Excellent discussions of these critical historical factors can be found in Davis 1986; Goldfield 1987; and Moody 1988.

[16] For more detailed accounts of the negative and often tragic effects of the anti-communist purges, see DeCaux 1970; Emspak 1972; Caute 1978; Levenstein 1981; Davis 1986; and Moody 1988.

[17] Operation Dixie was the largely unsuccessful attempt by the CIO to organize the South that began in 1946. Goldfield (1987) argues that the CIO's failure to organize the South was the "central cause of the political weakness of U.S. labor unions, and the underlying reason for their generally defensive stance" (1987, 238).

Of particular importance to our current discussion of worker-generated segmentation, Davis goes on to argue:

> [T]he failure to extend union organization to the rapidly expanding female clerical proletariat and to Southern workers in general formed the basis for a new hierarchization and segmentation of the working class. Henceforth, the old ethno-religious dimension of working-class stratification, although scarcely abolished, lost primacy to racial and sexual division in the workforce. Similarly, skill differentials became relatively less important overall than union organization and the incorporation into the generalized norm of mass consumption from which most Blacks, Southern workers and female breadwinners were excluded. (Davis 1986, 95)

After we have completed our discussion of capitalist competition and the general dynamics of competitive wage determination in chapters 5 and 6, we will return to the issue of worker-generated segmentation. There we will show that the combined effects of highly uneven worker organization and the ongoing dynamics of capitalist competition can provide a powerful alternative explanation for the rather pronounced interindustry wage differentials that have persisted within the United States throughout most of the post–World War II period. We will also argue that the failure to continue to build militant and democratic forms of social unionism which could have brought many more workers into the folds of organized labor lies at the heart of the labor movement's current inability to defend itself against the growing pressures of capitalist competition—both domestic and international.

For now, however, the key point being established here is that workers' defensive attempts to contend with capital both inside and outside of the workplace can often lead to various degrees of labor market segmentation. This is one of the primary reasons that socialists have traditionally warned against the limits of "pure trade unionism" and have repeatedly argued for additional forms of political organization which are better equipped to bridge these divisions that so often appear between the employed and unemployed and the organized and unorganized.[18]

Although both Marx and Engels were generally quite optimistic about the labor movement's ultimate ability to bridge these gaps,[19] they also

[18] For eloquent arguments on the crying need for a labor party within the United States, see Mazzocchi 1983; Moody 1988; and Davis 1986.

[19] See Marx's Inaugural Address to the International Workingmen's Association, 1864.

understood that the intense competition between workers in the labor market was a very serious problem that would not be easily overcome. Thus, in the *German Ideology* they pointed out:

> Competition makes individuals, not only the bourgeois but *still more the workers*, mutually hostile, in spite of the fact that it brings them together. Hence it is a long time before these individuals can unite . . . To demand the opposite would be tantamount to demanding that competition should not exist in this definite epoch of history, or that the individuals should banish from their minds relationships over which in their isolation they have no control [emphasis added]. (Marx and Engels 1848a, 58)

In their efforts to combat neoclassical economists who are repeatedly attempting to blame all forms of discrimination and inequities on workers and their unions, radical labor market segmentationists have often gone to the other extreme by minimizing the role of organized labor in the segmentation process. Hence, they have primarily emphasized the role of capital and its attempts to divide and conquer.[20] While we are not at all attempting to deny the very critical role that capital often consciously plays in aggravating existing (and inciting new) divisions within the working class, the tendency to minimize the role that workers have also played denies us the possibility of developing strategies that may be able to overcome these forms of worker-generated segmentation. Indeed, chapter 6 proposes that the radicals' preoccupation with the machinations of monopoly capitalists has often led them to underplay the ability for worker organization to significantly reduce the degree of segmentation that currently exists within the U.S. working class.

Clearly, if we are ultimately going to understand the complex process of differentiation within the contemporary working class, we must begin to distinguish its various forms whenever possible. We must be particularly careful to distinguish which types of differentiation stem from workers' attempts to protect themselves, and which types stem from the forces of capitalist competition and accumulation (whether planned or unplanned).

A Dynamic Analysis of Labor Mobility and Wage Differentiation under Conditions of Permanent Underemployment

As noted in the beginning of this chapter, Marx's analysis of the general law of capitalist accumulation and the reserve army does not merely lay the basis for fundamental divisions within the working class based on whether

[20] Excellent critiques of this tendency to overemphasize the conscious actions of capital within labor market segmentation theory can be found in Rubery 1978 and Milkman 1980.

workers are employed or unemployed. Within the actively employed sectors of the working class, the presence of permanent underemployment also has profound implications for the discussion of labor mobility and the development of inter- and intraindustry wage differentials.

Up to now, most discussions of competitive wage determination (whether Marxist, radical, or neoclassical) have generally assumed that effective levels of labor mobility will tend to equalize wage rates among workers of similar quality. As Melvyn Reder has noted, "The mechanism that is supposed to bring about this equalization is movement of workers from low to high income jobs, and therefore the competitive hypothesis implies that job changers will tend to move from lower to higher income jobs" (Reder 1958, 76). As these low-wage workers migrate to high-wage sectors, wage rates in the high (low) wage firms will be forced downward (upward). Thus, in a relatively short period of time, any significant differentials that have momentarily developed will be eliminated. Of course, if substantial wage differentials should continue to persist, it is assumed that serious restrictions in the mobility of labor are the cause.

Although Marx's analysis of the equalization of wage rates is often conflated with neoclassical theory, orthodox economics actually relies on a number of techniques and assumptions that are quite alien to Marx. First, the neoclassical discussion of labor mobility and the equalization of wage rates not only assumes full employment, but it also takes place within a static framework that abstracts from the dynamics of ongoing accumulation. Thus, the total level of employment is held constant, and the equalization of wage rates takes place primarily through shifts in the locational composition of a given work force.

The assumption of a given work force further implies that the shifting of labor from one sector to another is essentially a zero sum game. Thus, what is gained as an absolute increase in employment in the high-wage sectors must be lost to the low-wage sectors. Given the additional orthodox assumptions concerning the direct relationship between wage rates, marginal productivity, and levels of employment, these changes in employment levels call forth the appropriate adjustments in wage rates. Finally, because neoclassical theorists also assume that the mobility of labor is a nonantagonistic process that incurs no significant costs for either capital or labor, the slightest deviation from the average wage rate will result in immediate changes in current levels of employment within all of the relevant sectors.

As we continue to construct the discussion of Marx's analysis of competitive wage determination, we will eventually see that Marx's argument significantly disagrees with neoclassical theory on each of the above points. The discussion of Marx's view of the aggregate labor market (see chap. 3) has already shown that the linkages between the general wage level, the productivity of labor, and the level of employment are not at all

immediate. Nor can they be properly captured within static analysis. On the contrary, these linkages must be analyzed within a dynamic context of ongoing accumulation whereby changes in the *rate of growth* of real wages are ultimately regulated by the dynamic interaction of movements in the rate of accumulation, the rate of growth of productivity, and the rate of growth of employment.

In order to develop a corresponding analysis of the regulation of differential wage rates across different sectors of the economy, we must also invoke the power of dynamic analysis. Thus, rather than utilizing a static framework which assumes that differential wage rates across various industries will tend to cause immediate changes in sectoral levels of employment, we must develop a dynamic framework to investigate how differential rates of growth in wage rates may ultimately cause differential rates of growth in output and employment. Once we move to a dynamic analysis where wage rates are primarily regulated by modulations in the rate of growth of employment, however, we no longer have a zero sum game. Eventual increases (decreases) in the absolute level of employment in certain sectors of the economy no longer require corresponding decreases (increases) in other sectors, and the dynamic regulation of wage rates becomes far more complex.

Marx's discussion of wage determination eventually shows that the dynamic linkages between movements in wage rates and changes in the rate of growth of employment primarily take place at two different levels. At the aggregate level, we have already seen how increases in the *general wage level* that tend to outstrip productivity growth will ultimately call forth decreases in the rate of accumulation, and hence, decreases in the rate of growth of aggregate employment. Here, the key link to the rate of accumulation is through the negative effect that movements in the general wage level may tend to have on the *general rate of profit* for the economy as a whole (see chap. 3).

Once we move to the more particular discussion of *differential wage rates*, the focus will be on changes in wage rates that are localized within a limited number of firms and/or industries. Consequently, the effects on the general rate of profit will tend to be minimal, and movements in the general rate of accumulation and aggregate employment levels will not play a critical role here.

Yet, although local movements in wage rates will not have an important influence on the general rate of profit, they will have a significant effect on the profit rates of individual firms and/or industries that are directly affected by these wage differentials. Thus, at this more concrete level of analysis, it is primarily through the generation of *differential profit rates* and the resulting differential rates of growth of output and employment between and within these industries that the dynamic regulation of wage

rates will tend to take place. Once we begin to discuss the regulation of rates of profit between and within industries, however, we are ultimately talking about the dynamics of capitalist competition.

Because we have not yet developed the analysis of capitalist competition and differential profit rates, further discussion of these more complex dynamics that arise from changes in the interindustry wage structure will have to wait until chapters 6 and 7. At this point, however, we can discuss one very important result of Marx's dynamic analysis of the aggregate labor market that will have immediate effects on both the mobility of labor and the equalization of wage rates. Here, we are referring to the constant presence of a substantial pool of unemployed workers.

As we shall soon see, this constant reserve army not only creates a key basis for wage differentiation, but it also sets important limits to that differentiation. Thus, at this level of analysis, it is precisely through the reserve army that the laws of capitalist accumulation continually make their presence felt.

Once we recognize that chronic underemployment is the *normal* condition within the aggregate labor market, the zero sum game of orthodox theory once again no longer operates. Thus, labor mobility is no longer a sufficient condition for the equalization of wage rates. Even if we assume that many low-wage workers are eventually able to migrate to high-wage sectors, low-wage firms may continue to find ample sources of cheap labor within the reserve army. Consequently, there will tend to be little upward pressure on wage rates at the low end of the labor market. As noted earlier in this chapter, it is precisely because of these ever present pools of desperate workers that Marx argues that "special spheres of capitalist exploitation" will be constantly reproduced.

Orthodox economists have generally been quite willing to concede that "the competitive hypothesis is simply incompatible with more than frictional unemployment"[21] (Reder 1958, 80). Within neoclassical models of competitive wage determination, however, the problem of underemployment is carefully side-stepped by assuming that involuntary unemployment is primarily the result of "imperfections" or momentary "frictions" within the labor market. Thus, the anomaly of persistent wage differentials is once again blamed on the restriction of competitive mechanisms.

Although institutional labor economists have also tended to argue that underemployment is largely due to various imperfections, their greater sensitivity to the harsh realities of chronic unemployment has often led them to examine this problem far more closely. Through their empirical investigations of actual labor markets, they have developed a number of

[21] See also Cartter 1959, 25. For a more general discussion of the necessity for price differentiation within markets that are characterized by excess supply, see Arrow 1959.

important insights concerning the real dynamics of labor mobility and its effects on the wage equalization process.[22] In many ways, these insights have also tended to reconfirm several of Marx's arguments within the modern period.

In one of the first systematic investigations of the actual dynamics of labor mobility under conditions of underemployment, Lloyd Reynolds discovered the following:

> Movement and potential movement of labor seems inadequate to prevent large and persistent differences in aggregate job attractiveness. Some jobs are very much better than others, and vacancies on these jobs are rationed among a chronic surplus of applicants. Those unable to get into the better jobs must perforce take poorer ones. Nor is this merely a temporary situation. (Reynolds 1951, 246)

Within labor markets where underemployment is the norm, Reynolds repeatedly observed that the primary motivation for labor mobility is usually not higher wage rates, but the availability of job openings. At the low end of the wage spectrum, he also noted that "except during brief periods of peak prosperity, even the lowliest jobs find an adequate labor supply" (Reynolds 1951, 222). He therefore concludes his discussion by suggesting that it is the "chronic underemployment of labor" and not the imperfect mobility of labor that is one of the key factors in the persistence of unwarranted wage differentials (Reynolds 1951, 246).

Within a Marxian analysis of the aggregate labor market which argues that unemployment is systematically reproduced by the laws of capitalist accumulation, these institutionalist insights become quite powerful. They essentially suggest that under normal conditions of capitalist accumulation, it is no longer necessary to argue that labor mobility must be significantly restricted in order to explain the existence of persistent wage differentials.[23]

At this point we have argued that the constant presence of desperate pools of unemployed workers will significantly weaken any potential *upward* pressure on wage rates at the low end of the labor market. Thus, the reserve army clearly provides an important foundation for sustained wage differentials among workers of similar skill and ability. Nevertheless, at the other end of the labor market it is also critical to recognize that this continual unemployment will ultimately tend to exert significant *downward* pressure on above average wage rates.

In neoclassical economics, downward pressure on high-wage sectors theoretically occurs as newly entering workers from low-wage sectors begin to offer their labor at slightly lower wage rates. This, in turn, encourages high-wage firms to expand employment as they make marginal adjustments along their downward sloping marginal revenue product curves. Overall, labor mobility is therefore pictured as a benign, nonantagonistic process involving minimal costs for both capital and labor.

[22] For good summaries of these institutionalist insights, see Segal 1986 and Kaufman 1988b.

[23] As already noted in chapter 2, the assumption of restricted labor mobility became a serious problem for labor market segmentationists.

Within Marx's analysis of the dynamics of competition in both capital and labor markets, the potential and actual mobility of labor takes on a very different character. Given the presence of a constant pool of unemployed workers, labor mobility is often an extremely antagonistic process that can impose significant costs on employed workers. Those workers who ultimately exert a downward pressure on above average wage rates primarily come from various components of the reserve army. Thus, these workers not only come from the chronic low-wage (or stagnant) sectors of the economy, but from the latent and floating sectors of the reserve army as well. More important, the actual pressure on above average wage rates does not arise from the high-wage sector's gradual extension of employment along the margin. Rather, it comes from the actual or potential *replacement of the high-wage workers* by these cheaper and generally more desperate workers within the reserve army.

It is also critical to note that labor mobility does not merely impose costs on high-wage workers who may ultimately be forced to endure significant wage cuts or join the ranks of the unemployed. It can also be a costly affair for capital. Furthermore, once we develop our analysis of capitalist competition and the differentiation of capitals in chapter 6, we will see that these costs tend to vary substantially across different industries. Briefly, whether labor mobility ultimately takes place through the forcible importation of low-wage labor or through the mobility of capital to that cheap labor, these differential costs will largely depend on three key factors: the level of militance and organization of the current work force; the differential costs of training a new work force; and differential technical conditions of production across various industries (e.g., capital intensity, plant size, etc.).

Yet, although gaining access to low-wage workers in the reserve army may often involve substantial costs to certain capitals, it nevertheless remains an important option that becomes increasingly attractive to all capitals as the range of wage differentiation grows. As the wage differential between the currently employed work force and capital's potential labor reserves continues to widen, and as fixed capital structures begin to depreciate, it will eventually become cost effective for capital to tap into those low-wage reserves.[24]

Thus, within Marx's analysis of the aggregate labor market, the reserve

[24] The past two decades of U.S. capital flight—first to the nonunion South and then to low-wage havens abroad—provides us with a dramatic example of how the presence of low-wage reserves will ultimately cause capital to relocate despite significant mobility costs. As

army lays the basis for potential wage differentiation, and also sets critical limits to that differentiation. Moreover, although the actual or potential mobility of labor will ultimately place very real limits on the range of wage variation, it will not *eliminate* these differentials. In fact, within highly capital-intensive industries where capital mobility can be quite expensive, substantial wage differentials may develop for prolonged periods of time before these capitals find it profitable to attempt to reduce them.[25]

Because the mobility of labor is so clearly intertwined with the mobility of capital, we can not yet develop a systematic analysis of the real costs of labor mobility until we have first developed our analysis of the differential costs of capital mobility. In fact, it is a key contention of this book that a proper analysis of labor mobility can only take place within the context of Marx's analysis of the real conditions of capitalist competition.

Once we have finally constructed our discussion of real capitalist competition, we will be able to further concretize our analysis of labor mobility. Here we will see that neither the mobility of capital nor the mobility of labor is "perfect," but both are largely determined by the technical conditions of production within each industry. Moreover, once we understand that real capitalist competition also results in the continual differentiation of profit rates between and within industries, we will see that various capitals will often face very different degrees of pressure to utilize the reserve army in order to force their labor costs downward. While some well-situated capitals may be able to sustain above average wage rates for prolonged periods of time, many inefficient firms and dying industries may be forced to tap into the reserve army merely to prolong their survival.

Although we cannot fully develop this discussion of competition here, our current discussion of the aggregate labor market has allowed us to begin to see an important regulating principle. This is that *the overall range of wage differentiation in any particular labor market will largely depend on a particular firm and/or industry's conditions of access to its potential labor reserves.*[26]

To summarize, it is important to note that all of the above potential foundations for wage differentials that have been developed so far have not required any assumptions concerning the restriction of competition in either the capital or labor markets. The initial section of this chapter

Davis points out, between 1962 and 1978, 90% of the new manufacturing jobs created in the United States were located outside of the unionized heartland (Davis 1986, 130).

[25] As we have already seen in chapter 2, efficiency wage theories were partly motivated by the obvious need to explain why high-wage firms often will not attempt to lower their wage rates despite the presence of persistent unemployment.

[26] Here, S. Friedman's (1984) distinction between the general reserve army and particular reserve labor forces for various industries also becomes quite useful.

showed that an analysis of the various components of the reserve army of labor can clearly be derived from the general laws of capitalist accumulation. Thus, we were not forced to resort to arguments of monopoly capital or a dual economy in order to explain the continued reproduction of a "secondary labor market." The dynamic analysis of wage differentiation further determined that the linkages between wage rates and employment levels are far more complex than those that have been suggested by the static analysis of orthodox theory. Because Marx's analysis does not imply a zero sum game, it also allows for appreciably more room for differential movements in wage rates to develop without requiring immediate adjustments in current levels of employment. Finally, upon further exploration of the implications of permanent underemployment, we discovered that persistent wage differentials can be easily derived without resorting to arguments that are based on the restriction of the mobility of labor.

All that remains to be developed is Marx's distinctive analysis of capitalist competition, which will allow us to show how persistent and substantial differentials in profit rates can also be explained without resorting to arguments of imperfect competition or monopoly power.

Uneven Technical Change, Competition, and the Reserve Army: A Brief Glimpse of Marx's Theory of Wage Differentials

It is important to note that there are a number of passages in the first volume of *Capital* where Marx briefly shows how capitalist competition, uneven technical change, and the various components of the reserve army interact to create numerous patterns of differential wage rates. Indeed, Marx's chapters on the "Working Day," "Machinery and Modern Industry," and the "General Law of Capitalist Accumulation" contain graphic illustrations of how these three factors repeatedly interact to produce a horrifying mosaic of differential degrees of exploitation within the working class.

In the first volume of *Capital*, which remains at a fairly high level of abstraction, the concrete connections between competition, technical change, and the reserve army are not (and could not be) systematically developed. Nevertheless, these passages provide an important glimpse of how Marx eventually intended to develop his final analysis of wage determination once he had completed his discussion of capitalist competition in volume 3. It is also significant that these concrete discussions of inter- and intraindustry wage differentials have generally been overlooked by most writers who continue to assume that Marx's analysis of wage differentials is quite similar to neoclassical theory. For both of these reasons, it will prove useful to briefly discuss these passages before developing the connections between capitalist competition and wage determination in a

far more systematic fashion. Because this volume is largely an attempt to fill in some of the missing intermediate steps in Marx's analysis of wage differentials, these passages will also provide us with a useful preview of the remainder of our argument.

Within neoclassical theory, the idealized assumptions of perfect competition and general equilibrium tend to portray capitalist development as a smooth and tranquil process which takes place primarily through tiny marginal adjustments that reverberate evenly throughout the economy. In contrast, Marx's analysis of "Machinery and Modern Industry," presents a very different view of the dynamics of capitalist development. Rather than changes taking place through marginal adjustments, many sectors of the economy grow in discrete jumps and furious leaps, while other sectors are trapped within prolonged stages of stagnation and decline. We also see that the introduction of modern technology often takes place unevenly across different industries. Even within the same industry, new techniques are rarely introduced simultaneously within all firms.

Given this uneven development between and within industries, Marx goes on to show that there is also a great deal of combined and uneven development within the labor markets that are connected to these different industries. And, of course, these uneven dynamics within the labor market have an important role to play in the development of certain patterns of inter- and intraindustry wage differentials.

Between Industries. As we have just pointed out, one of the key factors that continually lays the basis for differential wage rates across industries is the uneven development of technical change. In certain industries, for example, "where the production of the article by manufacture consists, not of a series of graduated processes, but of a great number of disconnected ones," Marx notes that the transition from manufacturing to modern industry often proceeds rather slowly (Marx 1867, 460). In other industries, the limited extent of the market may also hold back the introduction of more capital-intensive methods (Marx 1867, 343, 549).

Given this uneven development of technical change, those sectors of the economy that are more stagnant technologically will tend to be flooded with surplus laborers who are cast off by sectors that are developing more capital-intensive techniques.

> That portion of the working class, thus by machinery rendered superfluous . . . either goes to the wall in the unequal contest of the old handicrafts and manufactures with machinery, or else floods all the more easily accessible branches of industry, swamps the labour market, and sinks the price of labour-power below its value. (Marx 1867, 431)

Thus, as noted earlier, many branches of industry that have easy access to these pools of cast-off workers may tend to develop into special branches of "super exploitation." Marx argues that the development of technical change within the more advanced sectors will have particularly "murderous and antagonistic" results for wages and working conditions within the more backward sectors which are continually flooded with new recruits.

In a section of *Capital* entitled "Reaction of the Factory System on Manufacture and Domestic Industries," Marx summarizes the various factors that lead to these different degrees of exploitation.

> The exploitation of cheap and immature labour-power is carried out in a more shameless manner in modern Manufacture than in the factory proper. This is because the technical foundation of the factory system, namely the substitution of machines for muscular power, and the light character of the labour, is almost entirely absent in Manufacture, and at the same time women and over-young children are subjected, in a most unconscionable way, to the influence of poisonous or injurious substances. This exploitation is more shameless in the so-called domestic industry than in manufactures, and that because the power of resistance in the labourers decreases with their dissemination; because a whole series of plundering parasites insinuate themselves between the employer and the workman; because a domestic industry has always to compete either with the factory system, or with manufacture in the same branch of production; because poverty robs the workman of the conditions most essential to his labour, of space, light and ventilation, because employment becomes more and more irregular; and finally, because in these the last resorts of the masses made "redundant" by Modern Industry and Agriculture, competition for work attains its maximum. (Marx 1867, 462)

From here, Marx goes on to depict the horrifying conditions that increasingly developed in the brass foundries, button factories, enamelling, and lacquering works (Marx 1867, 463). And finally, in the case of the wearing apparel industry, once again, "the mass of cheap human material is composed of the individuals 'liberated' by mechanical industry and improved agriculture" (Marx 1867, 471).

> The great production of surplus value in these branches of labour, and the progressive cheapening of their articles were and are chiefly due to the minimum wages paid, no more than requisite for a miserable vegetation, and the extension of working time up to the maximum endurable by the human organism. It was in fact by the cheapness of the human sweat and the human blood, which were converted into commodities, that the markets were constantly being extended. (Marx 1867, 471)

There are many other passages throughout *Capital* where Marx discusses other examples of superexploitation and below average wage rates.[27] It is important to note, however, that these low-wage sectors can not be easily characterized as momentary disequilibrium phenomena. These divergent developments are far too deep and far too persistent to be so easily dismissed. Furthermore, Marx also shows how the peculiar dynamics of capitalist competition and technical change that sometimes develop within these low-wage sectors often tend to deepen and reproduce these differential conditions of employment.

In the previous chapter, we noted that neoclassical economics conveniently assumes that capitalist competition and full employment will create equitable wages and working conditions across all industries as capitalist firms are forced to compete in order to hold onto a stable work force. Yet, within Marx's more realistic analysis of chronic underemployment, capitalists are rarely forced to provide equitable wages. On the contrary, inhuman hours, miserable wages, and extremely unhealthy working conditions often become the *basis* for capitalist competition within many of these low-wage sectors.

Before laws were enacted to place certain minimal restrictions on this type of competition, intense labor market competition often forced workers to work increasingly long hours for a constantly diminishing hourly wage. In certain sectors, Marx notes that these "abnormal quantities of unpaid labor" were then systematically extended and reproduced as they became a chief source of capitalist competition.

> The unpaid part of the labour-price need not be reckoned in the price of the commodity. It may be presented to the buyer. This is the first step to which competition leads. The second step to which it drives, is to exclude also from the selling price of the commodity, at least a part of the abnormal surplus value created by the extension of the working day. In this way an abnormally low selling price of the commodity arises, at first sporadically, and becomes fixed by degrees; a lower selling price which henceforward becomes the constant basis of a miserable wage for an excessive working time, as originally it was the product of these very circumstances. (Marx 1867, 549)

Finally, Marx also points out that the introduction of machinery in the more advanced sectors will often have a retarding effect on the development of technology in other sectors. This is primarily because the highly mechanized sectors "create such a redundancy of labour in other branches of industry that in these latter the fall of wages below the value

[27] As noted earlier, one of the most persistent sectors of low-wage workers occurs within agriculture (Marx 1867, 642). In Marx's time, luxury goods was another sector where exploitation often achieved abnormal heights (Marx 1894, 237).

of labour-power impedes the use of machinery" (Marx 1867, 393–94). Thus, not only does mechanization in the advanced sectors create desperate pools of cheap labor which can be brutally exploited in other sectors, but it may also tend to exacerbate the uneven development of technical change which helped to lay the basis for these differential conditions in the first place.[28]

In sum, Marx's analysis of the interaction of technical change, competition, and the reserve army clearly provides the basis for sustained patterns of interindustry wage differentials. Contrary to orthodox economics, the overflooding of many labor markets and the subsequent generation of below average wage rates are not necessarily the results of trade unions that have restricted and distorted the "perfect" mechanisms of the capitalist marketplace. They are often the direct result of the essential dynamics of capitalist competition and technical change.

Although some readers may protest that the above differential conditions within the labor market are really only pertinent to the sharp contrasts that developed between industries during the transition from manufacture to modern industry, Braverman (1974) has developed an equally powerful analysis of the uneven effects of technical change within the modern labor market. As a partial explanation for the sharp divergences that have developed between wage rates in the manufacturing sector as opposed to the service and clerical sectors, Braverman suggests the following:

> The masses of labor sloughed off by the rapid mechanization of industry . . . furnish the labor supply for the clerical, service and sales fields. The mechanization of industry produces a relative surplus of population available for employment at the lower pay rates that characterize these new mass occupations.[29] (Braverman 1974, 382)

As noted above, there is also strong evidence that conditions of superexploitation are reappearing in the modern U.S. economy as sweatshop conditions are rapidly becoming the competitive standard in the growing garment and electronics industries in New York City and Los Angeles (Fernández Kelly 1989 and Sassen 1989). The U.S. poultry industry, which primarily employs nonunion labor in the South, is another grim

[28] For a more contemporary discussion of how access to low-wage labor can have a stagnating effect on technical change, see Deakin and Wilkinson 1989.

[29] The only puzzling thing about Braverman's analysis is that he sometimes (although not always) suggests that this kind of uneven development is primarily a result of "monopoly capitalism." Yet, from the above passages in *Capital*, it seems quite clear that monopoly has very little to do with Marx's analysis, and that Braverman is actually discussing, in modern terms, an ongoing dynamic of capitalism.

reminder of the worst kinds of abuse that can take place within the "free labor markets" of modern capitalism.[30]

Within Industries. Here, the uneven development of technical change once again plays a critical role in both the differentiation of capital and the differentiation of labor. Very briefly, in discussions of the gradual development of new mechanized techniques within various industries, Marx shows that workers who are unfortunate enough to be employed in the more backward firms will generally find that their wages and working conditions will deteriorate both absolutely and relatively to workers who are employed in the more advanced firms. As competitive pressures intensify for these less efficient firms, their continued survival will often require the lowering of wage rates and the simultaneous cranking up of the intensity of labor. Thus, Marx notes that "when machinery seizes on an industry by degrees, it produces chronic misery among the operatives who compete with it."[31]

Although Marx is quite clear that the antagonism between the laborer and the more modern instruments of labor "comes out most strongly, whenever newly introduced machinery competes with handicrafts or manufacturing," he also points out that "even in modern industry, the continual improvement of machinery and the development of the automatic system, has an analogous effect" (Marx 1867, 432). Thus, even within the modern sectors, those workers who manage to hold onto their jobs within the less efficient firms may be increasingly forced to accept deteriorating conditions for the continued sale of their labor power. Moreover, once we develop Marx's analysis of capitalist competition, we will also see that modern industry is essentially synonymous with large amounts of fixed capital investment that require prolonged periods of turnover. Thus, differential conditions of production will be continually reproduced within industries as new capitals enter with the latest techniques and older capitals continue to depreciate their aging fixed capital stock (see chap. 5).

[30] According to *Labor Notes*, the 150,000 poultry workers in the United States are "some of the most productive, lowest paid and most injured manufacturing workers in the U.S." Indeed, approximately 28,000 of these workers lose their jobs or become disabled every year as a result of work-related injuries. It should also come as no surprise that 50% of these workers are women, and that a majority are African-American. See "Poultry Workers Trapped in a Modern Jungle," *Labor Notes*, May 1991. It is ironic that this exposé on the poultry industry appeared only months before twenty-five poultry workers in Hamlet, North Carolina, were tragically burned to death as a result of fire doors being illegally chained shut to prevent petty theft. See *Labor Notes*, October 1991.

[31] See also Marx 1867, 484.

On the Incompleteness of Marx's Work

From his initial 1857 outline of *Capital*, we know that Marx had originally intended to write an entire volume on the subject of wage labor after he had completed his analyses of capital in general, capitalist competition, and landed property.[32] As Rosdolsky has clearly shown, however, much of the material that Marx originally intended to include in a separate volume on wage labor was subsequently included in volume 1 of *Capital*. Nevertheless, although Rosdolsky correctly argues that most of the important themes were later taken up in volume 1, he also admits that "we can not say exactly which themes were to have come under the scope of the Book on Wage-Labour, as we have no precise information on this subject" (Rosdolsky 1977, 57).

What we are suggesting here is that although Marx clearly did move up a great deal of his discussion on wage labor *in general* in order to dialectically complement his analysis of capital in general,[33] a systematic treatment of the differentiation of labor had to await the differentiation of capital, which was to be analyzed in volume 3. Thus, not only was a more complete discussion of skilled and unskilled labor still to come (Rosdolsky 1977), but there are good reasons to argue that Marx's complete analysis of competitive wage determination was ultimately never finished. For example, in the above passage where Marx briefly discusses how below normal wages may become the basis for capitalist competition in certain industries, he also warns the reader that "this movement is simply indicated here, as the analysis of competition does not belong to this part of our subject" (Marx 1867, 549). In the beginning of this same chapter, he also points out that "an exposition of all these (wage) forms . . . belongs to the special study of wage-labour, not therefore to this work" (Marx 1867, 543).

Thus, it is our contention that the above passages where Marx briefly discusses the interaction of capitalist competition and wage determination remain incomplete discussions, and that we are essentially left with the project of developing these dynamics far more systematically. In order to develop a systematic theory of competitive wage determination in general and wage differentials in particular, it would have been necessary for Marx to do the following. *First*, Marx would have had to show how the dynamics of capitalist competition and the continual generation of differential profit rates between and within industries must necessarily have

[32] See Rosdolsky 1977, chap. 2.

[33] "Capital presupposes wage-labour, and wage-labour presupposes capital. One is a necessary condition to the existence of the other" (Marx 1867, 578).

significant consequences for the dynamics of competitive wage determination between and within those same industries. (Here we are suggesting that Marx would have had to follow a very similar procedure for the analysis of differential wage rates that he did, in fact, complete for his analysis of differential rent.) *Second*, it would have been necessary to show how the real conditions of labor mobility are profoundly shaped by the conditions of capital mobility and must therefore be analyzed within the context of real capitalist competition. *Finally*, Marx would have had to complete his analysis by showing how the general laws of accumulation within the aggregate labor market must eventually be connected back up with the more concrete determinations of capitalist competition and competitive wage determination. These are precisely the steps that remain to be completed within this book.

CHAPTER 5

Capitalist Competition and Differential Profit Rates

> The very concept of "imperfect" competition is itself the dark side of the concept of "perfect" competition. In perfect competition all of the tactics and strategy of real competitive battles are spirited away. Then, when faced with the unavoidable discrepancy between the fantasy world of perfect competition and the elementary facts of real competition, instead of overthrowing perfect competition orthodox theory seeks to reform it. Hence *imperfect* competition. Yet the real imperfection lies not in actual competition, but rather in the concept of perfect competition itself and its false and onesided abstraction of the real relations. . . . [T]he conception of competition contained in Marx is vastly richer than perfect competition and its counterpart, imperfect competition. Marx's conception contains elements of both of these orthodox polarities—not as exclusive poles, but rather as aspects of the same organic process.
>
> —Anwar Shaikh, "Marxian Competition versus Perfect Competition"

In the first two chapters of this book, we argued that the general acceptance of the theory of perfect and imperfect competition by most radical and institutional labor economists has been a critical barrier to the development of a viable alternative to the neoclassical theory of competitive wage determination. In chapter 2, we suggested that the implicit acceptance of perfect competition as the logical starting point for the analysis of highly competitive markets has repeatedly forced these economists to rely on theories of monopoly power and the dual economy to explain the long-standing evidence of persistent differential wage and profit rates. Moreover, their subsequent rejection of systematic competitive limits to wages, prices, and profits within "core" sectors of the economy invariably led to serious problems of indeterminacy and inconsistency.

Perhaps the most ironic aspect of these radical and institutional arguments has been their consistent tendency to conflate Marx's analysis of capitalist competition with the neoclassical theory of perfect competition. Thus, just as the theory of perfect competition ultimately had to be rejected as an adequate description of the modern economy, so too did Marx.

This chapter presents a very different view of Marx's theory of capitalist competition that will provide the foundation for a very different approach to competitive wage theory. Utilizing Marx's theory of capitalist competition between and within industries, a growing number of writers have convincingly argued that many phenomena previously considered to be evidence of imperfect competition and monopoly power can actually be explained within the framework of ongoing capitalist competition.[1] Of particular importance, these writers have shown that many of the observed patterns of differential profit rates and profit margins that persistently appear between and within many industries can be derived directly from the Marxian model of competition itself.

Once we are able to show that capitalist competition results in differential profit rates among various firms and industries, it then becomes possible to develop a *competitive* explanation for a similar set of wage differentials among workers who are employed in these locations. Moreover, once we are no longer forced to interpret the existence of differential profit and wage rates as immediate evidence of monopoly power, we can begin to investigate how the forces of ongoing competition will also tend to set important limits to these variations in wages, prices, and profits. Thus, we may finally be able to develop a viable theory of competitive wage determination that is capable of explaining much of the evidence of differential wage rates without having to argue that competition is no longer a key determining force in the modern economy.

Our exposition of Marx's analysis of competition is developed in four parts. The first part is a lengthy discussion of Marx's theory of competition *within industries* paying careful attention to distinguish Marx's arguments from both neoclassical economics and monopoly capital theory. The next part addresses Marx's analysis of competition *between industries*; and the third part combines these previous two levels of analysis in order to develop Marx's argument of "regulating capitals." The final section concludes the discussion by presenting a critical review of much of the important empirical "evidence" for the presence of monopoly within the modern capitalist economy.

Competition within Industries

Perfect Competition—Strange Beginnings and Curious Bedfellows

It will be useful to first briefly review the neoclassical theory of perfect competition. As in chapter 3, this will allow us to develop Marx's discussion of highly competitive markets in sharp contrast to orthodox economics. It will also allow us to show that it is neoclassical theory and not Marx's analysis of competition that has often been adopted by many radical and Marxist economists.

[1] See Clifton 1977, 1983; Weeks 1981; Shaikh 1980b, 1982a; Semmler 1982, 1984; and Bina 1985. Extensions of this classical Marxist analysis to the area of international trade and development can be found in Shaikh 1979a, 1980a; Weeks 1985; and Jenkins 1989.

Within neoclassical economics, the highest level of competition (i.e., perfect competition) requires two extremely restrictive sets of conditions which, in turn, imply a very peculiar set of behavioral assumptions concerning the "competitive firm." *First*, given the assumptions of perfect information and perfect mobility of resources (i.e., no fixed capital), neoclassical theory suggests that all firms within a competitive industry will tend to possess identical cost structures and hence, identical profit rates. Although the introduction of new, more efficient techniques may cause minor disturbances in the equality of cost structures, these disturbances will tend to be short-lived. Not only will all other firms in the industry immediately become aware of these new techniques (via perfect information), but they will also immediately move to adopt them (via perfect mobility).

Second, highly competitive industries must also consist of an "infinite number of infinitesimally small firms." This condition is necessary to ensure that individual firms can not have a significant impact on market supply and hence, market price.[2]

Given these highly restrictive conditions, neoclassical theory then derives its behavioral assumptions concerning the "competitive firm." It is here that we confront the peculiar conclusion that under conditions of highly effective competition, "no firm views another as a competitor" (Mansfield 1983, 204). Indeed, each individual firm is incapable of having any appreciable effect on its rivals, and the development of an offensive price-cutting strategy to either defend or enlarge an individual firm's market share is deemed to be both unnecessary and highly irrational. Perhaps most surprising, these assumptions theoretically hold true even for the innovating firm with the lowest costs in the industry.

To understand why an innovating firm would find it neither necessary nor rational to actively lower its prices, we simply need to go back to the original neoclassical assumptions. Given the assumption of infinitesimally small firms, neoclassical theory has ensured that each firm (innovator or otherwise) can already sell as much product as it desires without having to lower its selling price. Thus, even though the innovator's new technique will probably require a significantly enlarged scale of production, it will not be necessary to lower prices to accommodate this increased output.

If lowering prices is not required to realize the innovating firm's expanding output, the only other compelling rationale for active price cutting would have to come from the possibility of inflicting long-term dam-

[2] See Eatwell 1982; McNulty 1967; and Stigler 1957.

age to rival firms. But here, once again, the conditions of perfect competition have precluded this possibility.

Given the assumptions of perfect information and perfect mobility, the innovating firm can at best enjoy only a momentary cost advantage over its competitors. Consequently, to actively lower prices would only bring swift and *equally capable* retaliation from all other firms in the industry. Under these conditions the innovator would therefore be unable to secure any long-term advantage over its competitors. In fact, all that would be accomplished by such an aggressive pricing strategy would be a more swift reduction in the market price and the elimination of any short-term surplus profits that could have been achieved if the innovator *had not initiated the price decrease!*

In sum, within the neoclassical theory of highly competitive markets, there never comes a time when the innovating firm is either forced or enticed to make room for itself in the market. On the contrary, all real capitalist competition that entails the constant and often vicious rivalry for market shares has essentially been eliminated by theoretical construction.[3] Even more striking, if the number of competing firms becomes small enough (and each firm becomes large enough) so that capitals are eventually forced to engage in direct rivalry over market shares, this is considered to be one of the essential foundations for the development of "imperfect competition." Thus, not only does the neoclassical theory of perfect competition eliminate the potential for real capitalist competition, but the underlying logic of this quantity theory of competition curiously requires us to view growing rivalry over market shares as a sign of the *lessening of competition.*

Given the tendency for neoclassical economists to confuse the scientific process of abstraction with the ideological process of idealization, the above distortion and actual inversion of real-world phenomena is not terribly surprising. What is surprising, however, is the general adoption of the theories of perfect and imperfect competition by many radical and Marxist economists who are otherwise highly critical of neoclassical economics. Even more disturbing is the equally prevalent tendency to confuse Marx's theory of capitalist competition with the neoclassical theory of perfect competition.

This unfortunate conflation of Marx with orthodox theory and the subsequent invalidation of Marx's theory of competition as historically outdated has been accomplished in two consecutive steps. The first step is the largely unsubstantiated assertion that Marx's own analysis of highly competitive industries begins—just as in neoclassical theory—with the

[3] See Shaikh 1982, 78. For a recent institutionalist critique of perfect competition as a useful theoretical starting point for understanding the real dynamics of industrial competition, see Auerbach 1988.

assumption of tiny, price-taking firms. This initial assertion is clearly demonstrated in the following statement by Paul Sweezy, one of the chief architects of the theory of monopoly capital.

> The normal functioning of the law of value presupposes competition among many units of capital, each too small in relation to the market in which it operates to have significant influence on the selling price. In these circumstances, the way to survive and expand is to turn out a better product at lower cost. . . . With lower average costs the value of the product declines, and as output increases price also falls toward a new equilibrium between value and price. . . . The point is that adjustments are effected through the mechanism of fluctuations of price (hence also of profit rates), which are caused not by the deliberate action of the producers but by the changed conditions of supply and demand. This reasoning in support of the theory of value was, of course, not original with Marx; it was part and parcel of classical political economy going back to Adam Smith and even earlier. (Sweezy 1981, 41–42)

Once it is assumed that Marx's logical and historical starting point is identical to perfect competition, it is then a very simple matter to conclude that Marx's analysis of the "competitive stage" of capitalism is no longer relevant to the modern capitalist economy.

> At a certain point in the unfolding of the concentration—centralization process, the assumption that individual producers are too small to exercise a significant influence on the prices of their products loses its justification. When this happens in sectors of the economy that together dominate the functioning of the system as a whole, capitalism has passed from its competitive to its monopoly stage. (Sweezy 1981, 42)

Thus, just as perfect competition was forced to give way to imperfect competition within neoclassical economics, the competitive stage must give way to the monopoly stage within Marxian economics.

Finally, in Baran and Sweezy's influential work, *Monopoly Capital*, Marx's "analytical method" is ironically invoked in order to relegate his theory of competition to the annals of the history of economic thought.

> If we are to follow the example set by Marx and make full use of his powerful analytical method, we cannot be content with patching up and amending the competitive model which underlies his economic theory. We must recognize that competition, which was the predominant form of market relations in nineteenth-century Britain, has ceased to occupy that position, not only in Britain but everywhere else in the capitalist world.[4] (Baran and Sweezy 1979, 6)

[4] In *Monopoly Capital*, Baran and Sweezy position themselves even more closely to neoclassical theory by suggesting that "the appropriate general price theory for an economy dominated by such corporations (i.e., oligopolies) is the traditional monopoly price theory

The Emerging School of Classical Marxist Economics

Although a large number of Marxist and radical economists have continued to assume that Marx's analysis of highly competitive markets is quite similar to the theory of perfect competition, an emerging group of writers has begun to argue that a more careful investigation of his writings reveals an analysis of capitalist competition that is quite distinct from neoclassical economics. As Marx's arguments are more carefully developed and extended, it is becoming increasingly apparent that his theory of real capitalist competition is diametrically opposed to neoclassical theory on virtually every level—logically, historically, and empirically. It is to this more recent (yet more classical) interpretation of Marx's analysis that we will now turn.[5]

Unlike neoclassical economics, Marx did not and could not logically begin his analysis of the capitalist mode of production with an analysis of competition—perfect or otherwise. On the contrary, the dynamics of capitalist competition had to be *derived* from the laws of capitalist accumulation. As Marx noted in the *Grundrisse*, "Competition is nothing other than the inner nature of capital, its essential character, appearing in and realised as the reciprocal interaction of many capitals with one another, the inner tendency as external necessity" (1857, 414). We are also repeatedly warned that "a scientific analysis of competition is not possible, before we have a conception of the inner nature of capital"[6] (Marx 1867, 316).

Because Marx begins from the vantage point of the laws of accumulation, the logical development of his analysis of capitalist competition compels him to begin not with the mythical tale of infinitesimally small firms, but with large-scale production. Chapter 3 has already explained that Marx's discussion of the general law of capitalist accumulation depends heavily on the observation that the capitalist production process was becoming increasingly mechanized and increasingly capital-intensive. Equally important, Marx argues that the laws of absolute and relative surplus value do not really come into their own until the industrial revolution (or "Modern Industry") calls forth a qualitative leap in mechanization and its accompanying levels of fixed capital investment (Marx 1867, part 4). Within the growing factory complexes that marked the industrial

of classical and neo-classical economics" (Baran and Sweezy 1966, 59). The implicit and sometimes explicit acceptance of the theory of perfect competition by many Marxist economists has also been repeatedly demonstrated in recent debates over Marx's law of the falling rate of profit (see Shaikh 1978, 1980b, 1982a; Armstrong and Glyn 1979; Roemer 1979; and Van Parijs 1980). For a more historical account of the origins of the monopoly capital school within Marxian political economy, see Semmler 1984.

[5] See Clifton 1977; Shaikh 1978, 1980b, 1982a; Weeks 1981; and Semmler 1984.

[6] See also Semmler 1984 and Weeks 1981.

revolution, it was the development of automatic machinery that finally allowed capital to place the labor process on an increasingly "objective" basis (Marx 1867, chap. 15). Moreover, it was the very same process of increasing mechanization that enabled capital to "celebrate its orgies" within the labor market through the continual reproduction of the reserve army of labor (see chap. 3). Finally, the development of large-scale industry also sounded the death knell for many of the remaining vestiges of the feudal mode of production—petty commodity production, small-scale agriculture, and the domestic economy.

Thus, for both logical and historical reasons, Marx's analysis of capitalist competition could hardly begin by abstracting from large-scale production. Quite the contrary, the presence of these large masses of fixed capital was one of the most essential and most distinctive characteristics of the capitalist mode of production.[7]

Given this vantage point, Marx's analysis of highly effective competition was forced to take on a very distinctive character right from the beginning. Within the context of large-scale enterprise, the relentless drive to expand capital value is necessarily accompanied by a growing struggle over market shares. These two dynamics, accumulation and rivalry, are inextricably bound up with one another.

> [I]t is in the nature of capitalist production that: 1. each particular capital operates on a scale which is not determined by individual demand . . . but by the endeavor to realise as much labour and therefore as much surplus-labour as possible and to produce the largest possible quantity of commodities with a given capital; 2. each individual capital strives to capture the largest possible share of the market and to supplant its competitors and exclude them from the market—*competition of capitals*. (Marx 1968, 484)

How is this struggle to "supplant" and "exclude" competitors to be fought out? Although Sweezy and many others have argued that Marx assumes passive, price-taking behavior on the part of competitive firms, numerous passages within Marx's writings suggest otherwise.

> The one capitalist can drive the other from the field and carry off his capital only by selling more cheaply. In order to sell more cheaply without ruining himself, he must produce more cheaply, i.e., increase the productive force of labour as much as possible. (Marx 1849, 40)

> The battle of competition is fought by cheapening of commodities. The cheapness of commodities depends, ceteris paribus, on the productiveness of labour,

[7] In the process of drafting the third volume of *Capital*, Marx noted that the "last thirty years" had produced an "enormous mass of fixed capital" even aside from the actual machinery that had been developed (Marx 1894, 233). For further comments on the critical importance of fixed capital, see Marx 1857, 1867, and 1885, chapters 8 and 9.

> and this again on the scale of production. Therefore, the larger capitals beat the smaller. (Marx 1867, 626)

Thus, the key weapon in the competitive "battle" is the development of more efficient techniques of production, and the primary competitive strategy is to utilize these lower costs to "drive the others from the field" by *actively lowering prices*. In order to understand why Marx argues that the innovating firm will generally find it both necessary and advantageous to cut prices, we must pursue this argument in more detail.

Within Marx's analysis, price cutting is often required by the innovating firm because increased efficiency is generally achieved through larger scale production and significant increases in fixed capital costs. Thus, in order for the innovator to cover these rising fixed costs and enjoy the benefits of larger scale production, he will be forced to expand his level of output. Given that the innovator is not infinitesimally small to begin with, however, he will also be forced to *make room* for this expanded output within the marketplace. Thus, as Marx clearly notes, "Other things being equal, his commodities can command a more extended market only by a diminution of their prices" (Marx 1867, 317).

In one of his most detailed discussions of the pricing strategy of the low-cost producer, Marx also explains the following:

> How will this capitalist act? He could keep on selling half a yard of linen at the old market price; but this would not have the effect of driving his opponents from the field and enlarging his own market. But his need of a market has increased in the same measure in which his productive power has extended. The more powerful and costly means of production that he has called into existence *enable* him, it is true, to sell his wares more cheaply, but they *compel* him at the same time *to sell more wares*, to get control of a very much *greater* market for his commodities, consequently, this capitalist will sell his half yard of linen more cheaply than his competitors. (Marx 1849, 41)

In Marx's discussion, it is also important to recognize that price cutting is not merely necessary in order to extend the market. Contrary to both neoclassical and monopoly capital theory, it can also be a highly effective competitive weapon that can inflict substantial, long-term damage on rival firms. Within the theory of perfection competition, we saw that price cutting is not a rational competitive strategy because it is assumed that the innovating firm's cost advantage will be extremely short-lived as other firms immediately move to adopt the new technique. Within the real world and within Marx's analysis, however, the dynamics of technical change work very differently. And once again, these differences are largely due to the presence of substantial amounts of fixed capital investment.

Throughout *Capital*, Marx argues that the pressures of competition and the general laws of capitalist accumulation cause the methods of production to be continually revolutionized. Given the presence of fixed capital investment, however, new techniques cannot be immediately adopted by all firms in the industry (Marx 1885, 170–72). Because fixed capital generally requires prolonged turnover periods, new techniques will be adopted primarily by those capitals that are in the best position to do so. Thus, although new capitals will enter the industry with "state of the art" equipment and other existing capitals will gradually begin to replenish and expand their productive facilities with the latest techniques, older, less efficient capitals will also tend to live on for many years. This is particularly true within prolonged periods of rapid growth.

In further contrast to mainstream theory, Marx's argument also provides little reason to believe that these differential conditions of production will eventually disappear as the industry moves toward some magical state of long-run equilibrium. For, as older capitals are finally depreciated, they will be replenished with even more advanced techniques. In the meantime, new differentiations will have also developed among the more advanced capitals.[8]

Thus, within this dynamic analysis of technical change, the constant development of more efficient techniques causes a perpetual leapfrogging effect within the conditions of production of each industry. *Rather than creating identical firms, competition therefore creates a continual redifferentiation of the conditions of production.* Moreover, because competition within each industry also requires all firms to sell their products at roughly the same price, it also results in the constant differentiation of profit rates.[9] In general, those capitals with the most advanced techniques within each industry will tend to have greater fixed capital outlays, higher capital/output and capital/labor ratios, lower unit costs, and higher profit margins relative to other firms. And, as we shall see in a moment, the development of a successful price-cutting strategy by the low cost firms is also likely to produce higher profit *rates* as well.[10]

Now that we understand that Marx's analysis of effective competition entails both significant cost differentials and prolonged turnover periods for fixed capital, we can begin to see why price cutting can become a powerful competitive weapon in the hands of the low-cost producer. As the low-cost producer forces prices down to make room for its increased scale of output, it may also be able to inflict sustained damage to rival

[8] As Shaikh has pointed out, the neoclassical notion of long-run equilibrium "reflects the essentially static nature of neoclassical economics, and is impossible in Marx's analysis of the perpetually changing accumulation process" (Shaikh 1982a, 82).

[9] For Marx's discussion of differential profit rates within industries, see Marx 1894, 138–39, 178–86, 197–98, 641–45.

[10] Within this context, the profit *margin* is simply defined as the difference between unit price and unit cost. The profit *rate* is the yearly mass of profits divided by the firm's total capital outlay.

firms who are suffering from both higher unit costs and the inability to alter their plant and equipment in the near future. Thus, the innovating capital may eventually be able to make room for itself by extending the market as a whole and by expanding its own market share *at the expense of the market shares of less efficient capitals.*

When the low-cost firm initially lowers its price, certain competitive advantages immediately come into play. By initiating the price cut, the innovating firm is able to enhance its competitive position by clearly establishing itself as the most efficient producer within the industry and, in effect, the clear "price leader." To the extent that other producers are slow to react to the initial price decrease, the innovating capital can obviously utilize this position to capture a portion of its rivals' market shares.

In the longer run, this initial advantage will clearly become tempered as other capitals are eventually forced to cut their prices as well. Nevertheless, as these less efficient firms lower their prices, the penalty they will have to pay may be quite steep depending on their relative cost position within the industry. Given that many of these other capitals possess substantially higher unit costs due to older and less efficient plant and equipment, their profit margins and profit rates may become seriously compromised. Thus, contrary to orthodox theory, rival firms will *not* be able to retaliate with equal competence. In fact, as Marx often noted, the most marginal capitals may be "forced to the wall."

Of course, from the low-cost producer's perspective, things look very different. In the first place, do not forget (as both radical and neoclassical economists often do) that one of the key reasons for the initial decrease in price is to allow the innovating capital to increase its output and thereby defray its larger fixed capital outlays. Thus, although the lower price may cause substantial harm to the profit margins of its less efficient competitors, the innovator should be able to enjoy comfortable profit margins as it begins to take advantage of the benefits of larger scale production. Moreover, to the extent that its increasing capacity utilization level is achieved at the expense of the utilization levels of less efficient capitals, its initial cost advantage will be enhanced.

In fact, when prices do finally settle at a lower level to reflect the lower costs of production within the industry, it is quite possible that the innovator will not only continue to earn the highest profit *margins* in the industry, but the highest profit *rates* as well. For although the innovator may originally suffer from lower profit rates at the old market prices (given its higher unit investment costs), its lower unit prime costs and an aggressive pricing strategy may eventually allow it to seize the dominant profit rate position within the industry.[11]

[11] Contrary to Okishio (1961), this does not mean that the innovating firm will enjoy a higher rate of return relative to other industries. The above argument is developed in greater detail by Shaikh 1978, 1983b, 1987.

Continuing with the same line of reasoning, it is also important to recognize that if our innovator does have a significant cost advantage that can be sustained for some time, there is little reason for the innovator to fear that its lower price will precipitate a serious price war on the part of its less efficient competitors. On the contrary, the lower prices drop, the greater the relative advantage of the low-cost producer vis-a-vis other firms in the industry.[12] Thus, unless some of these less efficient capitals can manage to leap ahead of the innovator by developing more efficient techniques of production, it is far more likely that these capitals will ultimately be forced to suffer significant losses in the battle for market shares.

Finally, if the innovator's pricing strategy does allow it to seize a dominant position within the market, its lower unit costs and increased market share may allow it to enjoy a number of important, long-term advantages. Higher profit rates and profit margins will obviously provide it with greater internal funds for further accumulation and increased research and development. It may also be better able to pursue other competitive strategies such as vertical integration, advertising, and so on. Last, its low-cost position will enable it to become more insulated from rising supply costs and other potentially hazardous events within the ever changing marketplace.[13] Of particular interest to our argument concerning wage differentials, the low-cost firm will often be in a stronger position to absorb wage increases.

Comparing the above analysis of competitive markets to the neoclassical theory of perfect competition, it should be quite clear that Marx begins from an entirely different set of conditions and assumptions concerning the behavior of highly competitive firms. Rather than the neoclassical world of tiny, passive price-takers, we discover large-scale enterprises engaged in pitched battles for market shares. As Shaikh (1978, 1982a) has often pointed out, Marx's key metaphor for the interaction of competing capitals is nothing less than an all-out "war."[14]

Concentration and Centralization versus Monopoly Capital

Although we have now established that Marx's discussion of the competition of capitals clearly begins from a very different logical and historical starting point, there remains the highly controversial issue of whether Marx's analysis ultimately suggests any logical direction for the future

[12] "Under such circumstances, the firms with the lowest unit costs have the greatest chance of survival precisely because price reductions damage the anticipated profit rates of the high cost methods more than those of the lower cost ones" (Shaikh 1987, 116).

[13] For an interesting listing of the competitive advantages of the low-cost firm, see Michael Porter 1980, 35–36.

[14] "Except in the periods of prosperity, there rages between the capitalists the most furious combat for the share of each in the markets" (Marx 1867, 317). For other explicit references to competition as war, see Marx 1849.

development of capitalist competition. This issue will be addressed in some detail in this section.

Within the growing debate between monopoly theorists and the emerging school of classical Marxists, Sweezy and other monopoly capital theorists have conceded that Marx clearly did not attempt to develop a theory of monopoly capital. Nor did he suggest that such a theory would eventually become necessary (Sweezy 1981 and Foster 1986). Given that Marx clearly recognized that more and more industries were becoming increasingly dominated by decreasing numbers of large firms, this omission presents a serious anomaly for monopoly theorists who are attempting to suggest that their own theory logically flows from Marx's analysis. As writers within the more classical Marxist school have also pointed out, this anomaly becomes far more serious when it is recognized that Marx often seemed to suggest that competition would tend to grow *more intense* as the capitalist mode of production continued to develop.[15]

In order to explain this disturbing omission, Sweezy (1981) and Foster (1986) have both pointed out that Marx was simply unable to anticipate the vast wave of merger movements at the turn of the century that ushered in the development of monopoly capitalism. They also suggest that Marx firmly believed that socialism would supplant the capitalist mode of production long before monopolies would come to dominate the economy.[16]

Ultimately, however, the main theoretical attempt to reconcile Marx with monopoly theory has invariably been to claim that the logic of Marx's argument concerning the "concentration and centralization of capital" clearly implies that as the majority of industries become increasingly characterized by small numbers of large firms, competition must eventually give way to monopoly.[17] Thus, as Weeks (1981) has appropriately pointed out, these economists continue to maintain that Marx, like neoclassical economics, essentially had a "quantity theory of competition." Yet, as we will demonstrate, this contention actually flows from their own mistaken conflation of Marx with neoclassical theory, not from Marx's analysis of the concentration and centralization of capital.

In order to argue that Marx viewed the number and size of firms within each industry (i.e., market structure) as a critical factor determining the degree of competition, monopoly theorists usually quote the following passage from volume 1 of *Capital*.

> The battle of competition is fought by cheapening of commodities. The cheapness of commodities depends, ceteris paribus, on the productiveness of labour, and this again on the scale of production. Therefore, the larger capitals beat the smaller. It will further be remembered that, with the development of the capitalist mode of production, there is an increase in the minimum amount of individual capital necessary to carry on a business under its normal conditions. The smaller capitals, therefore, crowd into spheres of production which Modern Industry has only sporadically or incompletely got hold of. *Here competition rages in direct proportion to the number, and in inverse proportion to the magnitudes, of the antagonistic capitals.* It always ends in the ruin of many small capitalists, whose capitals partly pass into the hands of their conquerors, partly vanish [emphasis added]. (Marx 1867, 626)

[15] See Marx 1857, 1894; Clifton 1977; and Semmler 1984.

[16] See also Baran and Sweezy 1966.

[17] See Baran and Sweezy 1966; Sweezy 1981; Edwards 1979; Howell 1982; and Foster 1986.

Of course, the key phrase throughout all of Marx's writings that has captured the attention of the monopoly theorists is the above suggestion that "competition rages in direct proportion to the number, and in inverse proportion to the magnitudes, of the antagonistic capitals." In order to understand what Marx is really arguing here, however, it is necessary to locate the above sentence in its proper context.

Just before Marx makes this statement, he makes it quite clear that he is speaking about a specific situation of uneven development where Modern Industry "has only sporadically or incompletely" gotten hold of certain spheres of production. Thus, while large-scale enterprise has conquered much of the economy, there are a limited number of backward and otherwise stagnant industries where small capitals with little access to credit may still have a fighting chance to survive.

It is "here" that Marx proceeds to suggest that as many of these small capitals "crowd into" these backward spheres, "competition rages in direct proportion to the number." Indeed, within these sectors with limited room for expansion, it is trivially true that the number of capitals will have an important effect on the intensity of competition.[18] Nevertheless, this does not at all imply that Marx is generally suggesting that one can simply use the number of firms in *any* industry across the economy—regardless of technical conditions, differential rates of growth, and so on—as a key indicator of the level of competition. This is clearly implied in neoclassical theory, but not in Marx.[19]

[18] For a more detailed description of these backward sectors, see Marx 1867, chap. 15. In chapter 4 of this book, we have already described how the same process of uneven technical change often tended to crowd many workers into these same spheres. Thus, from the perspective of the labor market we saw that the combined forces of intensified capitalist competition and abundant excess labor supplies often led to brutal levels of superexploitation.

[19] Contrary to conventional wisdom, it is also interesting to note that neither Smith nor Ricardo relied on the number of capitals within an industry as a key factor determining the level of competition. As McNulty has pointed out, "Although Smith specified that competition would be more active, the greater was the number of competitors, the essence of competition in duopoly was evidently what it was in any other market structure, namely, the

Of course, Marx does ultimately suggest that "in any given branch of industry centralisation would reach its extreme limit if all the individual capitals invested in it were fused into a single capital" (Marx 1867, 627). Nevertheless, the suggestion that competition within an industry ultimately reaches its theoretical limit in monopoly is a far cry from arguing that any significant reduction in the number of capitals automatically lessens the level of competition.

With regard to the second issue of the "magnitude" of capitals within each industry, the possibility still remains that Marx is suggesting that competition will generally diminish as capitals grow larger. Once again, however, we must be careful about generalizing from one isolated statement within a very specific context. In the above passage, Marx may be simply suggesting that as larger, more efficient capitals engage in competition with numerous smaller capitals, there will not be much of a contest. More important, many other passages within Marx's writings suggest that competition will clearly tend to *increase* as the capitalist mode of production further develops. In one of his most revealing discussions of competition, Marx gives a number of compelling reasons to believe that competition will tend to intensify as capitals grow larger.

> No matter how powerful the means of production which a capitalist may bring into the field, competition will make their adoption general. . . . [B]ut since he must find a market for perhaps a thousand times as much, in order to outweigh the lower selling price by the greater quantity of the sales; since now a more extensive sale is necessary . . . in order to replace the cost of production, . . . and since this more extensive sale has become a question of life and death not only for him, but also for his rivals, *the old struggle must begin again, and it is all the more violent the more powerful the means of production already invented are*[emphasis added]. (Marx 1849, 43)

Finally, in the next two sections, Marx's distinctive views on the growth of fixed capital and on the inherent instability of price collusion should make it increasingly clear that the logic of monopoly capital is simply not to be found in Marx.

Fixed Capital and the Notion of "Barriers to Entry"

In sharp contrast to neoclassical theory, Marx's analysis of competition does not suggest that rising amounts of fixed capital will automatically lead to rising "barriers to entry" (Clifton 1977, 1983; and Semmler

attempt to undersell one's rival in the market by lowering price" (McNulty 1967, 397). For further comments on the critical differences between classical and neoclassical theories of competition, see Semmler 1984 and Eatwell 1982.

1984). As the first sentence in the previous quote indicates, no matter how large the capital requirements within an industry become, "competition will make their adoption general." Thus, for Marx, fixed capital requirements must not be considered in absolute terms, but in relative terms with other capitals within the industry and the economy as a whole. In addition, as capital requirements increase throughout the economy, this simply means that the necessary armaments for waging a successful competitive battle are also increasing. Thus, although a growing number of relatively small capitals will be forced to the wall, those larger capitals that continue to survive and expand will continue to do battle on an ever enlarging scale.

Indeed, despite the continual growth of fixed capital over time, Marx clearly argues that the barriers to the mobility of capital will tend to be increasingly *broken down* as capitalism develops. In reference to the equalization of profit rates and the mobility of capital across various industries, Marx notes the following:

> Capital succeeds in this equalisation, to a greater or lesser degree, depending on the extent of capitalist development in the given nation; i.e., on the extent the conditions in the country in question are adapted for the capitalist mode of production. (Marx 1894, 196)

In addition to the increasing erosion of the old feudal monopolies, one of the key factors that greatly enhances the mobility of capital is "the development of the credit system which concentrates the inorganic mass of the disposable social capital vis-a-vis the individual capitalist"[20] (Marx 1894, 196). Another critical process which increases competition as the system develops is capital's growing ability to gain access to large pools of undifferentiated labor power (Marx 1894, 196). As noted in chapter 3, the very same processes that raise the level of fixed capital investment also increasingly deskill workers and generate the reserve army.[21]

Marx on the Stability of Price Collusion

The only remaining possibility for monopoly theorists to claim that the concentration and centralization of capital must inevitably lead to monopoly comes, once again, from the neoclassical theory of competition. Just as in the theory of imperfect competition, the monopoly capital school argues that the development of highly concentrated industries will eventually cause price-cutting behavior to be replaced by various forms of direct and indirect price collusion (Edwards 1979; Sweezy 1981; and Fos-

[20] For a modern extension of Marx's argument, see Clifton 1977.

[21] For an interesting discussion of the importance of the access to labor power for ongoing capitalist competition, see Weeks 1981.

ter 1986). Yet, once again, a careful reading of Marx's arguments reveals a very distinct break from the conventional wisdom. Indeed, he presents several important reasons to be highly skeptical of the long-term possibilities of stable price collusion.

Although Marx clearly understood that firms would often attempt to collude when market conditions provided favorable grounds for such behavior, there are two key forces that continually militate against stable collusive agreements. The first of these disruptive factors is technical change. As already explained, as long as cost differentials are continually reproduced within an industry, there will always be strong motivation for the low-cost producers to break from the pack. This is particularly true when the conditions of supply and demand are no longer in favor of the producers. As Marx points out:

> The common interest is appreciated by each only so long as he gains more by it than without it. And unity of action ceases the moment one or the other side (buyers or sellers) becomes the weaker, when each tries to extricate himself on his own as advantageously as he possibly can. Again, if one produces more cheaply and can sell more goods, thus possessing himself of a greater place in the market by selling below the current market-price, or market-value, he will do so, and will thereby begin a movement which gradually compels the others to introduce the cheaper mode of production.[22] (Marx 1894, 194)

The second force that regularly militates against collusion is the continually recurring industrial cycle. With each significant downturn, Marx argues that normal rivalry is transformed into "the most furious combat" over market shares (Marx 1867, 317). Thus, the normal pressures on the low-cost producer to cut prices are greatly enhanced.

Finally, although monopoly capital theorists often suggest that large amounts of fixed capital investment are generally conducive to price collusion, the empirical evidence for this contention is not clear. In fact, in his study of industrial pricing, Scherer argues that "there is evidence that industries characterized by high overhead costs are particularly susceptible to pricing discipline breakdowns when a cyclical or secular decline in demand forces member firms to operate well below designed plant capacity" (Scherer 1970, 64). Thus, once again, Marx's suggestion that expanding large-scale capitals must increasingly struggle to make room for themselves within the marketplace appears to remain quite useful even within the modern economy.

[22] Within the field of industrial organization, it is also fairly well known that cost differentials do not provide fertile ground for price collusion (Shepherd 1985 and Scherer 1970). As F. M. Scherer points out in his study of industrial pricing, "Generally, the more cost functions differ from firm to firm, the more trouble the firms will have maintaining a common price policy, and the less likely joint maximization of profits is. . . . A dynamic corollary of the proposition just stated is self-evident. . . . The more rapidly producers' cost functions are altered through technological innovation, and the more unevenly these changes are diffused throughout the industry, the more likely conflict in pricing actions is" (Scherer 1970, 64).

Summary

Summarizing the most distinctive elements of Marx's analysis of competition within industries, we now have the following points:

1. Marx's analysis of competition is derived from the laws of capitalist accumulation. Hence, the logical starting point is with large-scale enterprise. Moreover, ongoing accumulation requires most capitals to continually "make room" for their expanding output. Competition therefore results in a contentious battle over market shares which intensifies as combatants grow larger. The key weapon in this battle is a more efficient technique of production, and the key strategy is to lower prices and drive less efficient capitals to the wall.
2. Given prolonged turnover periods for fixed capital, competition and technical change results in the continual redifferentiation of profit rates within each industry. Capitals with advanced techniques tend to have greater fixed capital outlays, higher capital/output and capital/labor ratios, lower unit costs, and higher profit margins. As prices are driven down, they are also likely to enjoy higher profit rates.
3. Although fixed capital investment increases with accumulation, this does not imply the notion of "rising barriers to entry."

Competition between Industries

In neoclassical theory the assumptions of perfect competition imply that profit rates will not only be uniform within each industry, but across industries as well. Given the idealized assumptions of perfect information and perfect mobility of capital, if the profit rate in any particular industry should deviate only slightly from the general rate, capital will immediately enter (or exit) the offending industry causing prices and profit rates to return to their normal equilibrium levels. Thus, once again, only minor short-run disturbances in the uniformity of profit rates are to be expected within highly competitive economies, and anything more than marginal disturbances must be considered evidence of the lessening of competition.

Although many Marxist and neo-Ricardian economists have suggested that Marx's analysis of competition between industries is essentially simi-

lar to neoclassical equilibrium analysis, whereby different rates of profit rapidly and smoothly converge toward the uniform rate,[23] Marx actually discusses a very different type of process with equally distinct results. Indeed, as shown below, Marx argues that capitalist competition produces a *tendency* toward the equalization of profit rates that can only take place through the constant correction of substantial differentials in profit rates that often persist for several years. Thus, as Shaikh has suggested, the equalization of profit rates is perhaps best described as a process of "tendential regulation" that involves both constant differentiation and constant disequilibrium.

Tendential Regulation versus General Equilibrium

> The Marxist notion of competition defines a process, not a state. . . . As in any turbulent process, there is never any state of equilibrium. Market prices and quantities are always varying in the face of a multiplicity of factors; at any instant of time, profit rates differ from industry to industry. Yet Marx (and the Classicals too) argues that this ceaseless variation had an inner pattern; a pattern which was achieved *only* in-and-through these perpetual variations, and which would consequently only reveal itself in average movements. This pattern was the *tendency* towards equalization of profit-rates, so that market prices were understood to be *tendentially regulated* by prices of production, and market rates of profit to be tendentially regulated by the average rate of profit. Thus, prices of production were taken to form moving centers-of-gravity of actual market prices, over real periods of variation.
>
> —Anwar Shaikh, "Notes on the Marxian Notion of Competition"

Unlike general equilibrium models, which suggest that capitalism can be usefully depicted as a well-orchestrated ballet, Marx argues that one of the most important characteristics of the capitalist mode of production is its essential anarchy: "The point of bourgeois society consists precisely in this, that a priori, there is no conscious social regulation of production. The reasonable and the necessary in nature asserts itself only as a blindly working average."[24] Without any advanced planning and in the midst of

[23] As Semmler has pointed out, this type of formulation of Marx's theory of competition is often found within modern Marxist discussions that rely on linear production models (Semmler 1984, 9).

[24] Marx to Kugelmann, July 11, 1868. In Marx and Engels, *Selected Correspondence*. International Publishers 1942, 245.

a great deal of uncertainty (rather than "perfect information"), each private producer must nevertheless attempt to connect up with hundreds of other independent actors. Suppliers of the necessary inputs and buyers of the final product must continually be found, all hopefully in the right proportions that will allow for sustained reproduction. Because the capitalist economy is largely unplanned, however, this necessary regulation of the social division of labor can only take place "behind the backs of the producers" through the constant correction of mistakes within the marketplace.

The fundamental mechanism for this process of tendential regulation is the "law of value" which "ultimately determines how much of its disposable working-time society can expend on each particular class of commodities" (Marx 1894, 356). Abstracting from the more complex forms of value that are required as a result of capitalist competition, Marx initially explains how the social division of labor is regulated by the continual deviations of market prices from market values. Thus, for example, when too much (little) labor is devoted to a particular commodity relative to effective demand, this product's market *price* will drop below (rise above) its intrinsic market *value*, which is determined by the socially necessary labor time required to produce it. In turn, this drop (rise) in price will then cause less (more) labor to be devoted to this particular good in the next period. Marx repeatedly points out, however, that "this constant tendency to equilibrium, of the various spheres of production, is exercised, only in the shape of a reaction against the constant upsetting of this equilibrium" (Marx 1867, 356).[25] Thus, "supply and demand are always equated when the whole is viewed over a certain period, but only as an average of past movements, and only as the continuous movement of their contradiction" (Marx 1894, 190).

In the third volume of *Capital*, which deals more explicitly with the dynamics of capitalist competition, Marx goes on to explain that the process of allocating social labor is actually more complex. Given that capitalists are primarily concerned with the production of surplus-value and not use-values, the continual reproduction of the system also requires that each sphere of production must at least *tend to receive* an average rate of return. If prices tended to fluctuate around a commodity's intrinsic market value, however, industries that are relatively labor intensive (i.e., possess low organic compositions) would tend to earn above average profit rates because they are exploiting larger proportions of living labor relative to their total capital investment. Thus, the equalization of profit rates

[25] Marx also argues that "in the midst of all the accidental and ever fluctuating exchange-relations between products, the labour-time socially necessary for their production forcibly asserts itself like an over-riding law of Nature" (Marx 1867, 75). For a useful discussion of the regulating role of the law of value, see Shaikh 1981a.

requires that "prices of production" rather than market values must form the center of gravity of market prices.[26]

Yet, just as the social division of labor can only take place through the constant correction of mistakes, the equalization of profit rates must similarly take place through the "tendential regulation" of continual deviations of profit rates above and below the general (or average) rate. Thus, as Marx points out, "the general rate of profit is never anything more than a tendency, a movement to equalize specific rates of profit" (Marx 1894, 366). Moreover, "the average rate of profit does not obtain as directly established fact, but rather is to be determined as an end result of the equalization of opposite fluctuations" (Marx 1894, 368).

Finally, although these continual fluctuations in both market conditions and market prices are ultimately regulated by the law of value via Marx's "prices of production," these prices of production are not points of convergency that act to dampen market fluctuations in the long run. Rather, they are "centers of gravity" around which prices "continually fluctuate" (Marx 1867, 178–79). Thus, as Semmler correctly points out, Marx's concept of long-run prices "cannot be viewed as an equilibrium concept as formulated in neoclassical theory" (Semmler 1984, 24).

Hence, in sharp contrast to neoclassical economics, Marx does not suggest that highly effective competition across industries will cause individual profit rates to smoothly converge toward the uniform rate. Rather, the equalization of profit rates is a dynamic process that requires the constant convergence of profit rates as well as the continual *redifferentiation* of profit rates above and below the general rate. Indeed, within any given period of time, substantial differentials in interindustry profit rates may persist for considerable lengths of time. In order to see why this is the case, we must delve further into Marx's analysis of the *real* process of capital mobility across industries.

Capital Mobility in the Presence of Fixed Capital Investment

Although we previously pointed out that Marx does not consider fixed capital to be a "barrier to entry," it is critical to understand that the mobility of capital will be significantly conditioned by the technical structure of production within each industry. In volume 3 of *Capital*, Marx clearly points out that the movement to equalize profit rates will require

[26] "The prices which obtain as the average of the various rates of profit in the different spheres of production added to the cost-prices of the different spheres of production, constitute the *prices of production*" (Marx 1894, 157). According to Marx, these prices of production are simply a more complex form of value that continue to be regulated by the direct and indirect labor requirements of the various commodities. See Marx 1894, 179–80.

different amounts of time for different industries depending on the level of fixed capital investment and other technical considerations.

> Yet with respect to each sphere of actual production—industry, agriculture, mining, etc.—the transfer of capital from one sphere to another offers considerable difficulties, particularly on account of the existing fixed capital. Experience shows, moreover, that if a branch of industry, such as, say, the cotton industry, yields unusually high profits at one period, it makes very little profit, or even suffers losses, at another, so that in a certain cycle of years the average profit is much the same as in other branches. And capital soon learns to take this experience into account. (Marx 1894, 208)

As Semmler (1984) has pointed out, although Marx certainly recognized that large fixed capital requirements may make it more difficult to enter certain industries even when profit rates were above the average, he also understood that these same conditions made it equally difficult for capitals *to exit* from these industries when profit rates fell below the average. Thus, rather than viewing large fixed capital requirements as a "barrier" to competition, he perceived them as *conditions of entry and exit* that the competition of capitals must therefore take into account.[27]

In order to develop a more detailed argument of how these cycles of fat and lean years will tend to operate within the dynamic equalization of profit rates, let's briefly consider three different types of industries:

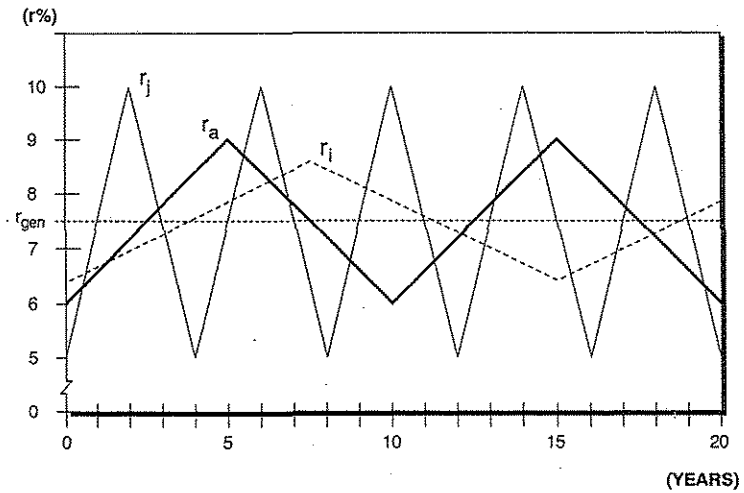
> Industry (A) with an average level of fixed capital investment
> Industry (I) with very heavy fixed capital investment
> Industry (J) with very little fixed capital investment

Abstracting from any long-run trend in the general rate of profit (r_{gen}), the cyclical movements in the rate of profit for the average firm within each industry ($r_{a,i,j}$) might display patterns similar to those depicted in figure 5.1.

Because Industry (A) represents the average level of fixed capital investment for the economy as a whole, we have constructed its cycle of fat and lean years so that a full cycle takes approximately ten years. In the literature on business cycles, the ten-year cycle is a generally recognized phenomenon within capitalist economies which is often referred to as the Juglar Cycle. Although the underlying causes of this cycle are still disputed, there is some evidence that it may be tied to investments in fixed capital (Schumpeter 1939). In figure 5.1 this cycle provides us with a useful standard frame of reference.

[27] "The fluctuations of profit caused by the cycle of fat and lean years succeeding one another in any given branch of industry . . . must receive due consideration" (Marx 1894, 208).

FIGURE 5.1
Equalization of Profit Rates across Industries



As noted earlier, given that industry (I) requires very large amounts of fixed capital investment, capital will face considerable difficulties both entering and exiting. In fact, within many of these sectors it may take several years to bring a new plant on line. In order to build in more flexibility within these industries, firms will tend to maintain relatively large amounts of *reserve capacity*. Thus, if the demand for output should begin to increase, firms will simply enjoy above average rates of profit as they make greater use of their reserve capacity. In order for new plants to be built, however, profit rates will have to rise above the general rate for longer periods of time so that investors can be fairly certain that an expansion of plant and equipment is truly warranted. Heavy depreciation charges will make it far more difficult to withdraw from these sectors should excess capacity develop as a result of unwarranted increases in physical capacity.

Of course, during downturns in the industrial cycle, the same technical considerations also imply that these industries will often experience prolonged periods of below average rates of return. As steel magnate Andrew Carnegie once pointed out:

> [I]n enormous establishments with five or ten millions of dollars of capital invested and with thousands of workers, it costs the manufacturer much less to run at a loss per ton or per yard than to check his production. . . . Twenty sources of expense are fixed charges, many of which stoppage would only increase. Therefore, the article is produced for months and, in some cases that I have known, for years, not only without profit or without interest on capital, but to the impairment of the capital invested. (Cited in Edwards 1979, 41)

Thus, in industries with exceptionally heavy fixed capital investment, the cycle of fat and lean years that ultimately allows these capitals to achieve the general rate of profit will tend to be relatively lengthy, and significant deviations above and below the general rate can persist for several years. In fact, as shown in the graph, a complete cycle may take up to 15 years.

On the other hand, within far less capital-intensive sectors like Industry J, we would expect to see a very different profit rate cycle. Given that capital mobility will tend to be more rapid and far less costly, levels of reserve capacity will also tend to be far lower. Hence, significant deviations above the general rate will tend to elicit faster responses from capitals both within and without the industry. Indeed, it is quite likely that too much capital will enter, forcing prices and profit rates *below* the average levels within a relatively short period of time. Because the process of withdrawing from these sectors also tends to be far less costly, however, the next turning point in the cycle will quickly follow. Thus, within light industries, we would generally expect to observe profit rate cycles that are more brief, and that exhibit deviations from the average profit rate that are more pronounced. Finally, if we had also included the agricultural sector within our graph, we would expect to find the highest degree of volatility in market prices and profit rates given the obvious difficulties of adjusting agricultural production to changing conditions within the marketplace.[28]

Thus, as figure 5.1 suggests, the presence of varying degrees of fixed capital investment implies that the equalization of profit rates across these different industries will *necessarily* entail substantial differentials in profit rates. Moreover, in relatively short periods that do not fully allow for these various cycles of fat and lean years, it may be very difficult to discern any equalization tendency whatsoever.

In the graph, for example, if our observation period were to begin in year four and end only seven years later, the rate of profit for Industry I would be consistently above the average rate for the economy as a whole. It would therefore be very easy to conclude that this sector was utilizing some form of monopoly power in order to achieve these results. Yet, if we extend our investigation to include the following seven-year period, we would discover that the tendential regulation of profit rates now results in a sustained period of below average rates of profit for Industry I. Thus, over a sufficiently long period of time, a tendency to equalize profit rates

[28] See Marx 1894, 118–21. See also Clifton 1983.

across industries would actually be exhibited without ever experiencing "equilibrium."[29]

In sum, Marx's analysis of competition warns us that we must allow for sufficient periods of time before we can attempt to assess whether or not certain branches of industry have been able to achieve sustained periods of above average profit rates as a result of monopoly power. As we shall also see in the concluding section of this chapter, once the cycles of fat and lean years have been given "due consideration," we may discover that a good deal of the "evidence" of monopoly profits within the modern economy may actually be the result of real capitalist competition.

Toward a Competitive Theory of Administered Pricing

Over the past several decades, the use of target rates of return and other forms of "administered pricing" procedures by large firms within concentrated industries has often been cited as evidence of the presence of monopoly power.[30] But, as Marx's analysis of capitalist competition has been further explored and extended by writers such as Shaikh, Semmler, and Clifton, it is becoming increasingly clear that many of these administered pricing procedures can be directly anticipated within Marx's analysis of ongoing capitalist competition.

As demonstrated in the previous section, industries with heavy fixed capital investments tend to face significant difficulties adjusting their plant and equipment within short periods of time. Thus, in order to more quickly respond to constantly changing conditions within an uncertain marketplace, these highly capitalized firms will normally tend to rely on relatively large amounts of *reserve* capacity. At this point, however, it is important to understand that these substantial amounts of reserve capacity also suggest that industries with heavy fixed capital investments will tend to have more stable prices relative to industries that do not have to maintain these reserves. Within certain limits, cyclical fluctuations in market demand can be primarily absorbed through fairly rapid adjustments in capacity utilization levels. Thus, pressure on market prices is significantly dampened. Furthermore, because these fluctuations in output levels tend to occur over a range of fairly constant unit costs, stable prices will also tend to result in stable profit margins.[31] By the same token, industries with relatively low levels of fixed capital investment and low reserve capacity will tend to experience relatively large fluctuations in both market prices and profit margins.

[29] It is also important to note that within Marx's framework, highly capitalized industries that are literally in the process of dying may hang on for a good number of years with profit rates that are significantly below the general rate. In these situations, of course, the counteracting period of above average rates of profit would not be forthcoming.

[30] See Blair 1972 and Clifton 1983.

[31] The presence of constant cost curves over normal operating ranges has been well documented by writers representing a number of different perspectives. See J. Johnstone, *Statistical Cost Analysis* (New York: McGraw-Hill, 1960), pp. 136–48. Moreover, a similar argument concerning the relationship between reserve capacity and price stability can also be found in Kalecki (1943) and various post-Keynesian arguments (Eichner 1980). In many of these arguments, however, the maintenance of high levels of reserve capacity is considered to be part of the overall strategy of oligopolies that are attempting to erect barriers to entry. For a discussion of these alternative viewpoints, see Semmler 1984.

Thus, with a fairly straightforward extension of Marx's original argument, we can already begin to see that different degrees of stability in market prices and profit margins are not necessarily the results of varying degrees of market power. Interestingly, recent research into the historical development of administered pricing policies at General Motors and other large corporations strongly suggests that administered pricing was primarily devised in order to allow these corporations to develop a more effective and more competitive pricing policy in the face of three key factors: (1) growing amounts of fixed capital investment; (2) continual fluctuations in capacity utilization levels over the business cycle; and (3) the development of multiplant and multiproduct operations (Clifton 1983 and Semmler 1984).

Given continual fluctuations in capacity utilization levels, firms with large amounts of fixed capital investment had to develop a method of price calculation that would allow them to achieve a competitive rate of return over a protracted period of time. Summarizing Donaldson Brown's original pricing formulations at GM, Clifton (1983) notes that these price calculations were performed in the following manner:

> Base prices were calculated from historical data covering as many business cycles and different market conditions as experience allowed. From such data the normal characteristics of the market were calculated. Standard volume was an average production rate which was used as the basis for estimating standard costs. From this "factory cost" a profit margin embodying the "economic return attainable" was added to arrive at the base price. (Clifton 1983, 26)[32]

It is also interesting to note that in his own articles, Brown clearly differentiated his policy of administered pricing from misguided attempts to *fix* prices at some predetermined level.

> The pronouncement of a basic pricing policy, in terms of the economic return attainable, should be understandable as a policy, and should not be misapplied

[32] Consistent with the above argument concerning the need for capital-intensive industries to maintain sizable levels of reserve capacity, Brown suggested that the standard utilization level for estimating "normal" unit costs at GM should be at 80% of capacity (Clifton 1983, 26).

> as a dictation of specific price. In other words, the impracticality of frequent adjustment of prices must be recognized, necessitating the maintenance of prices which at times may be above, and at other times below the base price equivalent. . . . If the prevailing price of product is found to be at variance with the base price equivalent, other than to the extent due to temporary causes, it must follow that prices should be adjusted. (Cited in Clifton 1983, 27)

Because the above base policy was essentially an attempt to estimate the center of gravity around which actual prices would tend to fluctuate, Clifton suggests that the development of administered pricing may very well represent "the first institutional emergence of (Marx's) prices of production" (Clifton 1983, 30).

Equal Profit Rates Require Unequal Profit Margins

Before proceeding to a discussion of Marx's concept of regulating capitals, there is one final distinctive element within Marx's analysis of competition between industries that needs to be considered. In contrast to the previous discussions, this element concerns profit *margins* rather than profit *rates*.

We have already shown that industries with relatively high levels of fixed capital investment will tend to possess relatively large reserve capacities and hence, more stable prices and profit margins. Because large fixed capital outlays tend to be highly correlated with both high capital/output ratios and high capital/labor ratios,[33] we can also show that many of these industries will also tend to require an assortment of above average profit margins in order to achieve the average rate of return.

Within Marx's argument, the key rate of return that tends to be equalized across different industries is calculated by dividing the yearly mass of realized profits (π) by the total amount of capital investment (K) that must be tied up within that same year. Thus, the rate of profit for each industry (i) can be expressed in the following manner:

$$r_i = \frac{\pi}{K}$$

If we now simply divide through by total sales ($P \times Q$), we get the following:

$$r_i = \frac{\pi/PQ}{K/PQ}$$

[33] See Ornstein et al. 1973; Howell 1982; and Semmler 1984.

Thus, the rate of profit can also be expressed as the profit margin on sales over the capital/output ratio. From here, it is simple to see that if industries with varying capital/output ratios are going to receive an average rate of return, then those industries with relatively high capital/output ratios must also tend to earn relatively high profit margins on sales. Likewise, if we go back to our original expression for the rate of profit and divide through by total labor requirements, we can also show that industries with high capital/labor ratios will require high profit margins per unit labor requirement. Finally, Semmler has also shown that corresponding results can be derived for the markup over prime cost (Semmler 1984, 147).

Although all of these results can be derived directly from Marx's analysis of the equalization of profit rates, numerous monopoly theorists like Kalecki (1943) have curiously suggested that "high" markups over prime cost and high profit/wage ratios are key indicators of monopoly power. Moreover, high profit margins per unit labor requirement are often considered to be the monopoly basis for above average wage rates.[34] In Marx's analysis, however, this can by no means be assumed.

Summary

Summarizing Marx's analysis of competition between industries, we now have the following:

1. The equalization of profit rates between industries is a dynamic process of tendential regulation which must not be confused with static models of general equilibrium.
2. Given the presence of varying degrees of fixed capital investment across industries, conditions of entry and exit also vary significantly. Thus, the tendential regulation of profit rates will generally entail varying cycles of fat and lean years.
3. Because heavily capitalized industries require prolonged cycles, the tendency toward equalization of profit rates is exerted over significant periods of time. Moreover, at any given moment, there will be substantial differentials in profit rates across various industries.
4. Industries with relatively high levels of fixed capital investment, high capital/output ratios, and high levels of reserve capacity will tend to experience:

   prolonged periods of above average profit rates, followed by sustained periods of below average profit rates

   more stable prices

[34] See Kalecki 1943; Katz 1986; and chap. 2 above.

relatively high profit margins on sales
relatively high profit margins per unit labor requirement

Once again, the contrast between Marx and neoclassical theory is quite pronounced. From within the framework of perfect/imperfect competition theory, the empirical evidence of strong correlations between high capital/output ratios and high levels of fixed capital investment, on the one hand, and above average levels of reserve capacity, high profit margins, more stable prices, and prolonged periods of above average profit rates, on the other hand, are generally considered to be strong evidence of monopoly. Yet, within Marx's theory of competition, all of these results can be directly derived from competition between and within industries.

Marx's Concept of Regulating Capitals

The previous section explained Marx's suggestion that there will be a long-run tendency toward the equalization of profit rates across industries. Within industries, however, competition will continually produce differential profit rates due to the constant presence of differential conditions of production. In order to complete Marx's analysis of competition between and within industries, we must now attempt to integrate these two different levels of analysis.[35]

Although many writers have tended to assume that Marx's discussion of competition between and within industries was essentially completed in chapters 8–10 of *Capital* (3), Shaikh has persuasively argued that Marx's analysis remains at a fairly high level of abstraction. This is primarily because Marx does not entirely integrate the differentiation of capitals *within* industries with the equalization of profit rates *across* industries when he develops his discussion of the transformation of values into prices of production. Indeed, throughout the entire discussion of the formation of prices of production (chapters 8 and 9), Marx essentially abstracts from the differentiation of capitals within each industry by dealing only with the "average" conditions in each sphere. Thus, at this level of Marx's discussion, it is these average conditions that form the basis for the prices of production, and hence, the equalization of profit rates.

It is not until chapter 10 that Marx develops a detailed analysis of the differentiation of capitals within industries. But, although Marx provides us with a very useful discussion of the differences between individual value, market value, and market price, he does not really bring this discussion back into the equalization process across industries. In fact, it is only in the last three pages of this chapter that Marx fleetingly attempts to integrate these two different levels of analysis. In summary fashion, Marx merely notes that the equalization of profit rates will occur in the following manner:

> Capital withdraws from a sphere with a low rate of profit and invades others, which yield a higher profit. Through this incessant outflow and influx, or, briefly, through its distribution among various spheres, which depends on how the rate of profit falls here and rises there, it creates such a ratio of supply to demand that the average profit in the various spheres of production becomes the same, and values are, therefore, converted into prices of production. (Marx 1894, 195)

If we now try to further concretize the above process of equalization by accounting for differential conditions of production within each industry, we confront a number of difficult questions. Within each industry, we know that competition requires similar products to be sold at roughly the same price. Yet this uniform price implies that capitals with different cost structures will also have different profit rates and profit margins. As capital flows between industries and prices fluctuate according to the movements of supply and demand, *around which conditions of production* within each industry will prices tend to gravitate? Or more specifically, which conditions will become the *regulating conditions* that will tend to achieve an average rate of return relative to other industries?

At a fairly high level of abstraction in chapter 9, Marx assumes that the *average* conditions of production will achieve the general rate. Yet, although this assumption certainly allows Marx to provide his readers with a simple and direct way of demonstrating how prices of production are ultimately regulated by the law of value, it does not give us a useful answer to the more concrete (and hence more complex) questions posed above. As Shaikh has pointed out, once we attempt to move to a more concrete level of analysis, we must also recognize that the actual process of equalizing profit rates and the ultimate regulation of prices of production by the law of value become considerably more complex.

The following hypothetical illustration should help to demonstrate this point more clearly. Let us assume that the profit rates for most capitals within the U.S. auto industry are substantially above the profit rates of other industries across the economy. As Marx suggests in the above passage, these excess profit rates will tend to generate an accelerated flow of capital into the auto industry and hence, a lowering of prices and profit rates as supply tends to grow faster than demand. The critical question now becomes: What kinds of capital will tend to be expanded within this industry and therefore act to regulate the flow of supply?

[35] The following argument concerning Marx's discussion of "regulating capitals" has been derived primarily from Anwar Shaikh's unpublished lectures in Advanced Political Economy, New School for Social Research, 1980–1981 (Cited as Shaikh, 1981b). For a very brief discussion of regulating capitals, see Shaikh 1982a.

For instance, will new entering capitals simply attempt to duplicate the conditions of the "average capitals" with the average rate of profit within the industry (i.e., Ford or GM)? Or will they attempt to duplicate the most advanced conditions of production that can be readily reproduced and that may allow them to achieve profit rates that are above the average conditions (i.e., Honda and Toyota)? It becomes obvious that new capitals will attempt to reproduce the latter methods which are the "best practice techniques" since they are clearly the most cost efficient and therefore the most competitive. Thus, as these new capitals flow into the industry and prices and profit rates begin to decline, supply will continue to increase at an accelerated pace until *these capitals* with the best practice techniques achieve a rate of profit that is equal to similar opportunities in other industries. Or, in other words, it is the "best-practice" conditions of production that are generally reproducible, and not necessarily the "average" conditions, that will tend to regulate the center of gravity for price fluctuations. At this more concrete level of analysis, it is therefore these best practice capitals that become the *regulating capitals*. And it is the average profit rates of the regulating capitals across each industry that will be "tendentially equalized" (Shaikh 1982a, 77).

Although Marx does not clearly develop the above argument in chapter 10 of *Capital* (3), he does make a very similar argument concerning "regulating conditions of production" when he further concretizes his analysis of competition to investigate the determinations of differential and absolute rent. Here Marx presents a very detailed argument for why the regulating conditions of production will *not* be the average conditions, but the best practice conditions on the worst land that is required for supply.[36]

The only significant difference in agriculture as opposed to manufacturing is that the natural limitations of the land force some capitalists to engage in production on the worst available land in order to meet the needs of the market. Thus, prices must continually adjust to allow the best practice conditions on the marginal land to achieve the average rate of profit.

Abstracting from this essential difference, *the general point is that once we allow for the differentiation of capitals within either agriculture or manufacturing, it is the best practice technique that is generally reproducible which becomes the regulator of supply and hence, the center of gravity for price fluctuations.* It is these capitals that will therefore tend to achieve a rate of profit equal to that of regulating capitals in other industries. And it is the cost structure of the regulating capitals that becomes the practical standard for each industry and the basis for the competition

[36] See Marx 1894, 640–737. See also Shaikh 1981b.

of capitals. Thus, as Shaikh points out, "The theory of ground rent is therefore a special case of the theory of intra-industry competition" (Shaikh 1982a, 82).[37]

The concept of regulating capitals has a number of important implications for the empirical investigation of differential profit rates between and within industries. Within each industry, for example, it is important to recognize that the regulating conditions of production will generally *not* be equal to the industry's average conditions of production. Thus, the regulating rates of profit within each industry will also tend to diverge from the average rate of profit for the industry as a whole. In order to anticipate the direction of these potential deviations, we must separate the case of manufacturing from mining and agriculture.

Within each manufacturing industry, we have already explained that there will generally tend to be a range of differential profit rates due to the coexistence of different sets of plant and equipment of varying age and efficiency. In certain industries, a small number of capitals may also enjoy special advantages over other capitals through trade secrets, or special locations that reduce transportation costs, and so on. Because these advantages are not generally reproducible, these capitals may therefore enjoy profit rates that are persistently above those of the regulating capitals within the industry. On balance, however, the existence of far greater numbers of capitals of older vintages that are suffering from profit rates that are significantly below the regulating rate of profit will generally cause the "average" profit rate for the industry as a whole to be slightly *below* the industry's regulating rate.

Within agriculture and mining, the opposite situation tends to occur due to the presence of substantial differential rents. Indeed, if many capitalists within these sectors do not have to relinquish their differential rents to a third party (i.e., a landowner), then the average rate of profit within these sectors may be significantly *above* the industry's regulating rate of profit, which is generally determined by the best practice techniques on the marginal land.[38]

Given that the regulating conditions of production will generally not be equal to the average conditions of production within each industry, the

[37] In terms of value theory, it is important to point out that the equalization of the regulating (as opposed to the average) rates of profit across different industries implies that this more complex form of the general rate of profit will not necessarily be equal to Marx's original value rate of profit. Shaikh (1982b) has shown that when the regulating conditions of the overall economy are more (less) efficient than the average conditions, the regulating rate of return will tend to be above (below) the value rate of profit. Although the regulating rate of profit may be either above or below Marx's value rate of profit, however, the law of value remains the ultimate regulator of these deviations.

[38] This is often the case in industries like oil production where companies frequently obtain long-term leases from the government at nominal rates. Although these above aver-

equalization of *regulating* rates of profit across the economy does not necessarily imply that average rates of profit for each industry will tend to be equalized. As suggested earlier, the average rate of return in many agriculture and mining sectors may be substantially above the average rates of return in many manufacturing sectors due to the incorporation of differential rents. (Differential rents may also be an important factor in certain manufacturing sectors where firms are vertically integrated into raw materials production.)

Finally, if the regulating conditions of production in a particular industry are located outside of the region (or nation) being investigated, the average rate of profit for that national industry may not display any tendency to be equalized with the general rate of profit even over long periods of time. Thus, within the framework of regulating capitals, it is particularly important to recognize that an "industry" is not merely any arbitrary collection of national capitals that are producing a certain type of product. On the contrary, it must be defined by the entire set of competing capitals within the world industry as a whole.

For all of the above reasons, empirical investigations attempting to utilize Marx's analysis of competition between and within industries must be careful to distinguish which profit rates are being observed—individual, regional industry average, total industry average, or regulating. Furthermore, given the particular dynamics of the equalization of *regulating* rates of profit, we must now be even more careful to remember that the appearance of persistent differential profit rates between and within industries is not necessarily evidence of monopoly power. Although evidence of the persistence of above average rates of return is clearly necessary to argue for the existence of monopoly power, within Marx's framework it is far from sufficient.

Perhaps most critical for this book, we will soon see that the concept of regulating capitals will become a key element in our analysis of wage differentials. Indeed, within our discussion of competitive wage determination, the analysis of the cost structure and location of the regulating capitals within each industry will be pivotal in determining each industry's long-term ability to absorb rising wage rates. Contrary to the arguments of most radical and institutional economists, we will also argue that *all* viable industries ultimately possess the potential for significant wage increases as long as these increases are initiated within the regulating capitals of the industry in question. Thus, it is not monopoly power that primarily determines a particular capital's ability to incorporate

age rates of return are technically differential rent in strict economic terms, they are generally reported as profits in accounting terms. For an interesting discussion of the oil industry from the perspective of regulating capitals, see Bina 1985.

higher wage rates, but its relative efficiency within the industry that is the crucial factor.

Empirical Evidence of Monopoly

Up until the 1970s, the dominant view within both neoclassical and Marxian economics was that the modern capitalist economy was becoming increasingly characterized by oligopolistic firms that were using their market power to set prices and profit rates significantly above competitive levels. One of the key empirical studies that was initially used to establish the evidence of oligopolistic pricing procedures was Gardiner Means's early investigation of administered pricing during the 1930s (Means 1935). Means's study was then followed by other influential works that more directly attempted to link the phenomenon of administered pricing with monopoly power (Kalecki 1943 and Blair 1974). Of course, the other major source of evidence for increasing monopoly power was the growing number of studies which seemed to suggest that critical levels of market concentration were having a significant influence on differential profit rates across industries (Bain 1951; Stigler 1963; Weiss 1963; and Mann 1966).

Given these and several other studies, the emerging consensus was that more and more key industries were becoming increasingly sheltered from the forces of outside competition by seemingly impenetrable "barriers to entry." Moreover, within these protective walls, oligopolistic firms were using increasing levels of market power and various forms of price collusion to override (or at least greatly diminish) the internal forces of competition within their respective industries.

Within the last fifteen years, however, an increasing number of important developments in the world economy have begun to present some serious anomalies for this generally accepted wisdom. As the United States and many other capitalist nations entered a period of sustained stagnation and crisis in the early 1970s, the high profit rates of many "core" firms no longer appeared to be above the discipline of the marketplace. On the contrary, the near bankruptcies of firms like Chrysler, International Harvester, and USX raised grave doubts about the "eternal" stability and prosperity of core firms.

Even more problematic, intensifying international competition within heavy industrial sectors like auto and steel raised serious questions concerning the assumption of impenetrable "barriers to entry" surrounding many of these "oligopolistic" industries. During the 1960s and early 1970s, it had been generally assumed that economies of scale and carefully maintained "excess" levels of plant capacity would provide fairly permanent protection for these industries. Yet over the past decade, firms

from advanced capitalist nations like Japan and Germany have effectively managed to shatter these barriers. Indeed, within the steel, auto, and computer industries, even newcomers from South Korea and Brazil have somehow managed to enter the fray with the invincible U.S. giants (Craypo, 1986).

In addition to these developments in the world economy, more recent empirical research has also raised important questions concerning the market concentration doctrine. As Semmler (1974) has shown in his extensive survey of the empirical literature, serious questions have been raised concerning the so-called evidence both for oligopoly pricing practices and for the persistence of monopoly profit rates in concentrated industries.

Although the empirical challenge to the market concentration doctrine was initially issued by conservative neoclassical economists (Brozen 1971a, 1973; Demsetz 1973; and Weston and Ornstein 1973), recent empirical and theoretical work by classical Marxist economists has also begun to batter away at the evidence of widespread oligopoly (Shaikh 1983a and Semmler 1984). As discussed in the previous sections, a great many of the empirical patterns that have been interpreted as evidence of monopoly power are perfectly consistent with Marx's analysis of competition. Thus, whereas neoclassical theory tells us that strong correlations of high levels of fixed capital investment with above average levels of reserve capacity, high profit margins, more stable prices, and prolonged periods of above average profit rates are clear indicators of monopoly, Marx suggests that these patterns are generally to be expected from ongoing competition and accumulation.

In order to briefly review some of the most important empirical work within this growing debate, we will be relying heavily on Semmler's extensive study (Semmler 1984). As in Semmler's study, we will break up our empirical discussion into two main parts. The first section will be concerned with the empirical evidence (or lack thereof) for oligopolistic pricing procedures. The following section will then address the evidence of persistent differential profit rates across concentrated and unconcentrated industries.

Evidence of Differential Pricing Behavior

Within both post-Keynesian and monopoly capital arguments, it is generally assumed that the simultaneous development of decreasing numbers of large firms along with rising barriers to entry has enabled many of these large firms to utilize pricing procedures that are quite distinct from the more competitive sectors. Within this world of market power and

various forms of direct and indirect collusion, three key types of distinctive pricing behavior are often predicted. First, it is generally assumed that core firms possess the ability to pass on rising material and labor costs in higher prices far more rapidly and more extensively relative to competitive sectors. Second, it is often implicitly suggested that price levels within monopolistic industries will tend to rise more rapidly over time relative to competitive sectors.[39] Finally, it is argued that oligopoly prices will tend to be less responsive to short-run changes in conditions of supply and demand, particularly over the business cycle. (Here we are primarily referring to the well-known phenomenon of "administered pricing.")

Although the above three claims are often simply assumed within many Marxist and post-Keynesian discussions of the modern capitalist economy, Semmler's analysis of the relevant empirical literature raises serious doubts about the validity of at least two of these arguments. As we shall soon see, although there is some evidence for less flexible prices over the business cycle within concentrated industries, there is very little evidence to support the first two contentions.

Regarding the first assumption concerning the differential ability of core firms to pass along rising costs, this argument was repeatedly put forward by radical and institutional labor economists as one of the primary explanations for the persistence of differential wage rates between core and periphery industries (see chapter 2). According to Semmler's analysis, however, empirical studies investigating the effect of market concentration on the timing and magnitude of price increases (following cost increases) have revealed very mixed results at best. On the one hand, studies by Ripley and Segal (1973), Lustgarden (1975), and Wilder et al. (1977) curiously indicate that concentrated industries generally pass on a *smaller* proportion of cost increases in higher prices—particularly in the case of rising unit labor costs[40] (Lustgarden 1975; and Ripley and Segal 1973). On the other hand, a study by Yordon (1961) appeared to indicate that the degree of concentration had no significant effect on the rate of

[39] This argument is a key component in various explanations of the modern problem of stagflation. In monopoly capital arguments, it is often argued that the monopoly pricing power of oligopolistic industries has enabled these large firms to undermine government efforts to increase aggregate demand and output by transforming rising demand into rising price levels (Magdoff and Sweezy 1977). Moving in a slightly different direction, post-Keynesians generally argue that the chronic inflation of the 1960s and 1970s was largely driven by the development of a wage-price spiral within the core (see Eichner 1979, 1980).

[40] Although Lustgarden discovered that wage rates within concentrated industries clearly rose more rapidly relative to unconcentrated industries, he found that productivity also rose more rapidly. He therefore concluded that "relatively greater productivity in concentrated industries led to relatively lower unit labor costs and relatively lower prices" (Lustgarden 1975, 32).

price increases in response to cost changes. Finally, empirical investigations by Weiss (1966b) and Dalton (1973) suggested that industrial concentration does have a positive effect on price changes.

Summing up these divergent results, Semmler suggests that these discrepancies may be partially due to different time periods observed. Of greater importance, he also points out that most of these studies (with the exception of Dalton and Lustgarden) may be seriously biased by their failure to measure both unit material costs and unit labor costs *in relation to total costs*. Given that concentrated industries also tend to have above average capital/labor ratios and above average capital/output ratios, empirical studies that fail to properly weight these cost factors will artificially result in lower price increases within concentrated industries. As Semmler explains:

> Under the assumption of markup pricing, a given percentage of wage or material cost increase shows up as a lower increase in prices in industries where the ratio of labor input to output and/or the ratio of material input to output is below the average and the ratio of capital to output (capital output ratio) is above the average. But these are only the direct effects of wage or material cost increases in industries with different input-output relations. (Semmler 1984, 88)

Given this problem of bias as well as the strong discrepancies in statistical results, Semmler concludes that the evidence of higher price increases in response to rising costs within concentrated industries is "not very strong" (Semmler 1984, 89). Clearly, far more extensive and more systematic research needs to be conducted.

With the appearance of the growing problem of chronic inflation in the late 1960s, several empirical studies were conducted to test the claim that high degrees of market concentration are a primary causal factor in the acceleration of inflation. Yet, once again, a careful review of the literature suggests that this widely held assumption among many radical, post-Keynesian and Marxist economists appears to have little empirical support. In an early study that observed price levels across fourteen U.S. industries from 1947 to 1958, Yordon (1961) found that the level of market concentration appeared to have no significant effect on the rate of price change across varying industries. Thus, he concluded that "on the whole, inflationary pressures seemed to be transmitted through the two groups of industries in a similar manner: prices were insensitive to demand changes, but were rapidly and fully responsive to cost increase" (Yordon 1961, 287). Phlips's study of price increases across three countries within the EEC discovered similar results (Phlips 1969).

Moreover, in an extensive analysis of the problem of persistent inflation, Philip Cagan concluded the following:

> It is hard to see here an important role for concentration in the post war changes in price behavior. . . . The tendency of prices to respond less in successive recessions does not reflect the special behavior of highly concentrated industries, despite their weaker price response overall, but is a more general phenomenon. (Cagan 1979, 90)

Perhaps one of the most curious bits of evidence against the notion that price levels tend to rise more rapidly in oligopolistic industries is presented by Alfred Eichner's own post-Keynesian analysis of the "megacorp and oligopoly." In his book by the same title, Eichner (1980) includes an extremely interesting graph, which has been reproduced here as figure 5.2. This graph compares movements in price levels across "oligopolistic" and "competitive" industries between 1965 and 1973. Yet, although Eichner attempts to use figure 5.2 to support his claim that the 1960s inflation was primarily initiated by a wage-price spiral within the oligopoly sectors, the long-term price movements within this graph far more clearly reveal that price levels in oligopolistic industries do *not* rise faster than prices in competitive industries. Nevertheless, in partial support of the administered pricing argument, Eichner's graph does suggest that prices in concentrated industries do tend to be more stable over the business cycle. It is to this final question that we must now turn.

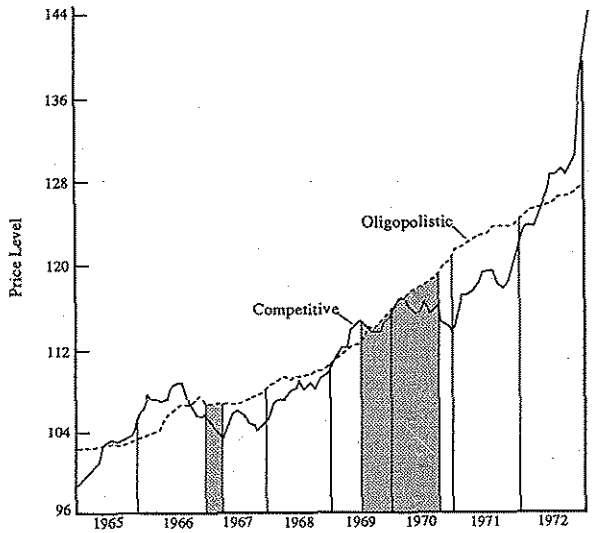
Unlike the previous two contentions of the monopoly theorists, there is strong evidence that price levels in concentrated industries have tended to be somewhat less responsive to changes in the business cycle relative to unconcentrated industries.[41] As Semmler quite correctly points out, however, the key question here is how we are to interpret these findings.

Within both post-Keynesian and monopoly capital arguments, the evidence of less responsive prices within concentrated industries is generally interpreted as evidence of monopoly pricing power. Indeed, just as these theories have predicted, it does seem to appear that core industries may be able to override short-run market forces by simply setting their prices to ensure target rates of return regardless of fluctuations in the business cycle.

As Semmler suggests, however, it is also possible to develop a very different explanation for these varying degrees of price flexibility that has very little to do with monopoly pricing power. As Marx originally suggested many years ago, differential responses to changing conditions within the marketplace may simply be due to differential technical structures of production across varying industries. "The average periods dur-

[41] See Sellekaerts and Lesage 1973; Blair 1974; Cagan 1975; Wachtel and Adelsheim 1977; and Semmler 1984. For conflicting empirical studies which suggest that market concentration levels do not have a significant influence on price fluctuations, see Lustgarden 1975; Weiss 1971; and Dalton 1973.

FIGURE 5.2
Wholesale Prices in "Oligopolistic" and "Competitive" Industries: 1965–1973



ing which the fluctuations of market prices compensate each other are different for different kinds of commodities, because with one kind it is easier to adapt supply to demand than with the other" (Marx 1865, 208).

In his analysis of the relevant empirical literature on cyclical pricing behavior, Semmler once again points out that the results of most of these studies are seriously biased by their failure to test for the importance of varying degrees of fixed capital outlays. Thus, he notes that "the reason for these differences in price movements in concentrated and nonconcentrated industries may lie in the empirically well-established fact that concentrated industries are on the average more capital intensive than other industries" (Semmler 1984, 97).

In order to pursue this matter further, Semmler conducts his own multiple regression tests which do include a variable for fixed capital costs. In his study of price changes across eighty-three U.S. industries, he attempts to assess the relative importance of both capital/output ratios and concentration ratios for the top six firms within each industry. In his first pair of tests over the *expansionary* period 1970–1972, Semmler gets different results depending on whether net or gross capital/output ratios are utilized in the regression. Yet, while only gross capital/output ratios appear to be statistically significant, concentration ratios are consistently significant and negative just as monopoly theory would suggest. On the other hand, the results for the *recessionary* period of 1973–1975 are quite different. Here, both net and gross capital/output ratios are statistically significant and positive. Moreover, the beta coefficients for both capital/output ratios are quite high relative to the coefficients for concentration ratios, and concentration ratios are no longer significant. For the recessionary period, Semmler therefore concludes that "the hypothesis is confirmed that the actual net or gross capital/output ratios are more important for price change than the concentration ratios" (Semmler 1984, 100).

In order to further explain why industries with high capital/output ratios will tend to have less flexible prices, Semmler suggests an explanation somewhat similar to Kalecki's (1943) original discussion of pricing behavior within industries with high overhead costs. Because concentrated industries also tend to require both high capital/output ratios and high fixed capital outlays, Semmler correctly points out that periods of declining demand will tend to cause unit overhead costs to rise more rapidly in these industries relative to those with low fixed capital requirements. Like Kalecki, he therefore suggests that "industries with a high proportion of fixed costs to total costs (measured at a normal rate of capacity utilization) will suffer losses in profit per unit of output unless the markup and the price are going up in those industries." And of course, the opposite effect takes place in periods with increasing demand (Semmler 1984, 97).

Although Semmler makes important advances by placing greater emphasis on differential levels of fixed capital investment rather than on market concentration, his suggestion that capital-intensive industries utilize countercyclical pricing methods in order to smooth out fluctuations in their profit rates is problematic. As Semmler admits, this argument requires the very strong assumption that firms with high fixed capital outlays will not attempt to lower their prices in order to minimize declines in output during recessions (Semmler 1984, 101). Indeed, he suggests that they may even *raise* their prices due to rising overhead costs.

As noted earlier in this chapter, there is some evidence to suggest quite the opposite.[42] Although there is a relatively large range of fluctuations in output where price changes are not introduced, periods of significant recession will tend to put even *greater* pressure on capital-intensive firms to lower prices precisely because of their high overhead costs. Moreover,

[42] See also Scherer 1970.

raising prices in such periods would generally tend to exacerbate the original problem of rising overhead costs by causing capacity utilization levels to decline even further.

Another problem with Semmler's explanation is that it suggests that administered pricing procedures are at least partly an attempt by large firms to smooth out their cycles of fat and lean years.[43] But, judging from Clifton's analysis of administered pricing policies, this does not appear to be the case (Clifton, 1983). Although administered pricing was partly developed to create greater stability in market prices, there is little evidence to suggest that these pricing policies were attempts to set prices so that firms would *always* be able to achieve the average rate of return regardless of fluctuations in supply and demand. Instead, Clifton finds evidence to suggest that administered prices were actually an institutional attempt to establish price levels that are very similar to Marx's long-run prices of production. Thus, if estimated properly, they would essentially function as centers of gravity for market prices that would enable firms with high levels of fixed capital to earn a competitive rate of return over a protracted cycle of fat and lean years.

As Donaldson Brown points out in his original pricing formulations for General Motors:

> As the non-controllable expenses influence the profit margin, so the fixed portion of the investment influences the rate of return on capital. It is therefore, not possible to compare directly the rate of return on capital actually realised or expected with the economic return attainable, since the latter represents an average rate of return to be realised over a period including both good and poor years, and is not the rate to be aimed at in a given year.[44] (Cited in Clifton 1983, 31)

As discussed earlier in the section on administered pricing, perhaps a more plausible explanation for linking high capital/output ratios with more stable prices may be developed by arguing that these industries also tend to require above average levels of reserve capacity. Thus, rather than responding to changes in supply and demand through continual price fluctuations, these firms primarily respond by altering their capacity utilization levels. Hence, although both prices and profit *margins* may tend to be fairly stable over the cycle, profit *rates* will continue to vary along with fluctuations in output levels. This line of reasoning not only appears to be more consistent with the above discussions of administered pricing, but it is also more consistent with Marx's original discussion of the tendential regulation of profit rates over various cycles of fat and lean years.[45]

Before going on to the issue of differential profit rates between industries, there is one additional set of empirical studies that also provides strong support for Marx's original argument concerning the key determinants of long-run prices of production. It is well known that both Ricardo and Marx suggested that movements in relative price levels for different commodities would primarily tend to be regulated by changes in the direct and indirect labor requirements of each commodity.[46] Recent efforts have been developed to test this classical hypothesis and the results have consistently been quite impressive (Carter 1970; Shaikh 1983a; and Semmler 1984). Indeed, in two fairly extensive studies of price-value deviations, Shaikh presents good reason to argue that the labor theory of value continues to be quite relevant to the determination of relative price levels—even at high levels of industrial concentration. Reporting on his empirical results, Shaikh notes that "as a typical result, for both prices of production and market prices, roughly 93% of both cross-sectional and inter-temporal variations in these prices can be explained by the corresponding variations in values" (Shaikh 1983a, 80).

Summarizing his study of the empirical literature on pricing, Semmler concludes with the following:

> [N]either variations in demand nor in industrial concentration can be considered important determinants of industrial pricing. . . . [C]ost-determined pricing and markup pricing procedures, which are usually regarded as the post-Marxian/post-Keynesian contribution to a theory of industrial and corporate pricing, are not limited to concentrated and oligopolized industries but seem to be widespread procedures. . . . (And finally) there is not sufficient empirical evidence to prove that price changes and their dispersion between industries in a recessionary or expansionary period of the business cycle are caused either by short-run changes in demand, by industrial concentration, or by an increase of

[43] Semmler (1984) and Clifton (1983) have also pointed out that another key function of administered pricing is to provide a more consistent and more profitable method of allocating investment funds across multiproduct and multiplant enterprises.

[44] Similar comments can be found in A. Bradley's early discussion of administered pricing as an effective method of investment control across multiproduct operations. Commenting on financial control policies at GM, he states that "return on investment is the basis of the policy in regard to the pricing on product, but it must be understood that the fundamental consideration is the average return over a protracted period of time, not the specific rate of return over any particular year or short-period of time" (cited in Semmler 1984, 184).

[45] Semmler may have rejected this explanation based on his own empirical study of West Germany, which appeared to indicate that high market concentration is not clearly correlated with above average levels of reserve capacity. Unfortunately, this study was conducted for only one year, 1973. And as Semmler himself points out, 1973 was "the year before the recession of the mid-seventies, a year when utilization of capacity was quite high" (Semmler 1984, 128–130). Thus, differentials in reserve capacity would also tend to be at their minimum. Clearly, more empirical work across longer periods of time must be conducted in order to further test these divergent hypotheses.

[46] See Marx 1894; Shaikh 1983a; and Semmler 1984.

markups or target rates of return due to exercised market power of oligopoly firms [Insert added]. (Semmler 1984, 101–2)

As Semmler goes on to explain, however, one of the key pieces of "evidence" for the monopoly pricing argument still remains to be examined. This concerns the evidence of persistent above average rates of profit within core industries. Clearly, if administered prices and target rates of return are truly expressions of monopoly pricing power, then they should also be producing monopoly profit rates over sustained periods of time.

Evidence of Differential Profit Rates

In the section on capital mobility, we argued that Marx's analysis of the tendential regulation of profit rates across different industries suggests that fairly long periods of time are required to fully account for various cycles of fat and lean years within each industry. Moreover, at any given moment of time, substantial differential profit rates are to be expected as an integral part of the equalization process. Because Semmler is also interested in testing Marx's argument for the long-run equalization of profit rates, he too argues that the only solid evidence for monopoly power would be the presence of monopoly profit rates that are sustained over sizable periods of time. Yet, once again, empirical studies on differential profit rates do not provide conclusive evidence for the persistence of monopoly profits.

The initial U.S. studies that provided the basis for the market concentration doctrine examined profit rate differentials during the 1930s, 1940s, and 1950s.[47] Yet although many of these studies did result in "statistically significant" evidence which suggested that "high" market concentration was correlated with above average profit rates, many of these results were extremely weak.[48] Subsequent critiques also revealed several methodological problems. In particular, critical concentration levels were often arbitrarily chosen and poorly measured, observation periods were far too short, and data bases were too limited (Semmler 1984, chap. 4).

Given these methodological problems, the early studies were easily criticized by more conservative economists who were attempting to claim that the U.S. economy was still highly competitive. In a series of studies, Brozen showed that once the initial studies by Bain, Mann, and Stigler were revised by extending the time period and including more industries, differential profit rates due to market concentration were no longer

[47] See Bain 1951; Mann 1966; Stigler 1963; and Weiss 1963.

[48] See Bain 1951.

clearly shown. Indeed, as the original studies were extended over time, above average rates of return for concentrated industries tended to move toward the average rate (Brozen 1971a, 1971b, 1973).

When other factors like firm size (measured by assets), market share, and productivity growth were also considered, revised studies further suggested that higher profit rates in concentrated industries could be better explained by these other variables. For example, studies by Demsetz (1973) revealed that profit rates were only significantly related to concentration when firms in these industries also had assets greater then $50 million. Thus, he concluded that high profit rates were primarily due to the efficiency of these large firms, not market power.

Within more recent arguments both for and against the monopoly power position, it is now generally recognized that high concentration ratios will tend to be statistically significant only when these industries also possess substantial "barriers to entry" such as economies of scale, and relatively high fixed capital requirements.[49] The argument here is that high concentration only presents the possibility for collusion when competition from *outside* the industry can also be prevented.

As Marx originally suggested, however, once we allow for "barriers to entry" in the shape of large-scale enterprise and high fixed capital costs, we must also allow for "barriers to exit."[50] Thus, if we are going to look for evidence of persistent monopoly profits within the U.S. economy, it is necessary to extend our empirical investigations beyond the prosperity of the 1950s and 1960s into the more recent period of prolonged stagnation and crisis. As Semmler correctly points out, within concentrated industries that are heavily capitalized (i.e., steel and auto), these prolonged periods of stagnation may very well translate into prolonged periods of below average profit rates. Indeed, this is precisely what Marx's notion of tendential regulation over cycles of fat and lean years predicts.

The last important group of studies that do not bode well for the market concentration doctrine are recent studies that have attempted to assess whether it is industrial concentration and market power that leads to higher profitability, or simply greater efficiency as reflected in economies of scale and larger market shares. Studies by Gale (1972), Bruzzel et al. (1975), Caves et al. (1977), and Gale and Branch (1982) all suggest that market share has greater explanatory power for interfirm profitability than market concentration (Semmler 1984, 127).

[49] For arguments against the market concentration doctrine, see Stonebraker 1976; Ornstein et al. 1973; and Qualls 1972. For radical and Marxian arguments supporting the theories of monopoly capital and/or the dual economy, see Edwards 1979; Bowring 1986; Sherman 1983; and Foster 1986.

[50] See the section on capital mobility. For an important neoclassical discussion of these barriers to exit, see Caves and Porter 1977.

Summing up his survey of the literature on differential profit rates, Semmler draws three "preliminary conclusions."

> First, there does not seem to be overwhelming evidence that industrial concentration by itself leads to persistence of higher profit rates. Entry barriers seem to be a necessary condition for profit rate differentials. Second, entry barriers can turn into exit barriers, leading to profit rates for industries and firms below the average. . . . Third, there are few studies which reveal unequivocally that firm size is the dominant variable for interfirm profitability differences. Higher profitability corresponding to firm size and larger market share in product lines may be the result of market power or of economies of scale and cost advantages, yet recent studies have shown that economies of scale and cost advantages influence the profitability of firms more than industrial concentration (Semmler 1984, 128–29).

As capitalist competition continues to intensify both within and across national boundaries, debates over the validity of the market concentration doctrine have continued within virtually all schools of economic thought. In this final section on empirical analysis, we will concentrate on the intensifying debate among radical and Marxian economists.[51]

In recent attempts to defend monopoly and dual economy arguments, a number of Marxist writers (Edwards 1979; Gordon et al. 1982; Sherman 1983; and Foster 1986) have largely relied on empirical work that was recently conducted by Joseph Bowring (1982, 1986). Using IRS data on firm profitability, firm size,[52] and industry concentration levels, Bowring tested for differential profit rates across four classes of firms: (1) small firms in industries with low market concentration, (2) small firms/high concentration, (3) large firms/low concentration, (4) large firms/high concentration. Over a period of fourteen years from 1958 to 1971, Bowring found the following:

> Large firms in concentrated industries earn systematically higher profits than do all other firms, about 30 percent more than all other firms on average. The profit rates of all other firms fall fairly close together, although small firms in concentrated industries do better by a small margin than do small firms in less-concentrated industries or large firms in less-concentrated industries. (Bowring 1986, 152)

Although these results are clearly more dramatic than previous studies, Bowring's study suffers from several important weaknesses. While he does conduct his study over a period of fourteen years, it is still possible that this time period may not be long enough to fully account for Marx's various cycles of fat and lean years. Much more important, the problem of an insufficient observation period is greatly compounded by the fact that his study ends precisely when two very significant events are beginning to transform the U.S. economy.

[51] See Foster 1986; Semmler 1982, 1983; Sherman 1983; and Glick 1985.

[52] Large firms are defined as those with over $100 million in assets.

First, the late 1960s and early 1970s was precisely when the U.S. economy was beginning to enter a prolonged period of stagnation and crisis. Thus, it is within this period that barriers to exit within highly capital-intensive sectors would begin to take an increasingly serious toll through rising fixed costs and declining profit rates.

The second key factor that also had detrimental effects on the profit rates of "core" sectors within the United States was the onset of intensified international competition. This event is important for several reasons. As already noted, Marx's theory of competition suggests that it is only the profit rates of the *regulating capitals* within each industry that will tend to be equalized across different sectors. Thus, if our profit rate data are confined to an essentially arbitrary collection of capitals within one particular region or nation, we may get a very distorted view of the real worldwide process of equalization. Indeed, although profit rates of regulating capitals across different worldwide industries may be tending toward equality over sufficient periods of time, the *average* rates of profit for various national sectors of these industries need not display any long-run equalization tendency whatsoever. Thus, once again, we must be extremely careful to pay attention to which profit rates we are actually observing.

From the end of World War II through the mid-1960s, for example, it is reasonable to argue that many of the regulating capitals within "core" industries like auto, steel, and rubber tires were located within the United States. On the other hand, many of the regulating capitals of more labor-intensive "competitive sectors" such as textiles, apparel, and consumer electronics were increasingly located overseas. Indeed, given that many of the latter sectors have relatively high shares of labor costs and relatively low capital mobility costs, these industries were often the first to tap into low-wage labor markets outside of the United States (Bluestone and Harrison 1982). Hence, it is quite possible that the above average rates of return in many of the core sectors had much more to do with the national location of the regulating capitals (and hence the relative efficiency of these U.S. firms) rather than with their "monopoly power."

Of course, in the late 1960s and 1970s, this situation began to change dramatically. With the intensification of international competition, not only did the "impenetrable" entry barriers surrounding these core sectors begin to evaporate, but the location of many of the regulating conditions of production within core industries like steel and auto also began to shift markedly. Not only were many new regulating capitals developing in Ger-

many, Japan, and South Korea, but U.S. firms with aging capital equipment were also increasingly on the move.[53]

Returning to Bowring's study, he does point out that "neither the statement of core-periphery theory nor the empirical tests of that theory in this study take explicit account of international competition" (Bowring 1986, 189). Yet, because he generally assumes that large firms within each core industry tend to have very similar cost structures, the truly serious problems concerning both the timing of his study and its limited national scope are greatly underestimated. In fact, the assumption of equal cost structures artificially eradicates the problem of locating and identifying regulating capitals altogether. Still, it is interesting to note that these factors do appear to make their presence felt at the tail end of his study.

As noted, both the chronic stagnation and the shifting location of regulating capitals within the core began to take place in the late 1960s. And it is precisely between 1969 and 1971 that the profit rate differentials within Bowring's study shift dramatically—within these three years, the average profit rate of "core" firms declines from 11 percent to 6.6 percent. Meanwhile, among small firms in unconcentrated industries, the average profit rate merely declines from 7.5 percent to 6.0 percent. Thus, in this short period of time, Bowring's 30 percent differential between core and periphery has been almost entirely eliminated![54]

Finally, one of the most recent contributions to the debate over persistent monopoly profit rates is an empirical study that was conducted by Mark Glick (1985). Glick's study is significant because his observation period goes from 1958 to 1979. Thus, it is one of the first attempts to measure interindustry profit rate differentials over a prolonged period of time.

Using two-digit industry classifications from NIPA data, Glick runs the following regression:

$$r^i_t - r^*_t = c^i + p^i(r^i_{t-1} - r^*_{t-1}) + e^i_t.$$

Where r^i_t is the rate of profit of industry i in time t, r^*_t is the cross-sectional weighted mean of the rate of profit in each year, p^i is the correlation coefficient of $(r^i_t - r^*_t)$ with its lagged value, c^i is a constant, and e_t is the random disturbance term.

Thus, he is essentially attempting to measure the extent to which the average profit rates for each industry will tend to deviate from the average rate for the economy as a whole. Based on his results, Glick presents two mixed conclusions. On the one hand, he finds that an adjustment process whereby profit rates do tend to converge toward an average rate does appear to exist in every industry, regardless of the level of concentration. He also shows that the "size of persistent above average industry profit rates have been overstated by short-run studies" (Glick 1985, 125). On the other hand, Glick also points out that "the passage of time does not completely eliminate profit rate differentials" (Glick 1985, 125).

In the end, Glick qualifies his results by pointing out that his study abstracts from international competition and access to financial markets. Moreover, it may be measuring the wrong ratio for the rate of profit, or an inadequate span of years. Thus, he is not yet willing to conclude that these persistent differentials provide proof of the monopoly argument.[55]

Clearly, the debate will continue and more extensive and more careful empirical work needs to be done. One key issue that researchers have not yet even begun to account for is Marx's discussion of regulating capitals.[56] One thing we can safely conclude is that the so-called "evidence" of both monopoly pricing procedures and persistent monopoly profit rates is far from conclusive.

Perhaps of greatest significance, we have also seen that many of the empirical patterns of differential profit rates and differential pricing behavior that do clearly exist within the modern economy are patterns that can be easily anticipated from Marx's analysis of ongoing capitalist com-

[53] According to Bluestone and Harrison, these shifts of American capital became "truly enormous" during the 1960s. "One corporation alone, General Electric, increased its overseas capacity fourfold, from twenty-one foreign plants in 1949 to eighty-two in 1969. The proportion of total plant and equipment investment located outside the United States doubled in the metal and machinery industries, from an annual average of 14% during 1957–61 to 28% during 1967–70. By the early 1970s, nearly one third of annual U.S. automobile company investment was being placed abroad" (Bluestone and Harrison 1982, 113). See also Craypo 1986, 1981; and Adams and Mueller 1986.

[54] Bowring deals with this peculiar turn of events by simply noting that his analysis of the IRS data provides "tentative support" for the core/periphery hypothesis "at least through 1969" (Bowring 1986, 153). For further evidence of the sharp declines in profit rates within heavy manufacturing industries in the 1970s, see Bluestone and Harrison 1982, 148. According to a study of twelve manufacturing industries and international commercial banking, these authors point out that in 1959, "the United States was 'home' for 111 out of the world's 156 largest multinational corporations: a share of 71 percent. By 1976, only 68 out of the largest 156 (43 percent) were American based" (1982, 142).

[55] In a more recent two-digit SIC study of profit rate differentials spanning a longer period of time (1948 to 1979), Glick and Ehrbar produce results that are similar to the 1985 study: "Although this paper lends support to Brozen's suggestion that previous short-run studies have failed to capture long-run equilibrium, the increase in equalization gained from lengthening the estimation period seems, at first glance, disappointingly small, and a persistent differential still endures in the long run. . . . Brozen's hypothesis of equalization in the long run may still hold, but the interaction of many markets, each of which reacts with a different speed, may make this adjustment process a very complex one" (Glick and Ehrbar 1990, 161).

[56] Although Glick is familiar with the concept of regulating capitals, profit rate data over prolonged time periods is only available for industries at the two-digit SIC level. Because this involves a high level of industry aggregation, these profit rates are clearly problematic as proxies for both the average and regulating rates of profit of properly defined industries.

petition. Thus, the longstanding impasse between theories of competition and the empirical evidence of persistent patterns of differential profit rates is finally beginning to be broken down. Because the results of Marx's analysis of competition are critical to our own attempt to break down a very similar impasse between theories of competitive wage determination and the empirical evidence of differential wage rates, it will be useful to summarize them here.

Chapter Summary

Competition within Industries. Unlike neoclassical theory where high levels of competition produce identical capitals with identical profit rates, Marx argues that competition continually generates an array of capitals with different levels of productivity and profitability. Newer capitals with higher levels of fixed capital investment will generally tend to have lower unit costs relative to older capitals with less advanced techniques. Because these lower costs are the most powerful weapon in the competitive struggle for market shares, these more efficient capitals will also tend to enjoy both higher profit margins and higher profit rates. Finally, Marx does not assume that "price-taking behavior" is the competitive norm, and there is no reason to imply that industries with larger and relatively fewer individual capitals will tend to be less competitive. On the contrary, the competitive battle for market shares tends to *intensify* as the combatants grow larger in size.

Competition between Industries. Here again, rather than arguing that effective competition will instantaneously generate equal profit rates between industries, the classical Marxist perspective suggests that this equalization process must be analyzed within the context of a dynamic process of tendential regulation that must allow for varying degrees of fixed capital. Thus, not only would we expect to find evidence of the convergence of different profit rates only over substantial periods of time (i.e., Marx's cycle of "fat and lean years"), but we would also expect to find evidence of the continual redifferentiation of profit rates as well. Indeed, given the anarchic nature of capitalist production and the presence of significant amounts of fixed capital, the equalization of profit rates between industries can only take place through the continual correction of substantial deviations above and below the average rate.

From the further development of Marx's argument by Shaikh, Semmler, and Clifton, we have also seen that industries with different technical structures of production are forced to respond to the pressures of ongoing competition in very different ways. Industries with high levels of fixed capital investment must rely on greater amounts of reserve capacity to

enable them to continually adjust their output levels to changing market conditions. Because these adjustments generally take place within a range of fairly constant unit costs, these same industries also tend to have more stable prices and profit margins relative to industries with significantly lower levels of fixed capital investment.

Given that highly capital-intensive industries tend to require prolonged periods of time to bring new plants on line, we would also expect that many of these industries may enjoy relatively long periods of above average profitability when demand is growing rapidly. On the other hand, these same industries will tend to experience sustained periods of *below* average profitability during periods of stagnation. Moreover, dying industries that are heavily capitalized will frequently attempt to hang on with below average profit rates for a number of years as they try to minimize their losses and depreciate their plant and equipment. Thus, different industries will necessarily have very different cycles of fat and lean years due to varying conditions of entry *and exit.*

In contrast to much of the discussion within oligopoly and monopoly theory, we have also seen that the equalization of profit *rates* between industries does not imply the equalization of profit *margins.* Heavily capitalized industries with relatively high capital/output ratios will generally require higher profit margins over their normal sales in order to achieve the average rate of profit. Similarly, industries with relatively high capital/labor ratios will also require higher profit margins per worker and hence, higher "value productivity" per worker.

Finally, from the analysis of "regulating capitals" we have also discovered that the equalization of *regulating* rates of profit does not necessarily imply that *average* rates of profit for each industry will be equalized. If the regulating conditions of production in a particular industry are located outside of the region (or nation) being investigated, the average rate of profit for that industry may not display any tendency to be equalized with the general rate of profit. Furthermore, when comparing average profit rates in agricultural and raw material sectors with manufacturing sectors, above average rates of profit may persist in the former sectors as a result of differential rent.

Within the framework of perfect/imperfect competition, the above correlations of high levels of fixed capital and high capital/output ratios with high levels of reserve capacity, high profit margins, more stable prices, and relatively long periods of above average profit rates would be considered strong evidence of "barriers to entry," "monopoly power," and price collusion. From the classical Marxist perspective, however, these same patterns can be anticipated as necessary consequences of ongoing capitalist competition.

CHAPTER 6

Capitalist Competition and Differential Wage Rates (I): The Analysis of Regulating Capitals

> The competition among workers is only another form of the competition among capitals.
>
> —Karl Marx, *Grundrisse*

THE PREVIOUS CHAPTER demonstrated how Marx's discussion of competition between and within industries provides an extremely rich analysis of the competitive process which finally allows us to confront many of the phenomena that so greatly disturbed several generations of institutional labor economists. In our survey of the literature on wage differentials, we saw how the implicit acceptance of the theory of perfect competition made it virtually impossible for institutionalists to develop a systematic theory of wage differentiation. Confronted by the real-world presence of enormous masses of fixed capital, high levels of market concentration, and persistent patterns of differential profit and wage rates, their neoclassical starting points made it quite difficult to argue that capitalist competition remained a key determining force within the modern economy. Indeed, within manufacturing, above average wage rates often tended to be closely correlated with above average profit rates and all of the other neoclassical indicators of monopoly power. Moreover, wage differentials that largely appeared to be the result of race and gender discrimination proved to be far more persistent than could be explained by the neoclassical theory of competitive wage determination.

Thus, in the end, several generations of institutionalists essentially gave up the project of developing a determinate theory of competitive wage determination. After all, if differential wage rates are primarily due to differences in relative bargaining power and differential profit rates, and if above average profit rates are largely due to administered pricing and other forms of "monopoly power," it is difficult to be convinced that there are determinate limits to wages, prices, and profits.

As we soon discovered, however, this tendency to deny the importance of competitive factors made institutionalist arguments vulnerable to methodological critiques from neoclassical theorists. As Allan Cartter pointed out in the late 1950s, "If bargaining power were the important wage determinant, we would have wage rates ranging from infinitesimal

amounts to infinity rather than the pattern of wage conformity which actually exists" (Cartter 1959, 7). And yet, while neoclassical economists could reasonably argue that the limited range of wage differentials clearly suggested that competitive forces were alive and well, they could not consistently account for these persistent patterns of wage differentiation within their own theory of competitive wage determination. On the contrary, up until the recent development of efficiency wage theory, they were often forced to ignore much of the empirical evidence which suggested that wage differentials were significantly influenced by factors in the product market.

By developing our analysis of wage differentials within the context of Marx's analysis of capitalist competition, we will show that the completion of several missing pieces within Marx's discussion of competitive wage determination finally enables us to break through this long-standing impasse within competitive wage theory. Just as Shaikh, Semmler, and Clifton were able to utilize Marx's analysis to show that many patterns of differential profit rates can be explained without resorting to monopoly theory, this chapter argues that many well-known patterns of inter- and intraindustry wage differentials can also be made quite consistent with ongoing capitalist competition.

Ultimately, we will argue that the critical insight of the institutionalists—that differential conditions within product markets must have a significant influence on related labor markets—can be borne out without having to give up a determinate analysis of wages, prices, and profits. Indeed, echoing Marx's comment in the *Grundrisse*, in many situations we will show that "the competition among workers is only another form of the competition among capitals" (Marx 1857, 651).

In order to construct our analysis of wage differentials, three major arguments will be advanced. First, we will show precisely how the competitive generation of differential conditions of production and profitability between and within industries also provides the basis for differential limits to rising wage rates across these same firms and industries. Despite this continual generation of differential wage and profit rates, however, we will go on to argue that the combined effects of capitalist competition and the ever present reserve army of labor will nevertheless set strict limits to these wage variations. Finally, within these systematic limits, we will show that the uneven efforts of workers to increase their wage rates can have a very significant and persistent influence on wage differentials among workers of similar skill.

To develop these arguments, our analysis of wage differentials will be constructed in two stages. In this chapter, we begin with the most general and most difficult case by attempting to derive the upper limits to wage variations for *regulating capitals* across various industries that possess

different technical conditions of production. Chapter 7 then discusses the case of *nonregulating capitals* that are either more or less efficient than the regulating conditions within their respective industries.[1]

Overview of the Dynamic Adjustment to Changing Wage Rates

Chapter 5 maintained that the "regulating capitals" within each industry tend to be those capitals that possess the most efficient conditions of production that are generally accessible. Because these capitals represent the most competitive conditions that can be reproduced, they essentially act as the practical standard for the industry as a whole. Accordingly, capitals entering any particular industry will generally attempt to duplicate these regulating conditions, and the cost structures of these regulating capitals will tend to form the basis for each industry's price of production. To begin an analysis of wage differentials within regulating capitals, we start by assuming that competition has led to prices of production that provide roughly equal rates of profit for regulating capitals within each industry. We then go on to show that although competition will continually tend to equalize profit rates across industries, there nonetheless exists strictly limited space for persistent patterns of wage differentials to potentially arise within and between these industries.[2]

Beginning with equal profit rates for regulating capitals in each industry, the following outlines what will tend to occur when workers employed in *all of the regulating capitals within one particular industry "A"* go on strike for higher wages. Assuming that workers do manage to secure a wage increase within the regulating capitals of industry A, this will immediately raise the unit costs of these capitals and therefore lower profit margins and profit rates at existing prices. Hence, these capitals will now receive a lower rate of return relative to regulating capitals in other industries. The interesting question now becomes the following: *How will the forces of capitalist competition between and within industries eventually respond to this worker-generated inequality in interindustry rates of profit?*

As long as these wage increases remain within clearly specified limits, they can be sustained for prolonged periods of time. Anticipating results to be derived below, if rising wage costs do not force these regulating capitals to lose their status as the low-cost producers, these capitals will continue to function as the practical standard for the industry as a whole. Thus, when the regulating rates of profit in industry A are forced below

[1] Although the following analysis of wage differentials can easily be extended to agriculture, we will limit our discussion to nonagricultural sectors.

[2] The assumption of equal profit rates across different industries will be dropped in chapter 7.

the general rate of profit for the economy as a whole, competition between industries will eventually cause *relative* prices to adjust in order to accommodate these rising costs of production within A.

Briefly, the initial discrepancy in profit rates caused by the wage increase will eventually cause the rate of growth of supply within industry A to decelerate as capital begins to flow more rapidly into other industries where regulating capitals are receiving higher profit rates. Assuming a period of healthy accumulation,[3] supply will tend to grow more slowly than demand, and the equalization of profit rates across regulating capitals in different industries will bring about a rise in relative prices for the regulating capitals suffering the original wage increase. Thus, as long as workers in industry A can continue to maintain the strength and organization required to achieve this higher wage rate within *all* of the regulating capitals, local wage increases can be sustained within the context of ongoing capitalist competition.

Although Marx never completed his discussion of competitive wage determination, he clearly did allow for the above possibility of sustained local increases in wage rates.

> [I]f the rise in wages is local, if it only takes place in particular spheres of production as a result of special circumstances, then a corresponding nominal rise in the prices of these commodities may occur. This rise in the relative values of one kind of commodity in relation to the others, for which wages have remained unchanged, is then merely a reaction against the local disturbance in the uniform distribution of surplus-value among the various spheres of production, a means of equalising the particular rates of profit into the general rate.[4] (Marx 1894, 868)

Even at this general level of analysis, the movement to a dynamic argument of tendential regulation (as opposed to static equilibrium) allows us to derive three important results that immediately differentiate our argument from both neoclassical and institutional approaches. *First*, within

[3] In the case of an industry that is suffering from stagnating or declining market demand, the effects of a wage increase will obviously be more severe. If the industry is in the process of dying, the new price of production may never be achieved. Unlike neoclassical theory, we have already seen that Marx's analysis of competition between industries does not suggest that industries will rapidly disappear as soon as they can no longer achieve the average rate of return. If they have large investments in fixed capital, they may attempt to hang on for a number of years—particularly if they are able to shore up their declining profits by utilizing the reserve army to lower their wage costs.

[4] Unfortunately, Marx did not elaborate further on the competitive dynamics of local wage increases. The primary purpose of the above illustration was to show how the surface workings of competition often appear to suggest that the value of a commodity is determined by the wage rate, rather than by its socially necessary labor time. Of course, for Marx this was merely an illusion.

neoclassical theory, a wage increase that is not preceded (or accompanied) by an equivalent increase in the marginal productivity of labor can only be achieved at the expense of declining levels of employment as firms ride up their marginal revenue product curves. In contrast, our argument suggests that even with no change in the average or marginal productivity of labor, higher wage rates *that remain within the limits of capitalist competition* will merely cause the rate of growth of employment to decelerate until relative prices can adjust to accommodate the new wage rate. Thus, there is little reason to argue that competitive pressures will generally require local wage increases to be accompanied by a reduction in the actual level of employment. Indeed, when we further recognize that the ample presence of reserve capacity suggests that most firms normally do not experience diminishing returns (or a declining marginal product of labor) until they are very close to full capacity, an immediate reduction in employment and capacity utilization levels would tend to further reduce profit margins, not enhance them.[5]

For both of these reasons, the above analysis of wage increases within a single industry can essentially be derived while abstracting entirely from changes in the productivity of labor and from changes in the immediate level of employment. Within the bulk of this analysis we will therefore assume that the productivity of labor is held constant until we return to our final set of limiting forces which are determined by the general laws of capitalist accumulation.[6]

[5] For an interesting and pathbreaking empirical study of firm behavior in the face of rising wage rates, see R. A. Lester 1946. After studying the responses of over 50 manufacturers in a variety of industries, Lester concluded that "business executives generally do not think of deliberate curtailment of operations and employment as an adjustment to wage increases, partly because some plants and operations require fixed crews under existing techniques of production and partly because . . . business men believe that variable costs per unit of production increase as production and employment are curtailed" (Lester 1946, 67). Although Lester convincingly argued that "new directions" in wage theory should be pursued, neoclassical theorists have tended to minimize the importance of his findings. A useful discussion of these largely unresolved issues can be found in Kaufman 1988b. See also Machlup 1946 and Carter 1959.

[6] Although we will certainly see that the limits to rising wage rates are partly determined by productivity growth at the *aggregate level*, the mediations between labor productivity and competitive wage rates at the industry level may be far more complex than is generally assumed. In many orthodox and institutional discussions, it is assumed that differential rates of productivity growth between industries provide an important foundation for interindustry wage differentials. On the other hand, significant productivity differentials *within* industries are theoretically not supposed to exist in highly competitive economies and are rarely recognized when they do. Within this book, we will once again break from the generally accepted wisdom by arguing just the opposite. Contrary to marginal productivity theory, Marx's labor theory of value clearly argues that above average rates of productivity growth in particular industries do not at all imply that workers within these sectors are producing greater amounts of value (or surplus value) relative to other sectors. Moreover, significant increases in productivity are normally generated by higher levels of mechanization and fixed capital investment. As we argued in chapter 5, these higher levels of capitalization will generally require firms to lower their price in order to make room for their expanding levels of output. Thus, within Marx's argument, there is little reason to assume that above average levels of productivity growth within any particular industry will automatically generate more space for wage rates to rise above those in other sectors. As we shall soon discover, however, Marx's analysis of capitalist competition does suggest that productivity differentials *within industries* may have a very profound effect on both intra- and interindustry wage differentials.

Second, although the above increase in relative prices for the regulating capitals in industry A may appear to be an oligopoly, "cost-plus markup," this change in relative prices is merely the consequence of the equalization of profit rates that is achieved *through the competition of capitals*—not through monopoly pricing power. Thus, this dynamic process of incorporating higher labor costs into an industry's cost and price structure can presumably take place within the regulating capitals of *any industry*—concentrated or unconcentrated.

The *third* important implication that can be derived from this general level of analysis pertains to the issue of wage-push theories of inflation. Without a detailed simultaneous equations model for the entire economy, we can not say precisely where relative prices will finally settle as a result of the above wage increase. Since Bortkiewicz's early discussion of the so-called "transformation problem," it has generally been recognized that changes in prices of production that result from changing input costs are extremely complex, particularly when involving changing wage rates (Bortkiewicz 1907). Nevertheless, we do know that the initial relative price rise for the regulating capitals in industry A will cause a transfer of value to these capitals from other industries. Next, regulating capitals in other industries that use industry A's products as inputs will feel similar pressures on their profit rates due to rising costs. This will eventually result in yet another round of relative price changes. Finally, capital as a whole may feel a generalized pressure on wage levels as other workers attempt to use this initial wage increase to raise their wages as well.

Despite all of these movements in relative prices, however, it is important to note that there is nothing in our analysis of competitive wage determination which necessarily implies that there will be a change in the aggregate price level across the economy.[7] Thus, unlike many institutional and post-Keynesian discussions that rely on theories of monopoly pricing, our analysis does not provide the logical basis for a wage-push theory of inflation.[8]

To say anything further about movements in the general price level

[7] See Marx 1894, 205 and Marx 1865.

[8] Although many wage-push theorists argue that union wage increases were an initial, causal factor generating inflationary pressure within the U.S. economy in the late sixties and seventies, empirical support for this claim is actually quite weak. See Mitchell 1980 and Freeman and Medoff 1984.

would require us to develop a Marxist analysis of money, credit, and effective demand that can not be attempted here. Nevertheless, we can assume that the final result of this initial wage increase will be a higher wage for those workers who went out on strike, a higher relative price for industry A's product, a lower industry and general rate of surplus value, and finally, a decline in the general rate of profit. Of course, these latter decreases in the general rates of profit and surplus value will tend to be minimal since industry A's wage bill is only a small portion of the total economywide wage bill.[9]

Deriving Determinate Limits to Rising Wage Rates

Because we are suggesting that wage increases within regulating capitals will eventually be "passed on" in higher relative prices, we must now ask what determines the *limits* to these rising wage rates. It should be recalled that previous institutional and radical analyses that depended on theories of imperfect competition (or monopoly capital) could not satisfactorily answer this question. In this analysis, however, we are arguing that the regulating firm's ability to achieve higher relative prices in response to local wage increases lies well within the confines of capitalist competition between and within industries. Thus, within this framework of ongoing competition, we will be able to derive three sets of limiting conditions (or downward pressures) that continually act to constrain these rising wage rates. These limiting conditions are the following:

1. The constraints of short-run profitability that are determined by the *profit margins of regulating capitals* experiencing the wage increase (derived from competition *between* industries).
2. The more narrow constraints that are determined by the *unit costs of "subdominant" capitals* (derived from competition *within* industries).
3. The most concrete (and hence, most complex) limits which are determined by the *costs of obstructing the wage increase* that workers can collectively impose on firms that attempt to resist worker demands.[10]

In the final section of this chapter, we will return to our previous discussion of the general laws of capitalist accumulation within the aggregate

[9] Those readers familiar with Marx's writings on this subject will recognize that the above results are quite consistent with Marx's arguments within *Wages, Price and Profit* (Marx 1865).

[10] Unlike the first two constraints that are imposed on regulating capitals by the *external* forces of capitalist competition, this third limit is largely derived from *internal* factors that tend to influence the relative bargaining power of capital and labor within each particular industry.

labor market. By locating our analysis of the competitive limits to wage differentiation within this more general discussion of the aggregate labor market, we will then arrive at our final set of dynamic constraints within the capitalist economy. As in chapters 3 and 4, these aggregate wage constraints will be determined by movements in three key factors: aggregate productivity, the general rate of profit, and the reserve army of labor.

In the following discussion of each of the above limits, it is important to stress that these limits are logically derived from Marx's analysis of competition and accumulation. Thus, the order of presentation will be primarily determined by the level of abstraction required for each limit's derivation. Given the logical development of our argument, the reader should therefore be careful not to assume that the order of presentation is necessarily the same as the order in which these limits are actually encountered by workers as they attempt to raise their wages in any particular concrete situation. Quite the contrary. In many cases the ability of workers to impose "costs of obstruction" on their employers will tend to function as the primary wage constraint while the first two limits merely remain potential factors to be reckoned with if workers should become more effectively organized. Nevertheless, we will soon see that serious errors in the analysis of workers' power may result when these other critical limits are overlooked.

Finally, although the following presentation will show that the above wage constraints can be defined with a good deal of analytical precision, the reader should avoid the temptation to view these constraints as highly deterministic limits that are completely inviolable under all circumstances. Rather, the derivation of these limits is primarily meant to provide a systematic outline of critical downward pressures that workers are continually forced to confront as they attempt to raise their wage rates. All of these points will become increasingly clear as the argument unfolds.

Limit One: The Immediate Profitability of Regulating Capitals

Continuing our original discussion of the consequences of rising wage rates within *all* of the regulating capitals in one industry, we will now derive our first limit. In order to do this, it will be helpful to illustrate the argument with the following numerical example. At normal levels of output and a given wage of $0.50 per hour, we assume that the costs of production[11] for regulating capitals (*) in industry A are as indicated in table 6.1.

[11] In order to avoid unnecessary complexity, our numerical examples abstract from fixed capital and assume that the turnover of all circulating capital is uniformly equal to one.

TABLE 6.1
Costs of Production for Regulating Capitals (A*)

FIRM	(1) Total Costs (Capital Advanced) (K)	(2) Total Labor Hours (L)	(3) Output (Q)	(4) Unit Cost (k*=K/Q)
A*	90C+10W	20	10	$10

Where:
C = total constant capital costs
w = hourly wage = $.50
W = wL = total wage costs

Given that competition between industries will tend to equalize profit rates across regulating capitals in all industries, the regulating price of production (P^*) for any particular industry is determined in the following manner:

$$P^* = (k^*) + r^*(K/Q) \qquad (1)$$

where:

r^* = general rate of profit for all regulating capitals
P^* = regulating price of production
(K/Q) = regulating capital/output ratio
k^* = regulating unit costs[12]

From our discussion of Limit One, we will soon see that the critical structural variables across different industries are the ratio of total capital advanced to total output (K/Q), and the ratio of total capital to total labor requirements (K/L). Thus, the breakdown of constant capital into its fixed and circulating components is not relevant. In other cases where this distinction may become significant, we will nevertheless show that our numerical examples continue to illustrate fairly general results.

[12] In our numerical example, $k = (K/Q)$ due to the absence of fixed capital. With fixed capital (Kf), unit cost-price (k) is no longer equal to unit investment cost (K/Q). Hence, (P^*) becomes more complex:

$$\text{without } Kf \rightarrow P^* = k + r^*(K/Q)$$

$$\text{with } Kf \rightarrow P^* = \left[\frac{M + dKf + W}{Q} \right] + r^* \left[\frac{Kf + M/t + W/t}{Q} \right]$$

TABLE 6.2
Regulating Prices and Profit Margins for Industry A

FIRM	(1) Total Costs (K)	(2) Total Labor Hrs. (L)	(3) Out-Put (Q)	(4) Unit Costs k*= (K/Q)	(5) Reg. r*	(6) Reg. P*	(7) Profit Margin m = r*(K/Q)
A*	90C+10W	20	10	$10	.5	$15	$5

From equation (1), we can further derive the profit margin (m) that each regulating capital will also tend to achieve as a result of the equalization of profit rates. Starting from the above equation for P^*, we simply deduct unit costs (k) from both sides of the equation. Thus

$$m = P^* - k^* = r^*(K/Q) \qquad (2)$$

If we now assume that the general rate of profit (r^*) is equal to 50 percent, we can use both of these equations to calculate the following additional information regarding regulating capitals in Industry A (see table 6.2).

Given the information in table 6.2, it is easy to see that if workers should attempt to increase their wages within all of the regulating capitals in Industry A, this will raise the above unit cost-price (k^*) and squeeze both profit margins and profit rates at the existing price of production. Thus, we must now attempt to discover just how far actual wage rates can rise before they will begin to have a serious impact on the profit rates and employment levels of these regulating firms.

Although many institutionalists have tended to assume that firms in concentrated industries can easily avoid these reduced profit margins by simply raising their prices, the real competitive process of tendential regulation suggests that such price increases are not so simply achieved in *any* industry—concentrated or unconcentrated. Although we have argued that the *center of gravity* for market prices will ultimately be determined by the regulating conditions of production within each industry, the actual market price at any particular moment is not independent of the conditions of supply and demand. Thus, while wage increases that affect

Within this more complex expression for P^*, the first bracket, which represents unit cost (k), must now include a term for depreciation (dKf). Moreover, the calculation of total capital invested (K), which constitutes the numerator in the second bracket, must now consider the various turnover times (t) of circulating capital (M,W) (M = materials costs). Finally, (r) becomes a relation of flow to stock, rather than of flow to flow.

all of the regulating capitals will raise the center of gravity for that industry's market price, firms attempting to immediately achieve these higher prices may face important negative consequences that are often overlooked. If current levels of demand cannot fully absorb these price increases, the effect on the immediate level of output may be quite significant.[13]

In industries with a large number of regulating capitals, simultaneous price increases are usually difficult to achieve. Thus, if individual capitals should become impatient and attempt to raise their prices immediately, they will obviously risk losing a large part of their market share to their more cautious competitors. Even worse, the eventual decline in the rate of growth of supply that generally results from a wage increase may be accelerated by the actual demise of these impatient capitals.

In highly concentrated industries with only a small number of regulating capitals, the restrictions on immediate price increases that are imposed by market conditions merely take a different form. Here regulating capitals may be able to orchestrate a simultaneous rise in prices through a system of price leadership or some other more explicit form of price collusion. Yet, although these capitals may be able to avoid relative losses in market share due to price competition, an immediate increase in price may nevertheless have important consequences for their current levels of output. Moreover, this price increase will continue to be limited by competition between and within industries.

In the overview of this chapter, we argued that if prices remain at their original levels at the time of the wage increase, declining profit rates will simply cause a *deceleration in the rate of growth* of actual (and potential) supply until growing demand pressures eventually force the market price to rise toward the new price of production. In this case, the eventual deceleration in the rate of growth of supply is a more gradual process that largely takes the form of a less rapid expansion of the productive capacity of existing regulating capitals and the discouragement of new entrants.

[13] "In the case of a partial, or local, rise of wages—that is, a rise only in some branches of production—a local rise in the prices of the products of these branches may follow. But even this depends on many circumstances. For instance, that wages were not abnormally depressed and that therefore the rate of profit was not abnormally high; that the market for these goods is not narrowed by the rise in prices (hence a contraction of their supply previous to raising their prices is not necessary)" (Marx 1867, 341, see also Marx 1865). Marx's argument against arbitrary price increases should not be confused with neoclassical economics where highly "competitive" firms are assumed to be "price-takers" because they are unable to affect market supply. As explained in chapter 5, Marx assumed that firms would have a significant impact on supply. Thus, firms introducing more efficient methods of production would generally have to actively lower their price in order to "command a more extended market" (Marx 1867, 317). Hence, while price increases clearly have important limitations, price cutting is considered to be the competitive *norm*.

Within limits, it is therefore unlikely that higher wage rates will cause an absolute decline in *current* levels of output and employment.

On the other hand, if regulating firms should attempt to anticipate this process of tendential regulation by immediately marking up their prices, the consequences within the marketplace will not only be more immediate—they may also be more severe. In this case, price increases will generally result in an immediate reduction in market demand, with the severity of the effect depending on the price elasticity of demand. Thus, rather than having to adjust to a less rapid rate of expansion, the regulating capitals will be forced to suffer an immediate reduction in current output. Given that most concentrated industries (where collusion is most likely) will also tend to have relatively high levels of fixed capital investment, this reduction in output will generally take the form of lower levels of capacity utilization. And, as noted in chapter 5, this further implies that unit fixed costs may rise substantially, causing significant reductions in profit margins.[14]

Since the main purpose of the markup is to protect profit margins and profit rates, this strategy clearly has important limitations that can not be easily ignored. Thus, although firms may certainly attempt to anticipate market conditions through administered pricing policies, they cannot override those conditions. As Clifton has argued in his discussion of the competitive limits to administered pricing:

> Base price estimates (or administered prices) are based upon independent data from the market. In turn they enable managers to regulate, not dictate, market prices by evaluating market conditions, and responding accordingly. . . . The fact that base price is administratively estimated and may become the actual market price occasionally, that it may regulate the market, does not at all imply price fixing, as so many economists have misinterpreted the procedure to imply. Rather, it implies the systematic nature of competition and the tendency for market prices to be regulated by that force. (Clifton 1983, 31–32)

In the remainder of this chapter we will abstract from the possibility of price collusion and immediate markups in order to continue to derive a number of important results that can be obtained directly from Marx's

[14] As Semmler (1984) has noted, industries with above average levels of fixed capital and high capital/output ratios tend to experience higher percentage increases in their total unit costs when forced to operate at lower levels of capacity. Blair (1972) uses the automobile industry to show that overhead costs may rise quite dramatically when utilization rates are lowered. "Had GM sold 25 percent fewer vehicles than it did in 1957, the spreading of overhead expense over the smaller output would have raised unit overhead costs from $550 to $733 per car and reduced profit correspondingly from $313 to $130" (Blair 1972, 473; see also Lester 1946). In the next section, we will see that the extent of the markup is further limited by the cost structure of the subdominant capitals within each industry.

dynamic analysis of competition between and within industries. By deriving our results in this manner, we will see that many phenomena that may *appear* to be results of monopoly power (i.e., administered pricing) can actually be arrived at through Marx's analysis of competition.[15]

Given the above limitations to immediate markups, it follows that when wage increases do occur, regulating capitals must be able to *survive* the process of tendential regulation which may take a significant period of time for new prices of production to be achieved within the actual market place. In order for regulating capitals to survive this transitional period, however, wage increases can not cause rising unit costs to entirely wipe out the profit margins of these capitals. If profit margins are wiped out, workers may discover that by the time the wage increase has been passed along through the price structure, the regulating capitals may have also passed along!

As a result of this dynamic analysis, we therefore arrive at our first important limit to rising wage costs that is directly determined by the conditions of immediate profitability of the regulating capitals (i.e., their profit margins). In order to more precisely calculate this first limit to rising *hourly wage rates* for regulating capitals within any particular industry, we simply divide the regulating profit margin (m) by the unit labor requirement (L/Q) of these same capitals. Hence

$$\text{Limit One} = \frac{m}{(L/Q)}$$

Going back to the numerical example in table 6.2, we can easily calculate this limit for the regulating capitals of Industry A:

$$\text{Limit 1} = \frac{m}{(L/Q)} = \frac{\$5}{(20/10)} = \$2.50 \text{ per hour}$$

Clearly, if wage rates in Industry A are allowed to rise by this amount, profits will go to zero. Thus, our first limit to rising wage rates is determined by the profit margin per unit labor requirement of the regulating capitals.[16]

[15] Within chapter 5, we saw that administered pricing procedures can be made quite consistent with Marx's analysis of competitive "prices of production." Moreover, Semmler's extensive study of the literature on industrial pricing reveals that "cost determined pricing and mark-up pricing procedures, which are usually regarded as the post-Marxian and post-Keynesian contribution to a theory of industrial and corporate pricing, are not limited to concentrated and oligopolized industries, but seem to be widespread procedures and can be found in concentrated and unconcentrated industries" (Semmler 1984, 101). Even more interesting, most of these studies of cost-inspired price increases were generally forced to account for time lags between cost changes and price changes (Semmler 1984, 82).

[16] In our discussion of local changes in the wage rate, we are abstracting from possible feedback effects that may cause increases in the costs of other inputs. Thus, we are essentially following Marx's original procedure in his discussion of the transformation of direct prices into prices of production. Despite continuing controversy over the transformation problem, recent empirical work has indicated that Marx's original prices of production turn out to be an extremely good first approximation of Sraffian prices (Ochoa 1984). Thus, there is good reason to believe that these feedback effects are on average quite small.

Before deriving this limit more systematically, it is important to differentiate the above dynamic analysis of how capitalist competition *eventually* causes relative prices to change from comparative static analyses whereby prices appear to change *instantaneously*. Within a comparative static framework, the actual dynamic process of market adjustments that is so critical to our discussion is abstracted from by merely comparing various equilibrium positions. Thus, if we had utilized comparative statics to try to analyze how the above wage increase would eventually affect relative prices, the fact that our regulating capitals must be able to survive a period with decreased profit margins can be easily overlooked. Indeed, our first limit to rising wages would appear to disappear!

Although this first limit to wage increases is fairly obvious once we move to a dynamic framework, a less obvious result of this analysis is that *regulating capitals across different industries will tend to have different profit margins per unit labor requirement as a direct result of capitalist competition*. This general result can be directly derived from the previous equation (2) which determines the regulating profit margin for any particular industry:

$$m = r^*(K/Q) \tag{2}$$

From this equation, we can already see that the equalization of profit rates (r) between industries requires that the profit margins (m) of the regulating capitals within each industry must be directly proportional to their respective capital/output ratios. By expressing the above capital/output ratio as the product of the capital/labor ratio and the respective unit labor requirement (L/Q), we can now rewrite equation (2) in the following manner:

$$m = r^*(K/L)(L/Q) \tag{2a}$$

Dividing through by the unit labor requirement, we can now more generally derive our first limit:

$$\frac{m}{(L/Q)} = r^*(K/L) \tag{3}$$

From equation (3), it becomes clear that the equalization of profit rates between industries requires that the profit margin per unit labor requirement for regulating capitals must vary in direct proportion to their re-

TABLE 6.3
Comparing Limit One across Two Different Industries

INDUSTRY "A" - HIGH (C/V), (K/L) ----------->LIMIT 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIRM	Total Capital Adv. (K)	Total Labor Hrs. (L)	Output (Q)	Unit Cost k* = K/Q	Reg. r*	Reg. P*	K/L	m / L/Q
A*	90C+10W	20	10	$10	.5	$15	5	$2.50

INDUSTRY "B" - LOW (C/V), (K/L) ----------->LIMIT 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIRM	Total Capital Adv. (K)	Total Labor Hrs. (L)	Output (Q)	Unit Cost k* = K/Q	Reg. r*	Reg. P*	K/L	m / L/Q
B*	50C+50W	100	100	$1	.5	$1.50	1	$0.50

spective industry's capital/labor ratio. (Similar results can also be derived for the total mass of profits, $m\text{Q} = \pi$, relative to total labor requirements.) Thus, as already anticipated in chapter 5, the equalization of profit rates across industries requires industries with above average capital intensities to enjoy a relatively high mass of profits relative to total labor requirements.[17]

Comparing regulating capitals in Industry A with another set of regulating capitals within an industry of lower capital intensity, we can easily illustrate this general result. In order to simplify the following example in table 6.3, we will initially assume that wage rates for all unskilled labor are equalized at $0.50 per hour. This will allow us to start from a position of equal wage rates so that we can subsequently show how certain patterns of wage differentiation can eventually come about. Nevertheless, it is important to note that the general results concerning Limit One have been derived from the capital/labor ratio, not from the capital/wage ratio. Thus, Limit One does not depend on the assumption of equal wage rates. Once we allow wage rates to vary within and between industries,

[17] Assuming equal rates of surplus value, this further implies that industries with relatively high capital intensities must also tend to enjoy what neoclassical economists have inappropriately termed a higher "value productivity of labor" {i.e., $(W + \pi)/L$}. Within Marx's analysis, however, the above differences in "value productivity" are merely the result of the transformation of direct prices into prices of production. In other words, they are the result of capitalist competition between industries.

we will further concretize our notion of the regulating conditions of production in order to allow for differential costs of labor power.

Comparing the first limit to rising hourly wage rates across the two industries in table 6.3, the results are just as anticipated. Because Industry A's capital/labor ratio is five times greater than B's (see column 7), Industry A's profit margin per unit labor requirement is also five times greater (see column 8). Thus, not only have we derived our first competitive limit to rising wage rates, but we have also discovered that this limit will *necessarily* vary according to different technical conditions of production within each industry.[18] Our results clearly indicate that industries with high capital/labor ratios and high profit margins per unit labor requirement may be able to sustain larger immediate wage increases without being forced to confront an immediate crisis of profitability. On the other hand, wage increases within less capital-intensive industries may have to be more gradually spread out over longer periods of time.

It is important to note, however, that these relatively high profit margins per unit labor requirement should not be considered "excess" profit margins which necessarily allow capital-intensive industries to consistently pay higher wage rates over prolonged periods of time. As noted earlier, these higher profit margins are required by capital-intensive industries if they are going to receive the competitive rate of return. Thus, although high profit margins and high "value productivity" of labor have often been considered to be evidence of monopoly power and above average profitability, our analysis suggests that these phenomena are the direct results of the equalization of profit rates across different industries.[19] Indeed, any significant reduction in these above average profit margins will force profit *rates* below the general rate and will therefore result in a deceleration in the rate of growth of supply.

Equally important, by the end of this chapter, it will become clear that this limit is ultimately the final competitive constraint on rising wage rates which is seldom encountered in actual struggles over wages within regulating capitals. As we argued in chapter 3, given the constant downward pressure of the reserve army of labor, it is unlikely for workers to gain the required strength to seriously threaten the actual existence of their employer unless they have determined that a firm *should be shut*

[18] Sumner Slichter was one of the first labor economists to recognize that although a firm may have a high rate of return on its entire capital investment, its profit margin on sales may be quite small. In these industries, he therefore pointed out that the limits to rising wages may be severely constrained for "a small rise in costs may wipe out a high return on invested capital" (Slichter 1950, 88). Of course, both Marshall (1920) and Hicks (1963) also noted that the share of labor costs in total costs would have an important bearing on the firm's elasticity of demand for labor.

[19] See Kalecki 1943. See also chapter 5, the section on equal profit rates.

down as a result of extremely oppressive conditions. Thus, although the profit margin per unit labor requirement will vary quite substantially across industries, this does not imply that interindustry wage differentials must necessarily tend to vary in direct proportion to this limit.

Limit Two: The Unit Costs of Subdominant Capitals

In the previous discussion, the first limit to rising wage rates within regulating capitals was derived by analyzing just how far wages could actually rise before precipitating an immediate crisis of profitability. In order for these wage increases to be *sustained* for a prolonged period of time, however, these firms must also be able to maintain their status as the regulating capitals within the industry. As explained in the previous chapter, it is this regulating status that ultimately allows these capitals to act as the practical standard for the industry as a whole. Moreover, it is the maintenance of this regulating position which ultimately permits these firms to accommodate the wage increase by eventually establishing a higher regulating price of production. In order to remain regulating capitals, however, *these capitals must also be able to maintain their status as the least-cost producers within the industry*. Thus, the next important constraint on rising wage rates arises from the dynamics of *competition within industries*.

Once regulating capitals are facing the prospect of rising wage rates, these capitals will only be able to maintain their regulating position under one condition. Rising wage costs must not increase their total unit costs beyond the unit costs of the next most efficient producers that are not experiencing commensurate wage increases (i.e., the "subdominant capitals"). Within any industry, this competitive space for rising labor costs is therefore determined by the difference between the original regulating capitals' unit costs (k^*) and those of the subdominant capitals (k^s). In order to arrive at the next limit for rising *hourly wage rates*, we simply divide this cost differential by the unit labor requirements (L/Q) of the original regulating capitals facing the wage increase. Hence

$$\text{Limit Two} = \frac{(k^s - k^*)}{(L/Q)^*}$$

In order to understand how this more restrictive limit will tend to make its presence felt, let's assume for the moment that rising wage rates have significantly exceeded this limit and have therefore caused our original regulating capitals to lose their status as least-cost producers within the industry. Under these circumstances, the subdominant capitals now possess the lowest unit costs and the highest reproducible profit margins. Hence, these capitals now also possess the competitive cost structure that will tend to be expanded within the industry.

Because these subdominant capitals have become the new regulating conditions of production, the center of gravity for market prices will now be determined by *their* individual price of production. Using the superscript (^{s}) to designate these new regulating capitals, the industry's new price of production is determined in the following manner:

$$P^s = k^s + r^* (K/Q)^s \qquad (4)$$

Before and immediately after the above wage increase, these subdominant capitals will normally be receiving profit rates that are *below* the general rate for the economy as a whole. Thus, when the uncompetitive wage increase now causes these formerly subdominant capitals to become the new regulating conditions of production, the rate of growth of supply will still tend to decelerate relative to demand. Hence, as in the previous case, prices will also still tend to rise. Nevertheless, it is important to point out that the new regulating price of production (P^s) will normally not rise high enough to allow the old regulating capitals to receive the general rate of return.

This tends to be the case for two reasons. First, we have already assumed that the above wage increase has resulted in lower unit costs for the subdominant capitals relative to our original regulating capitals [i.e., $k^s < k^*$]. Second, the fact that the subdominant capitals are generally less efficient than the original regulating capitals also implies that they will tend to have lower capital/output ratios [i.e., $(K/Q)^s < (K/Q)^*$]. Because these two factors are the key variables in the determination of the price of production, it will also tend to be the case that $P^s < P^*$.

Thus, for the original firms that were forced to accept these wage increases which exceeded our second competitive limit, the long-term results could become quite negative. Because rising relative prices will no longer allow these capitals to achieve the general rate of profit for the economy as a whole, these wage increases will cause them to endure a *sustained* period of below average profit rates. In addition, these capitals will no longer possess the lowest unit costs. Depending on the severity of this cost disadvantage, these firms may become increasingly vulnerable to competition from the *new regulating capitals*—particularly during slack periods when greater overhead costs may tend to exacerbate their competitive disadvantage.

To more clearly illustrate how this second limit would tend to operate within a particular industry, we can go back to our previous example. In table 6.4 we have duplicated the previous numbers regarding our regulating capitals (A^*). Given this information, we discovered that the initial

TABLE 6.4
Regulating and Subdominant Capitals in Industry A

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIRM	Total Capital Adv. (K)	Total Labor Hrs. (L)	Output (Q)	Unit Cost k^*, k^s	r^*, r^s	Reg. P^*	K/L	$\frac{m}{L/Q}$
A^*	90C+10W	20	10	$10	.5	$15	5	$2.50
A^s	72C+28W	56	8	$12.50	.2	$15	1.8	

limit for the hourly wage increase was determined by the profit margin per unit labor requirement (i.e., $2.50 per hour; see column 8). Now, however, the dynamics of competition within Industry A require us to consider the unit costs of the subdominant capitals that are also producing within this industry. Let us therefore assume that the costs of these subdominant capitals (A^s) are as indicated in the bottom row of table 6.4.[20]

Given that the unit costs (k^s) of the subdominant capitals are equal to $12.50 (see column 4), the above argument suggests that wage increases that push the unit costs of the original regulating capitals significantly above this amount will be increasingly difficult to sustain within ongoing capitalist competition. In order to calculate the next limit to rising hourly wage rates, we simply take the difference in unit costs ($k^s - k^*$) and divide through by the unit labor requirements of the initial regulating capitals:

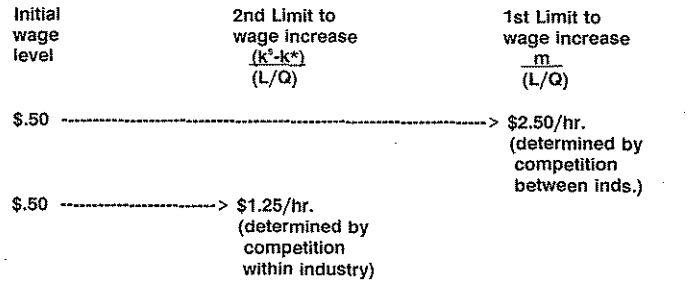
$$\text{Limit Two} = \frac{(k^s - k^*)}{(L/Q)_{A^*}} = \frac{\$12.50 - 10.00}{(20/10)} = \$1.25$$

Clearly, if the wage increase in the regulating capitals should go beyond $1.25, these capitals will no longer be the least-cost producers within Industry A. Consequently, the relative price structure will no longer adjust to accommodate this wage increase, and the original regulating capitals will face a sustained period of below average rates of return.[21] Thus, we have now seen that the competition of capitals within an industry

[20] Here we assume that the final selling price is roughly the same for all firms within the industry. Unit constant capital costs are also equal for both firms. Thus, the variation in unit costs is solely determined by differences in required labor time.

[21] For a more detailed illustration of why relative price adjustments will no longer allow the original regulating capitals to receive an average rate of return, see Botwinick 1988, 254–55.

FIGURE 6.1
Summary of Limits One and Two



provides us with an additional, more narrow set of competitive pressures which will tend to restrict rising hourly wage rates within our original regulating capitals. These results are summarized in figure 6.1.

To avoid these more narrow limits to wage increases, effective unions will often attempt to achieve industrywide wage patterns so that *all* capitals within the industry are forced to accept each negotiated wage increase. As John R. Commons pointed out many years ago, one of the primary purposes of unionism is to try to take wage rates *out of the competition of capitals*. In order to accomplish this, unions must continually organize all of the new regulating capitals that enter the industry as well as many of the older, subdominant capitals that continue to exist. Under these circumstances, workers within the regulating capitals will potentially be able to achieve larger wage increases because higher wage costs will be generalized and the competitive limit to rising wage rates will be forced back up to the initial limit, which is determined by the profit margins of regulating capitals.

As a number of contemporary writers have pointed out, one of the key factors behind the alarming decline of union bargaining power in the United States has been the long-term erosion of the highly effective industrial wage patterns that were initially established by the CIO in the late 1940s (Craypo 1981; Davis 1986; and Moody 1988). Indeed, although the intensification of international competition since the 1970s is often seen as the primary force behind the decline of union bargaining power, the initial process of erosion actually began during the 1950s as an increasing number of industries moved many of their plants to the low wage, nonunion South.[22]

[22] One of the earliest extensive studies of the locational movement of U.S industries was conducted by Victor Fuchs in 1962. Between 1929 to 1954, Fuchs estimated that the "attraction of abundant, inexpensive and unorganized labor in the South" accounted for one

In the earliest stage of union decline, older low-wage plants in the South merely played the role of "subdominant capitals," which tended to constrain the rate of growth of wages in the unionized North. Although the low-wage rates in the South could have eventually allowed some of these less efficient capitals to become the new competitive standard within their respective industries, the long-term failure of the labor movement to effectively organize the South ultimately enticed capital to pursue the "best of both worlds." Thus, firms not only took advantage of the low-wage rates in their older plants, but they increasingly located their newest, state-of-the-art plants in the South and other greenfield areas.

The first industries to move were the more labor-intensive industries like textiles, apparel, furniture, and footwear (Fuchs 1962). These industries were not only the most mobile, but they also had the most to gain due to the relatively high share of labor costs in total costs. Moving into the 1960s and 1970s, however, even the more heavily capitalized industries such as electrical equipment, rubber tires, meat-packing, and auto eventually needed to build new plants. Thus, as their older northern plants continued to depreciate and the wage differential between union and nonunion workers continued to grow, they also increasingly moved South. In fact, from 1962 to 1978, roughly 86 percent of all new manufacturing jobs were created in the South and West, outside of the heavily unionized Northeast and Midwest (Haren and Holling 1979). As numerous labor analysts have therefore pointed out, the failure to maintain effective levels of union organization within these new low-cost plants took a serious toll on the U.S. labor movement's ability to improve wages and conditions within all of these industries (Craypo 1981; Bluestone and Harrison 1982; Davis 1986; and Moody 1988). Terming the postwar defeat of Southern labor organization "the Achilles heel of American unionism," Davis argues that "in virtually every industry the supposedly 'marginal' periphery of non-union production has in fact been the redoubt from which, during the 1970s, major assaults have been launched against wage levels and bargaining patterns" (Davis 1986, 137).[23]

Of course, in the late 1960s, as capital's relentless search for low-wage labor increasingly resulted in capital flight outside of the United States, the task of organizing all of the important low-cost producers (both regulating and nonregulating) increasingly took on international dimensions. Indeed, even industries such as textiles and electronics assembly, which were a key part of the industrial base of the "new South," eventually migrated across U.S. borders.[24] Thus, as we will argue in more detail in chapter 7, our analysis of regulating capitals and competitive wage determination strongly suggests that Marx's old slogan "Workers of the world unite" has become increasingly relevant as both capital and labor markets become more and more international.

third of all inter-divisional shifts in employment (Fuchs 1962, 259). For a useful analysis of the more contemporary period, see Bluestone and Harrison 1982. See also Sawers and Tabb 1984.

[23] According to Moody, "Prior to the absolute decline in manufacturing jobs that began in the 1980s, the proportion of unionized workers in manufacturing dropped from a high point of 42.4% in 1953 to 32.3% in 1980, a decline of 24%." By the mid-1980s, "non-union workers accounted for over 50% of metal, machine and electrical equipment workers; 69% of all garment and textile workers; 64% of wood, paper, and furniture workers; and 67% of food-processing workers" (1988, 99).

FURTHER IMPLICATIONS FOR INTER- AND INTRAINDUSTRY WAGE PATTERNS

At this point it is clear that the presence of differential conditions of production within industries creates an important foundation for the development of intraindustry wage differentials. Far more surprising, however, a closer look at the second limit to rising wage rates also reveals important implications for differential wage patterns between industries. Given similar unit cost differentials within each industry, the potential range of intraindustry wage differentiation that is determined by this second limit will tend to vary directly with the ratio of total unit costs to unit labor requirements.

To illustrate this point, let us assume that the cost structures of two hypothetical industries (A and B) are such that the percentage difference in unit costs is the same for both industries. Thus

$$\left[\frac{k^s - k^*}{k^*}\right]_A = \left[\frac{k^s - k^*}{k^*}\right]_B$$

If we now divide through by the unit labor requirements ($l^* = L/Q$) of the respective regulating capitals, we get the following:

$$\frac{\left[\frac{k^s - k^*}{l^*}\right]_A}{(k^*/l^*)_A} = \frac{\left[\frac{k^s - k^*}{l^*}\right]_B}{(k^*/l^*)_B}$$

Rearranging terms, we then arrive at the following results:

$$\frac{\left[\frac{k^s - k^*}{l^*}\right]_A}{\left[\frac{k^s - k^*}{l^*}\right]_B} = \frac{(k^*/l^*)_A}{(k^*/l^*)_B}$$

[24] According to Bluestone and Harrison, "Almost one half of the jobs lost to plant closings (and relocations) during the 1970s occurred in the sunbelt states of the South and the West" (1982, 9).

Thus, given equal percentage differences in unit costs, the second potential limit to rising wage rates is directly proportional to the ratio of unit costs to unit labor requirements [i.e., (k^*/l^*)].

To further illustrate and summarize all of the results up to this point, it is once again useful to continue our original numerical example. Accordingly, table 6.5 now includes regulating and subdominant capitals in both industries A and B.

As discussed earlier, we have constructed the cost structures of the subdominant capitals so that there are equal percentage differences in unit costs for each industry. From here we then derived both sets of limits for each industry (A and B). As anticipated, given that the differences in unit costs are the same for both industries, the second limit to rising wage rates is directly proportional to the (k/l) ratio for the regulating capitals in each respective industry (see columns 7 and 8). Hence

$$\frac{\left[\dfrac{k^s - k^*}{L/Q}\right]_A}{\left[\dfrac{k^s - k^*}{L/Q}\right]_B} = \frac{\$1.25}{.25} = \frac{5}{1} = \frac{(k/l)_A}{(k/l)_B}$$

Although both sets of regulating capitals have similar competitive advantages within their own industries, the potential range for wage differentiation within Industry A is far greater.[25]

At the very least, these results suggest that given roughly similar cost differentials within various industries, highly capital-intensive industries possess a greater potential range for wage differentials to develop within the confines of vigorous intraindustry competition. Within the United States, it is generally recognized that labor-intensive industries are far more vulnerable to low-wage competition from abroad relative to capital-intensive industries. All we have done here is to more formally derive these results from our analysis of capitalist competition between and

[25] In the above numerical example, it is important to note that the absence of fixed capital also implies that $k/l = K/L$. Thus, the identical results also appear to hold true for overall capital/labor ratios. Once we allow for the presence of fixed capital, however, this will no longer strictly be true. As we originally noted when we first introduced our example, once fixed capital is introduced, unit costs are no longer equal to total unit investment costs. Thus, (k/l) no longer equals (K/L). In order to argue that the above potential limit to rising wage rates will also tend to correspond with an industry's overall capital/labor ratio, it is necessary to argue that high (k/l) ratios tend to be strongly correlated with high (K/L) ratios. Within manufacturing, high (K/L) ratios do tend to be correlated with high materials costs per unit labor, high energy costs per unit labor (Howell 1982, 129), and high depreciation costs per unit labor. Hence, this can generally be shown to be the case.

TABLE 6.5
Comparing Limits One and Two across Two Different Industries

INDUSTRY "A" - HIGH (C/V), (K/L) ----------> Limit 2 -->Limit 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
F I R M	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k^*, k^s	r^*, r^s	P^*	$(k/l)^* = (K/L)^*$	$\frac{k^s-k^*}{(L/Q)^*}$	$\frac{m}{L/Q}$
A^*	90C+10W	20	10	$10	.5	$15	5	$1.25	$2.50
A^s	72C+28W	56	8	$12.50	.2	$15			

INDUSTRY "B" - LOW (C/V), (K/L) ----------> Limit 2 -->Limit 1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
F I R M	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k^*, k^s	r^*, r^s	P^*	$(k/l)^* = (K/L)^*$	$\frac{k^s-k^*}{(L/Q)^*}$	$\frac{m}{L/Q}$
B^*	50C+50W	100	100	$1	.5	$1.50	1	$0.25	$0.50
B^s	40C+60W	120	80	$1.25	.2	$1.50			

within industries. And, once again, it is the presence of real capitalist competition that generates the potential for these differential wage patterns to develop, not its absence.

Limit Three: The Differential Costs of Obstructing Wage Increases

In the previous two sections we argued that the real conditions of capitalist competition between and within industries provide a limited space for workers to increase their wage rates within the regulating capitals of any industry. At this level of abstraction, we have therefore developed an initial analysis of the regulating capital's "ability to pay" higher wage rates within the confines of capitalist competition. However, we have not yet established *why* these capitals would ever concede to such a wage increase. Indeed, because we have also argued that wage increases would not be immediately passed on in higher prices, we maintained that higher wage rates will generally force these regulating capitals to endure a transitional period where profit margins and profit rates may be adversely affected for a considerable length of time. Thus, all other things remaining constant, there is every reason to argue that capitalists will choose to

resist or obstruct such wage increases—even if these increases should remain within the competitive limits that have already been outlined.[26]

Fortunately for workers, the determination of the wage rate is not merely a question of capitalist preferences. Once workers become organized either formally or informally, they can begin to impose significant costs on employers who would otherwise prefer to obstruct worker efforts to raise wages.[27] Through the use of strikes, boycotts, slowdowns, and other tactics, effective unions can eventually force these unwilling capitals to seriously consider whether it might be cheaper in the long run to concede to certain minimal wage demands, rather than endure these rising "costs of obstruction." And similar to other choice-of-technique decisions facing the firm, competitive pressures will compel these capitals to adopt the option that will hopefully minimize costs.

Unlike other choice-of-technique decisions, however, the determination of the most effective profit maximizing strategy at the bargaining table is a complex task that is subject to far more than the normal degree of uncertainty. In addition to considerations related to technical and market factors, firms must also consider numerous political factors that may affect the potential militancy and organization of the work force. Furthermore, in certain situations capitalists may decide to ignore short-run cost considerations and conduct a prolonged and highly costly battle against its workers. Here, the longer run goal is to break the union and seriously weaken workers' abilities to press for higher wage rates for a sustained period of time into the future.[28]

[26] In labor market segmentation arguments where it is often assumed that "core" firms can simply pass on wage increases to the consumer, it is difficult to explain why these large concentrated firms would ever seriously contest worker demands for higher wages. As Marx pointed out, "If it were in the power of the capitalist producers to raise the prices of their commodities at will, they could and would do so without a rise in wages. . . . The capitalist class would never resist the trades' unions" (Marx 1885, 340). Given that "core" firms in auto, steel, and many other industries have often chosen to obstruct wage increases quite vigorously, this has generated a serious anomaly for arguments that are based on monopoly pricing power. In fact, between 1945 and 1960, strikes took place within the steel industry in five out of ten national negotiating rounds (Craypo 1986, 176). See also Levinson 1967; S. Friedman 1984; and Hodson 1986.

[27] Although this book emphasizes formal union organization as the most effective vehicle for worker resistance, it is important to recognize that nonunion workers can sometimes impose significant costs on capital through less formal types of collective resistance. As noted in chapter 2, classic discussions of informal worker resistance through "systematic soldiering" can be found in Taylor 1911 and Mathewson 1931. As Lloyd Ulman (1990) recently pointed out, one of the critical weaknesses of efficiency wage theories is that they typically place far too much emphasis on individual worker behavior and generally ignore the importance of concerted action on the part of both union and nonunion workers.

[28] One of the most dramatic results of the decline in unionization levels within the United States is that corporations have become increasingly aggressive in pursuing this more draconian option. Following the infamous lead of J. P. Stevens in the 1970s and Ronald Reagan's all-out attack on air traffic controllers (PATCO) in 1981, the past decade has witnessed numerous vicious attacks on labor unions by companies such as Phelps Dodge, Greyhound, USX, Hormel, and The N.Y. Daily News. For an excellent analysis of the changing balance of power that led to this corporate assault on unions, see Moody 1988, chap. 5. Abundant evidence for increasingly hostile employer attitudes can also be found in Freeman and Medoff 1984 and Craypo 1981.

Because the many factors that ultimately affect the bargaining positions of both capital and labor are often quite complex, this section will merely identify some of the most critical structural factors that can often have an important influence on the bargaining process across various industries. Within this discussion of the third limit to rising wage rates, we will therefore concentrate on key structural factors that will tend to either enhance or diminish workers' abilities to impose "costs of obstruction" on their respective employers.

As long as union wage demands do not seriously exceed the competitive constraints that have been outlined above, the union's potential ability to impose costs of obstruction on its regulating capitals is a good first approximation of its ability to obtain higher wage rates. By developing the potential to create these costs of obstruction, workers essentially create a competitive space for wage costs to rise. As long as wage demands do not significantly exceed these potential costs of obstruction, firms will generally find it cost-effective to concede to the union's demands—at least in the short run. Thus, not only do these costs of obstruction explain why workers are able to achieve any wage increase at all; they also provide a third and final set of concrete factors that will tend to place important internal constraints on rising wage rates within regulating capitals.[29]

Before beginning our discussion of the costs of obstruction, it is important to emphasize that this section will necessarily entail our most concrete level of analysis. Because the most concrete phenomena are also the most complexly determined, it will not be possible to develop the same degree of analytical precision that can be achieved at higher levels of ab-

[29] Given our emphasis on the "costs of obstruction" that workers can collectively impose on their employer, readers familiar with Lindbeck and Snower's "insider-outsider" theory will recognize a number of similar arguments within this section (see Lindbeck and Snower 1988, chap. 7). Because these authors graft their arguments onto the corpus of neoclassical economics, however, there are several crucial differences that should not be overlooked. First, these writers firmly accept the marginal productivity theory of wage determination. Thus, while they assume that workers in the "competitive" (or secondary) sectors receive wages equal to their marginal revenue products, organized "insiders" within primary firms are able to capture "rents" by raising "turnover costs." Second, Lindbeck and Snower argue that their theory is a complement to efficiency wage theory, rather than a substitute. Moreover, they suggest that unions are a key cause of persistent involuntary unemployment. Last, but by no means least, their entire analysis of wage determination is located within the neoclassical framework of perfect and imperfect competition.

straction. As radicals and institutionalists have often suggested, it is precisely at this very concrete level that institutional and political factors can become extremely important in the wage determination process. Thus, we must be careful not to make our analysis so determinate that these institutional and political factors can no longer vitally influence that process.

On the other hand, we must also be careful not to lose sight of powerful underlying forces within the capitalist economy that tend to limit and channel these more concrete political factors. One of the main purposes of this book is to demonstrate that the most analytically powerful way to approach these concrete factors is to properly locate them within the context of Marx's analysis of competition and accumulation. The aim is therefore not to deny the importance of political and institutional factors, but to better understand them by developing a framework that enables us to consider their underlying dynamics and potential limits. The point, in other words, is to get a firmer understanding of what workers and their unions can and cannot generally expect to accomplish within the confines of capitalist competition and the laws of accumulation.

By exploring the implications of the costs of obstruction as a potential limit to wage increases, we will soon see that the presence of different technical conditions of production will provide yet another set of concrete limits to rising wage rates that will vary substantially across industries. And once again, we will develop our argument without relying on any of the accepted assumptions of monopoly theory. As in the previous two sections, we will continue to build on our previous discussion of the limits to rising wage rates within the regulating capitals of various industries.

Factors Affecting the Immediate Bargaining Situation

From the above discussion of the costs of obstruction we can now see that as workers become increasingly militant and press for higher wages, regulating capitals will eventually be forced to assess the relative costs of obstructing these increases versus allowing wages to rise.[30] What we must

[30] Abstracting from the neoclassical assumptions of marginal productivity theory, our discussion of the relative costs of allowing wages to rise bears some resemblance to the collective bargaining models that were developed by neoclassical labor economists in the 1950s (Chamberlain 1955 and Cartter 1959). As Harold Levinson once noted, however, these bargaining models suffered from a serious weakness because they "provided no insight into the more difficult task of identifying, and . . . quantifying those variables that were dominant in affecting the power position of the parties in actual bargaining situations" (Levinson 1966, 9). By comparing critical structural variables across industries and by incorporating some of Levinson's own insights within Marx's competitive framework, we hope to lay the foundations for accomplishing this more difficult task.

now also understand is that this assessment of the potential costs of obstruction will not only be determined by the momentary level of organization and militancy of the workers involved. It will also be critically determined by each capital's particular technical conditions of production. Indeed, some of these technical conditions may even have an important feedback effect on workers' potential militancy by helping to either facilitate or inhibit effective worker organization.

Perhaps the most obvious structural factors to be considered here are those pertaining to the "scale" of the various factories and enterprises that make up the regulating conditions of production within any particular industry. Here we will consider two scale factors: the absolute size of the productive work force within each plant (or workplace), and the absolute level of fixed capital investment. We will then go on to address the issues of capital intensity, market structure, and the overall financial resources of the firm.

PLANT SIZE—NUMBER OF PRODUCTIVE WORKERS

As Marx noted many years ago, the development of large socialized workplaces within the modern factory system often provides a powerful impetus for the growth of working class consciousness and organization.[31] In more modern times, the huge concentration of workers in industries such as auto, steel, rubber tires, and electrical equipment was a critical factor in the development of some of the most militant and most powerful CIO unions in the 1930s and 1940s. Moreover, a number of recent empirical studies have also tended to confirm the importance of plant size in determining the extent of unionization across different industries.[32]

In addition to facilitating the overall organization and militancy of the work force, large numbers of workers can increase the union's ability to

[31] "As the number of the co-operating labourers increases, so too does their resistance to the domination of capital, and with it, the necessity for capital to overcome this resistance by counter-pressure" (Marx 1867, 331). See also Marx 1867, 763.

[32] Both economists and sociologists have suggested that factors such as economies of scale in union organizing, and the presence of less personal management styles within large plants, can largely account for the strong positive correlation between levels of unionization and plant size (see Masters 1969, and Hodson 1986). As Freeman and Medoff (1984) have also pointed out, this tendency for large plants to become unionized has evidently not been lost on large nonunion employers who often provide union scale wages and benefits in order to prevent unionization (see also Foulkes 1980). Within the post–World War II period, there is substantial evidence suggesting that industries such as auto, steel, rubber tires, and electrical equipment have intentionally downsized and decentralized their newer production facilities in order to minimize the opportunity for collective worker resistance. Between 1954 and 1977, Moody (1988) points out that "the average number of workers per plant declined from 233 to 124" (101). See also Bluestone and Harrison, 1982.

raise the costs of obstruction during various forms of labor disputes. For example, in industries that employ relatively small work forces within each plant (e.g., chemicals and oil refining), it is often possible to utilize white collar personnel and a small number of strikebreakers to keep plants running during a strike (Craypo 1981). On the other hand, in plants with very large work forces, firms can frequently be forced to shut down their operations completely. Thus, for the latter, the costs of obstruction posed by an actual strike situation can potentially be much higher. In nonstrike situations, large, concentrated work forces can also tend to raise the costs of obstruction by helping to facilitate job actions such as slowdowns and other forms of work stoppages within the plant. Putting all of these factors together, it is not surprising that a number of empirical studies have also found a strong correlation between high wage rates and large plant size across industries.[33]

FIXED CAPITAL AND THE MOBILITY OF LABOR

Another key scale factor that will tend to enhance workers' abilities to impose costs of obstruction on their employers is the level of fixed capital investment. To see why this tends to be the case, let's again consider a potential strike situation where workers in the regulating capitals of a particular industry have warned their employers that a strike is imminent unless their wage demands are met. If these capitals should decide to resist the union through a prolonged lockout, varying levels of fixed capital investment will now impose very different costs on regulating capitals within each particular industry. Those regulating capitals with very large fixed capital investments will have to sustain much higher overhead costs relative to capitals with small fixed capital investments. Furthermore, capitals with extremely expensive plant and equipment will be particularly vulnerable to sabotage, slowdowns, and many other tactics utilized by workers either before, during, or after the strike.

As another possible strategy to obstruct wage increases, employers may also consider taking advantage of the *mobility of labor* by bringing in replacement workers who would be willing to work for lower wages. But in the real world the mobility of labor is never "perfect" and it does not always come cheap. In order to hire a new labor force, these capitals will

[33] See Mellow 1982; Rosen 1970; Masters 1969; Haworth and Reuther 1978; Freeman and Medoff 1984; and Hodson 1986. Within efficiency wage theories, it is often argued that large plants pay higher wages because it is more difficult to monitor the shirking of individual workers. As we pointed out in chapter 2, however, many of these large, highly capitalized plants utilize deskilling technologies and various forms of machine pacing that are painstakingly designed to minimize monitoring problems and maximize management control over labor intensity. Thus, as we have repeatedly maintained throughout this work, the far more critical problem of management control stems from *collective worker resistance.*

have to break the union and often communities and families with it.[34] And to do this, firms will often have to sustain many of the same differential costs of obstruction that would normally be entailed in the above strategy of waging a prolonged lockout. Moreover, the differential costs of reproducing their particular labor forces with all of the requisite skills and training would also have to become part of their cost assessment.

Finally, if our regulating capitals should decide to explore the possibilities of utilizing the *mobility of capital* in order to take advantage of cheaper labor located elsewhere, different levels of fixed capital investment will once again impose very different costs of relocation on various regulating capitals. As we pointed out previously, capitals with high levels of fixed capital investment have historically tended to wait for considerable periods of time until their current plants are sufficiently depreciated (or new additional plants are required) before relocation is considered as a viable option.[35] Nevertheless, as the differential between the high wages of their unionized work force and the low wages of their potential nonunion work force continues to grow, even these capitals will eventually take advantage of the mobility of capital in order to reduce their labor costs.[36] In sharp contrast to these heavy industries, light manufacturing industries such as electrical consumer goods have tended to be extremely mobile. My first experience in the labor movement was as an inplant union organizer within a brand new factory of approximately 300 minimum wage assembly workers who were producing cable TV converters for OAK Industries. Although it took us over six months to win our organizing drive, the company took only three months to completely close down the plant and move its production elsewhere. The machinery and assembly lines were simply loaded onto several tractor trailers, and the corrugated steel plant was quickly converted to other uses.

In sum, contrary to the neoclassical assumptions of perfect competi-

[34] The recent struggle at Hormel in Austin Minnesota is a tragic case in point. See Green 1990.

[35] Exceptions to this general rule are industries such as the airline industry which are both highly capital intensive and relatively mobile.

[36] In the mid-1940s, the electrical equipment industry was one of the first heavy industries to aggressively pursue this option in the U.S. South, with GE and Westinghouse taking the lead (see Emspak 1972; Shatz 1983; and Kochan et al. 1986). According to Craypo (1981), this strategy was quite effective: "From near parity following WWII, wages and benefits of electrical-product workers had fallen $2–3 per hour behind those for auto workers by 1966" (Craypo 1981, 162). Thus, electrical equipment was one of the first highly unionized "core" industries to begin the slide toward secondary wage rates as a result of aggressive union busting. In the past two decades, other highly capitalized industries such as auto, rubber, and meat-packing have followed suit by utilizing parallel production sites, multiplesourcing, and subcontracting in order to gain more "flexibility" and hence, more power in their encounters with unions (Bluestone and Harrison 1982).

tion, neither the mobility of capital nor the mobility of labor is ever perfect. Both are critically determined by the technical conditions of production between and within industries, and both of these processes can sometimes take more than a decade to make their presence felt.

It is important to note here that the above discussion of the real conditions of labor mobility does not imply that unions have either the power or the desire to *block* the mobility of labor into their respective industries. As noted in chapter 4, unless they are craft unions that have the ability to control apprenticeship programs, unions will normally attempt to merely *raise the costs* of labor mobility. By imposing these higher costs of mobility on their employers, they are ultimately attempting to prevent employers from utilizing the reserve army of labor to depress their wage rates. Thus, additional workers can be hired, but not as replacements for those already employed, and not at lower wage rates. This is quite different from arguing (as many neoclassical economists do) that unions generally have the monopoly power to block the entrance of other workers into their plants.[37]

By developing our argument in this manner, we can see that wage differentials between union and nonunion workers can actually become quite sizable and quite persistent without the presence of substantial "barriers" to the mobility of labor. This is an important point for two reasons. First, unlike the initial arguments of the segmentationists, it does not require us to assume that there is extremely limited mobility of labor between low- and high-wage sectors in order to explain the persistence of substantial interindustry wage differentials. As noted in chapter 2, this original claim has not been clearly borne out in empirical studies of labor mobility between "core" and "periphery" sectors.

More important, this argument also presents Marxist and radical economists with a useful foundation to begin to explain how other more discriminatory wage differentials between black and white (or male and female) workers can also be perpetuated *within highly competitive economies*. As conservative economists have often been eager to point out, if low-wage black workers are truly as productive as white workers, then enterprising employers who are more interested in profit maximization

[37] Within the past decade, the proliferation of two-tiered wage structures is a growing sign that unions are no longer strong enough to impose these costs of mobility on their employers (Slaughter 1983). As we noted earlier, these two-tiered systems are a desperate and terribly short-sighted attempt by organized labor to maintain the wage rates of senior workers while allowing capital to reduce the wages of young workers coming in. Of course, as union solidarity is seriously eroded in the long run, this will spell disaster for all workers, young and old. As one labor analyst eloquently remarked, these multitier wage concessions "are eroding inter-generational solidarity, ensuring, in the guise of protecting the privileges of seniority, that older workers are more vulnerable to replacement to exactly the extent that younger workers are made more exploitable" (Davis 1986, 103).

than discrimination will eventually find it profitable to hire them. Thus, in the long run, employers who are paying higher wage rates as a result of their racist hiring practices will eventually be forced to change those policies under competitive pressure.

Given this fairly powerful competitive argument, radical economists have generally been forced to rely on theories of monopoly and the dual economy in order to explain why competitive pressures have not yet eliminated these long-standing differentials between black and white workers (or male and female workers). Radical labor market segmentationists have also implied that capitalists across the economy have essentially conspired to maintain these differential wages and conditions among black and white (and male and female) workers to divide and conquer the working class.

As Milkman (1980) has correctly pointed out, however, arguments that primarily emphasize the classwide designs of capital tend to ignore the fact that employers often have highly contradictory interests. Thus, while capital as a class may clearly benefit from a weakened and segmented work force, "rigid sex- and race-typing of jobs may create difficulties for individual employers in obtaining the labor supplies they require at minimal costs, precisely because wage differentials are likely to be the key underpinning of occupational segregation" (Milkman 1980, 104). In other words, the relentless forces of capitalist competition will often place strict limits on these classwide designs.

Within our analysis of competitive wage determination, unified actions by capital are no longer required in order to explain the alarming persistence of these wage differentials. It is also no longer necessary to argue that capitalist competition has been seriously restricted. Although many "enterprising" employers may be willing to hire equally productive black workers at lower wage rates, *the above analysis suggests that there are always significant costs to bringing in low-wage workers in general—regardless of their particular race or gender.* Furthermore, if nondiscriminating employers are ultimately forced to pay these costs of tapping into low-wage labor reserves, we can no longer assume that discriminatory hiring practices will necessarily create a serious competitive disadvantage for racist and/or sexist employers. Given these costs, it is also more likely that nondiscriminating employers will primarily attempt to tap into these sources of cheap labor either by building new plants in nonunion regions or by moving into different industries that are not yet effectively organized.

Of course, the next critical step in this discussion would then be to explain why both people of color and women have historically come to be disproportionately represented within the various low-wage sectors of the reserve army. As noted in chapter 4, such an analysis would also have to

bring in all of the important ways that white male workers (as well as employers) have often contributed to this process of discrimination and segregation. Thus, although the many determinations of wage differentials based on race and/or gender discrimination are far more complex and clearly have certain unique dynamics, it may nevertheless be possible to view the problem of black/white (and male/female) differentials as an especially disturbing example of the more general problem of competitive inequality that is being discussed here.[38]

LEVEL OF CAPITAL INTENSITY (K/L)

Up to this point, we have suggested that large work forces and high levels of fixed capital investment may be important factors enhancing worker abilities to raise the potential costs of obstruction, and hence *total wage costs*. We have not yet discovered, however, whether these varying costs of obstruction will also provide the basis for differential limits to rising *hourly wage rates*. It is here that the capital/labor ratio, once again, becomes important.

As noted previously, firms attempting to develop their bargaining strategies must ultimately weigh the relative costs of obstructing each wage increase versus allowing wages to rise. Within this relative cost assessment, it can easily be shown that high capital/labor ratios will often tend to tip the balance in favor of the wage increase. Clearly, as K/L rises, total wage costs tend to decrease as a percentage of total costs (Semmler 1984 and Howell 1982). Thus, for any given increase in hourly wage rates, the higher the capital intensity, the smaller the effect on total costs. If workers are effectively organized and can already impose high costs of obstruction on their employers due to their large concentrated numbers and relatively high levels of fixed capital, then a high capital/labor ratio will greatly enhance their ability to increase hourly wage rates. Indeed, the potential costs of obstruction will tend to be quite high relative to the costs of allowing hourly wage rates to rise.

On the other hand, workers within industries that are characterized by high capital intensity and *small, isolated work forces* may not be able to take advantage of this relative cost factor because their collective ability

[38] For interesting attempts to link up the above classical Marxist analysis of wage differentials with the question of persistent racial discrimination, see Williams 1991 and Mason 1993. Using a somewhat different framework, Shulman (1984) has also made an important contribution to this discussion by developing an analysis of the various costs that employers must face if they should attempt to end their discriminatory hiring practices. One of the key issues in the project of building a competitive explanation for the persistence of race and sex discrimination will be to try to disentangle those dynamics that are actually part of the more general phenomena of competitive wage determination, from the more concrete historical and institutional dynamics that have led to these particularly harmful forms of labor market inequality.

to impose costs on their employers may be seriously impaired. Similarly, industries that are in the process of experiencing sharp increases in capital intensity which result in both systematic deskilling and large absolute decreases in employment via labor displacing technology can often generate serious downward pressures on wage rates.[39] Thus, high capital intensity alone is not a sufficient indicator of strong worker bargaining power.

Given that many "core" industries have historically possessed *all three of these favorable conditions* (high levels of fixed capital investment, high capital intensity, and large concentrated work forces), workers within these industries have had a number of important advantages in their struggles to raise hourly wage rates. The reader should note, however, that none of these advantages stem from any form of monopoly power or the absence of competition in either the product and/or labor market.

MARKET STRUCTURE: NUMBER OF FIRMS AND CONDITIONS OF ENTRY/EXIT VERSUS MARKET CONCENTRATION AND MONOPOLY POWER

In our initial discussion of the potential for rising wage rates within regulating capitals, we pointed out that it is important for workers to organize *all* of the regulating capitals within each industry.[40] We also noted that organizing the subdominant capitals would enable workers to raise the potential limits to rising wage rates even higher. We must now consider what types of overall industry structures will best tend to facilitate these ongoing organizing projects across each industry.

Until the late 1960s, it is well known that many highly concentrated manufacturing industries were also fairly well organized and highly paid. The continuing debate is over the question, why? According to most radical and institutional arguments, one of the most important explanatory factors concerned the high degrees of market concentration which generated monopoly pricing power and hence, a greater ability to pay higher wage rates. In our discussion of industry structure, however, we will continue to maintain that "market power" has had relatively little to do with these higher wage rates. Within Marx's analysis of capitalist competition, we have already seen that market concentration and monopoly pricing power have little to do with a regulating capital's ability to incorporate higher wage rates within its cost structure. Thus, up to this point, we have argued that wage increases can potentially take place within any industry—concentrated or unconcentrated.

[39] Over the past two decades, Craypo (1981) argues that this exceptionally destructive type of technical change has been an important contributing factor in the sharp declines in union bargaining power in the printing, coal, and rubber tire industries.

[40] Clearly, if only some of the regulating capitals are facing demands for higher wage rates, they will no longer be regulating capitals as soon as the wage increase goes into effect. Thus, the achievement of sustainable wage increases will be considerably more difficult.

In order to develop our alternative to monopoly theories further, we will now draw upon the work of Harold Levinson and several more recent writers who have also raised serious questions about the significance of market concentration in the development of interindustry wage differentials.[41] In the mid-1960s, Levinson developed an insightful alternative to the market concentration doctrine by pointing out that strongly correlated with high market concentration are two other structural factors that may be far more important in enhancing the ability of workers to organize and raise their wage rates. These two factors are: (1) the small number of key firms, and (2) the presence of relatively difficult conditions of entry and exit.

Within manufacturing, if an industry is primarily composed of a few large firms, the project of organizing all of the regulating capitals is obviously facilitated. Furthermore, if conditions of entry and exit are such that regulating capitals require both large amounts of fixed capital investment and significant periods of time in order to either relocate or bring their new plants on line, then maintaining a sufficient level of organization within the industry will also be greatly facilitated. All of this is clearly consistent with what we have already argued in terms of the importance of high levels of fixed capital investment.

On the other hand, in sectors outside of manufacturing (e.g., construction, mining, and transportation), Levinson argues that other "spatial limitations" may similarly enhance workers' abilities to maintain an effective level of union organization. Here, as in manufacturing, "the key to the relationship between product market structure and wage movements lies primarily in the effects of the former on the ease of entry of new firms into production outside the jurisdictional control of the union" (Levinson 1966, 265). Outside of manufacturing, however, this protection against nonunion entrants may be provided not by small numbers of firms and difficult conditions of entry, but by the "spatial limitations of the physical area within which new entrants effectively compete" (1966, 266). Thus, for example, although both maritime and trucking are highly competitive industries with large numbers of firms, Levinson suggested:

> [T]he technological and physical character of production require that any new entrant into the product market must either locate his plant within a specific and relatively limited geographic area or must physically enter such a specific area during some important phase of the production process. (Levinson 1966, 266)

After comparing manufacturing with these other strongly unionized sectors that have repeatedly presented serious anomalies to each generation

[41] See Levinson 1966, 1967; Friedman 1984; and Hodson 1986.

of institutionalists (see chap. 2), he concludes that market concentration should no longer be considered a key positive factor in the determination of interindustry wage rates.

> [T]he primary reason for the strong relationship found in past studies between union strength and concentration (as well as rates of increase in wages) may well have been due to their reliance on manufacturing data; once the scope of the analysis is broadened to include nonmanufacturing operations, *concentration is no longer the primary link between union strength and wage-fringe increases* [emphasis added]. (Levinson 1966, 268)

Indeed, in a later article he went on to suggest that a high degree of concentration in the product market can even have a *negative* effect on wage rates:

> On the one hand, it can provide the union with greater protection against the entry of non-union competitors, and thus help to maintain the union's jurisdictional strength in the industry. Yet at the same time, it is also associated with fewer firms of larger size and greater financial reserves which are more able effectively to resist union pressures.[42] (Levinson 1967, 205)

Since Levinson first suggested that market concentration (and hence market power) may not be a significant factor explaining above average wage rates, a number of empirical studies on interindustry wage differentials have shown that the statistical significance of market concentration is either seriously weakened or entirely negated once other structural factors such as plant size and capital intensity are included.[43] In one of the earliest studies of 417 four-digit manufacturing industries, Stanley Masters concluded that "although the concentration ratio has received much more attention, the plant-size variable (measured by the percentage of establishments of at least 1,000 workers) is more important in explaining inter-industry differences in average wages" (Masters 1969, 344). Although plant size was highly significant at the 99 percent level, the concentration ratio was not even significant at the 90 percent level. Further-

[42] For similar points see Friedman and Friedman 1979; Friedman 1984; and Hodson 1986.

[43] These studies include the following: Masters 1969; Haworth and Rasmussen 1971; Pugel 1980; Lawrence and Lawrence 1985; Hodson 1986; Hodson and England 1986; Freeman and Medoff 1981; and Dickens and Katz 1987. Contrasting studies that still find that market concentration is positive and significant despite the use of similar structural variables include Kwoka 1983; Long and Link 1983; and Mellow 1982. A useful summary of all of these studies can be found in Dickens and Katz 1987. Unfortunately, most of these studies are limited to the manufacturing sector. Hence they do not ultimately test one of Levinson's key arguments which suggests that the statistical significance of market concentration is greatly weakened once empirical studies include other sectors such as trucking and construction.

more, Masters's proxy for the capital/labor ratio was also highly significant.[44]

In a more sophisticated and far more extensive study, William Dickens and Lawrence Katz (1987) recently arrived at very similar conclusions. While these authors caution the reader concerning extensive problems of multicollinearity among numerous industry characteristics, they nevertheless find that three key factors have a consistently positive and significant effect on interindustry wage rates in the majority of their specifications. In addition to average years of schooling, and various measurements for firm profitability, they also find that workers tend to earn "wage premiums" in industries with both larger than average establishment size and high capital-to-labor ratios (Dickens and Katz 1987, 84). On the other hand, "the concentration ratio had an inconsistent relation to the wage with both positive and negative coefficient values following no easily discernible pattern" (1987, 78).[45]

Finally, Levinson (1966), Friedman (1984), and Hodson (1986) have all correctly pointed out that the experience of the American trade union movement during the 1920s and early 1930s should caution economists from simply assuming that high market concentration and large financial resources directly imply relatively high wage rates. Until 1935, Levinson points out:

> [A]ttempts to establish unionism were least effective in oligopolistic industries and most effective (relatively speaking) in competitive sectors, primarily because the very large financial resources of the firms in the former group were available to oppose the union drives more aggressively. If this was true of attempts to unionize, it would seem applicable as well to attempts to raise wages. (1966, 274)

When we now add Levinson's insights concerning industrial structure to our own discussion of the competitive "ability to pay" that has been developed, it becomes increasingly clear that market concentration and market power become less and less relevant to the discussion of interindustry wage differentials.

Before developing a brief illustration of how the costs of obstruction will tend to limit rising wage rates, a few additional comments concerning the question of overall firm resources are in order. As noted previously, the assessment of short-run cost factors may not always be the most

[44] Other studies indicating that capital intensity is a highly significant and positive factor include Haworth and Rasmussen 1971; Lawrence and Lawrence 1985; Hodson 1986; Hodson and England 1986; Dickens and Katz 1987; and Howell 1989.

[45] Despite their findings concerning market concentration, Dickens and Katz continue to suggest that market power remains an important factor in the interindustry wage structure. In fact, they go on to employ a principal component analysis that appears to support previous institutional arguments based on the traditional notion of the dual economy.

important criteria in developing a firm's bargaining strategy. In certain situations (i.e., when the labor movement is particularly weak), firms may attempt to destroy the union altogether by engaging in prolonged battles of attrition. Thus, immediate cost considerations are replaced by longer term possibilities of smashing the union, or at least decisively weakening it.[46]

As Levinson suggested, in these types of situations a firm's overall resources may become a determining factor in allowing it to choose such an expensive and often risky option. Thus, within our discussion of factors determining the bargaining strategies of regulating capitals, we would also want to consider such factors as the firm's total mass of available profits, the extent of conglomeration, and the particular timing of the labor dispute within an industry's cycle of fat and lean years.

We have already established that regulating capitals that require high levels of fixed capital investment must also be able to obtain a relatively large mass of profit in order to achieve the general rate of profit. Thus, these capitals will tend to have a relatively large pool of financial resources to fall back on in the case of prolonged battles with their unions. They will also tend to have easier access to credit. Perhaps most important, if a firm is also part of a large multiproduct conglomerate, it can rely on substantial resources from outside of the particular sector involved in the labor dispute. In fact, a number of writers have argued that the increasing conglomeration of U.S. corporations in the 1960s and 1970s played a major role in tipping the balance of power against labor in industries such as coal, meat-packing, printing, and steel.[47]

Finally, there is also the question of the timing of a particular labor

[46] The 1920s and the past decade are both good examples of this type of period when union-busting becomes the order of the day. Over the past several decades, many unionized workers within heavy industry were able to achieve a significant wage differential relative to nonunion workers (Howell 1982). Yet, in the 1980s, these past victories have now come under fire for several reasons. Not only has the accumulated differential in wage rates created a strong incentive for capitalists to opt for the longer run strategy of busting these unions, but many of the enormous fixed capital investments that greatly increased the costs of obstruction in the immediate postwar decades are now significantly depreciated. Furthermore, significant reductions in transportation and communication costs have now made it quite profitable for U.S. capitals to tap into the vast low-wage reserves of the underdeveloped capitalist regions. Thus, extensive capital mobility is becoming an increasingly attractive option even for the eternally stable "core." Finally, the growing profitability crisis (which is being intensified in the United States by the fact that many regulating capitals no longer reside within its borders) is making it increasingly necessary for capital to mount an all-out attack on wages and working conditions within the United States. Unfortunately, at a time when the labor movement needs to be at its strongest in order to protect itself from capital's onslaught, labor is at its weakest level of organization since the 1920s.

[47] See Bluestone and Harrison 1982; Craypo 1981; Davis 1986; and Moody 1988. For a revealing case study of how Litton Industries used its conglomerated resources to severely undermine unions, see Craypo 1986.

dispute. Up to this point we have been assuming that all of our hypothetical industries are enjoying periods of healthy growth rates. Yet, in the real world, most industries will tend to go through necessary periods of adjustment where growth rates slow down or even decline. Thus, unions must be careful to select the appropriate periods to go out on strike. If an industry is temporarily going through a phase of weakening demand and rising excess capacity, capital may be able to turn a strike situation to its own advantage. Indeed, a prolonged lockout may allow capital to minimize its overhead costs and seriously weaken the union at the same time. Thus, from the union's perspective, a prolonged strike during a period of slack demand could have very negative consequences.[48] On the other hand, "working to rule" and other in-plant methods of imposing costs on capital may be quite effective.

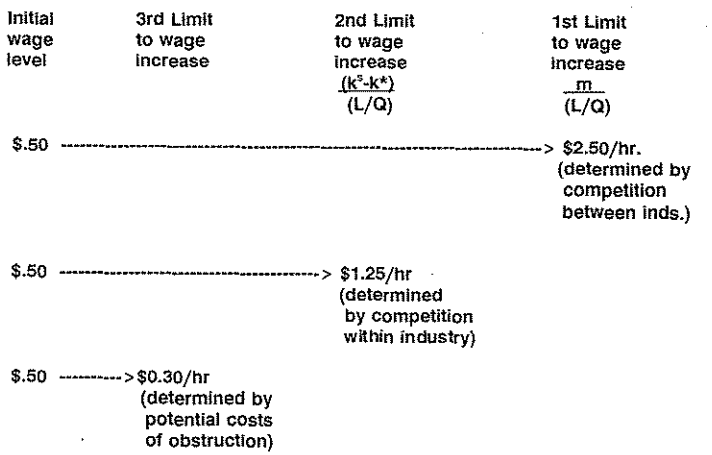
Completing Our Numerical Example

Assuming that the firm is not intent on busting the union at all costs, the costs of obstruction, however crude the calculation, remain a good first approximation of the union's ability to raise wage rates within regulating capitals. In order to illustrate how the costs of obstruction can become an important limiting factor in worker struggles to raise their wage rates, we will now briefly return to the numerical example within our hypothetical Industry A.

We left our example with two competitive constraints on rising wage rates. The first constraint was determined by the profit margin per unit labor requirement of regulating capitals, and the second was determined by the unit costs of subdominant capitals. We will now assume that at a given level of organization and militancy, workers in these same regulating capitals have the potential to impose costs of obstruction which are

[48] Related to the above issue of varying rates of growth is obviously the question of varying profit rates. In addition to assuming that all industries are enjoying a period of healthy growth, we have also assumed that they will generally tend to receive the average rate of profit for the economy as a whole. We purposely developed our argument in this manner to show that even when we assume a fairly rapid equalization of profit rates across different industries, there is still substantial potential for the development of differential wage rates between and within those same industries. In the next chapter we will relax this assumption by considering the more realistic process of equalization which entails not only the long-run convergence of interindustry profit rates, but also the continual *divergence* of profit rates as well. As we have already explained in chapter 5, various industries go through different types of cycles of fat and lean years, and some may actually be in the process of dying for a number of years. Thus, for substantial periods of time, profit rates will also be quite different. In chapter 7 we will complete our discussion of "the ability to pay" by showing how these differential profit rates may or may not have a significant impact on wage rates. As we shall soon see, the answer to this question will generally depend on *why* the rate of profit has deviated from the average rate and for how long.

FIGURE 6.2
Three Competitive Limits to Hourly Wage Increases



the rough equivalent of a 30 cents per hour wage increase for the coming year. Thus, as indicated in figure 6.2, workers in Industry A now confront *three* important constraints on rising wage rates.

Given these costs of obstruction, we can see that workers within our regulating capitals may face significant negative consequences if they should attempt to raise wage rates far beyond this 30-cent limit. Indeed, as their wage demands increasingly exceed this limit, employers will find it increasingly cost-effective to aggressively obstruct the wage increase. And, if these firms should succeed in forcing workers back to work on company terms, the costs to workers and their union will become painfully obvious.

On the other hand, if regulating capitals should agree to allow wages to rise well above this limit, newly entering capitals may find it profitable to hold the line and resist worker efforts to raise wages to this level. Although the unit costs of these new capitals may initially rise as a result of the ensuing industrial conflict, a successful campaign to restrain wage rates may eventually allow these new capitals to seize the low cost position within the industry. In the end, a wage increase far beyond this new limit would once again cause our regulating capitals to lose their position as the regulating conditions of production within the industry. Thus, either way, wage demands that significantly exceed the potential costs of obstruction may be difficult to sustain.

While institutional labor economists have certainly tried to account for

many of the above structural determinations of interindustry wage differentials, their continued dependence on the framework of perfect and imperfect competition has made it extremely difficult for them to understand how these different technical factors might be incorporated within an analysis of vigorous capitalist competition. Because the theory of perfect competition argues that high levels of competition require all firms to be infinitesimally small and perfectly mobile, technical factors like high levels of fixed capital investment tend to be viewed as "barriers" to competition (rather than merely as *conditions* of competition that must be adjusted for). The presence of these "barriers," in turn, suggests the presence of monopoly power and administered pricing. And finally, the often cited positive correlations of above average wage rates with:

high levels of fixed capital investment
high capital/output ratios
high capital/labor ratios
high profit margins (or, high "value productivity")
and high degrees of market concentration

are repeatedly interpreted as evidence of markup pricing policies within oligopolistic industries.

Thus, as noted in chapter 2, these well-known empirical patterns of interindustry wage differentials have largely tended to be explained at the expense of a competitive analysis of wages, prices, and profits[49] (Howell 1982; Dunlop 1948; Garbarino 1950; Bowen 1960; and Craypo 1981). Indeed, even researchers like Dickens and Katz (1987), who argue that market concentration is not a good statistical indicator for above average wage rates, continue to rely on "market power" arguments as the only conceivable way to reconcile these persistent and substantial differentials in profit and wage rates.

From our extension of Marx's analysis of competition, however, we

[49] For example, in a very interesting analysis of the structural determinations of interindustry wage differentials, Howell argues that "the existence of significant barriers to entry is the primary source of the price discretion that core industries exhibit" (Howell 1982, 51). He also argues that "high barriers to entry and administered pricing are important sources of high ability to pay" (1982, 54). Thus, although Howell's work makes a number of significant advances in the discussion of technical determinations of wage differentials, his continued dependence on the arguments of monopoly power and administered pricing prevents him from resolving the old institutionalist problem of indeterminacy. In addition, his assumption of administered pricing as an exclusive characteristic of "core" industries leads him to seriously downplay the possibilities for workers within the so-called "competitive" sectors to achieve significant wage increases through union organization (see also Howell 1989). As we noted in chapter 2, efficiency wage theories that rely on various forms of "rent sharing" suffer from similar problems.

have already begun to see that many of these patterns can be anticipated within the confines of ongoing capitalist competition. Although we have been careful to derive all of the above limits to rising wage rates within the context of ongoing capitalist competition and the equalization of profit rates, a series of persistent patterns of inter- and intraindustry wage differentials has emerged from several different levels of analysis.

Our earlier analysis of competition between industries showed that the immediate constraints on rising wage rates will tend to vary across different industries due to variations in technical structures of production. Regulating capitals that require high levels of fixed capital investment and high capital/labor ratios *will* be able to absorb large immediate wage increases relative to capitals in more labor-intensive industries. However, this is not because of monopoly pricing power, but because *competition* actually requires these capitals to earn relatively high profit margins per unit labor requirement. In turn, these larger profit margins enable them to survive higher wage increases during the transitional period when relative prices have not yet fully adjusted. Furthermore, our analysis of regulating capitals also suggests that relative prices *will* eventually adjust not as a result of monopoly power, but as a result of the regulating capital's ability to act as the *competitive standard* for the industry as a whole. (An ability which regulating capitals within any industry will tend to possess regardless of the level of market concentration.)

Our analysis of competition within industries has shown that regulating capitals in capital-intensive industries can also endure the presence of larger wage differentials within their industry because wage costs tend to be a smaller proportion of total unit costs. And finally, our discussion of the costs of obstruction has shown that capitals with large work forces, large amounts of fixed capital, and high capital intensity will frequently find it less cost-effective to resist these wage increases when facing militant workers who have the potential to impose significant costs.

Analyzing the Effects of Uneven Worker Organization

> There are many trades in the East End of London whose labour is not more skilled and quite as hard as that of bricklayers and bricklayers' labourers, yet they hardly earn half the wages of these. Why? Simply because a powerful organisation enables the one set to maintain a comparatively high standard of life as the rule by which their wages are measured; while the other set, disorganised and powerless, have to submit not only to unavoidable but also to arbitrary encroachments of their employers: their standard of life is gradually reduced, they learn

> how to live on less and less wages, and their wages naturally fall to that level which they themselves have learnt to accept as sufficient.
>
> —Friedrich Engels, "The Wages System"

From our previous argument, we have seen that differential conditions of production between and within industries have important consequences for the development of inter- and intraindustry wage differentials. Thus, even if we were to assume that workers within the regulating capitals of every industry were equally organized and equally militant, certain patterns of interindustry wage differentials may nevertheless tend to appear. In this case, however, it is important to point out that the range of differentiation would tend to be at a minimum.

As the above quote from Engels suggests, when we consider the far more likely scenario of uneven worker organization across different sectors of the economy, the range of actual wage variation is also likely to increase significantly. Once we allow for differential levels of worker organization, we therefore arrive at our most concrete and final set of factors, which will tend to have an important influence on the actual patterning of inter- and intraindustry wage rates.

Clearly, if only some of the industries in any particular capitalist economy are highly organized, the above potential limits to rising wage rates will only be tested in these industries. Thus, within economies where unionization rates are highly uneven, we would expect to see far greater differences in interindustry wage rates relative to economies where workers are more widely organized.[50] In addition, if the highly organized sectors are also those industries with the greatest immediate potential for higher wage rates (i.e., those with high fixed capital requirements and above average capital/labor ratios), then interindustry wage differentials will tend to be pushed to the maximum range of variation allowed within the confines of ongoing capitalist competition.

Unfortunately, this last scenario, which lays the groundwork for the greatest range of wage variation, is a fairly good approximation of the

[50] Here the neoclassical argument whereby unions are accused of *increasing* the inequality of wage rates between organized and unorganized workers is trivially true. Yet, within our argument, workers in the unorganized sectors are not experiencing depressed wage rates because of an excess supply of labor that has been generated by a reduction of employment within the organized sectors. On the contrary, they are experiencing relatively lower wage rates because they have failed to push their wage rates up against the limits that have been outlined above. Hence, the real remedy to these growing interindustry wage differentials is not to dismantle the unions, but to organize the unorganized! It is also important to note that Freeman and Medoff (1984) have shown that unions actually tend to reduce overall wage inequality by decreasing differentials within unionized firms and across firms within the same industry.

conditions within U.S. manufacturing between 1940 and 1970. During this period the most militantly organized industries were the highly capital-intensive (and highly concentrated) CIO industries such as steel, auto, rubber, and meat-packing. It is also during this period that one could most successfully argue that many of the regulating (and hence, most profitable) capitals in these industries still tended to be located within the United States.[51] Moreover, their massive fixed capital investments greatly diminished the potential for capital mobility for several decades. Thus, for all of these reasons, the greatest potential for wage increases also tended to exist within those industries that were the most effectively organized.

In sharp contrast to these CIO industries, many of the so-called "secondary sectors" with relatively low fixed capital requirements and low capital/labor ratios also tended to remain either weakly organized or entirely unorganized.[52] Given these technical conditions, industries such as textiles, apparel, and footwear were among the earliest U.S. sectors to be seriously afflicted by capital flight, first to the unorganized U.S. South and then abroad. In addition, many of the *regulating* capitals within these international industries were increasingly located outside of the United States.[53] Thus, within our argument, the cumulative interaction of differential conditions of production and profitability combined with highly uneven levels of worker organization would clearly play a major explana-

[51] For a brief summary of the changing dynamics of international competition and its effects on U.S. labor, see Price 1986. Although Price does not utilize the concept of "regulating capitals," the implications of the changing national location of low-cost producers is an important component of his analysis.

[52] As I argued in chapter 4, this dualism in union development was greatly reinforced by the "red scare" of the 1950s when many of the most active and most militant union organizers were driven out of the labor movement in huge numbers. Thus, when it was time for the CIO unions to take on these other manufacturing industries that were clearly more difficult to organize, the labor movement had lost much of its momentum as well as many of its most experienced organizers, who were required to accomplish this task. Outside of manufacturing, the failure to organize the expanding service sector also greatly contributed to growing wage inequality within the United States. Commenting on the lack of organizing activity within this sector, Charles McDonald, Director of the AFL-CIO Department of Organizing, recently noted the following: "Up until 1974 (before the Health Care Amendments to the NLRA), only 8% of our elections took place in the service-sector. Since 1974, service-sector elections have increased to approximately 22%, but this is still well below where it should be, given the movement of jobs toward this sector of the economy" (see Kochan 1986, 66). Although it is often assumed that service sector work is inherently "low wage work," comparisons across different capitalist nations are quite revealing. According to Thurow (1989), although "private service workers in the U.S. are paid only 67 percent as much as those in manufacturing, in Japan they are paid 93 percent as much and in Germany 85 percent as much as manufacturing workers."

[53] The implications of the national location of regulating capitals will be discussed in more detail in the following chapter.

tory role in the development of substantial interindustry wage differentials throughout the postwar period.

Of course, once declining profit rates caused the U.S. economy to move into a secular period of general crisis in the 1970s and 1980s, these interindustry wage differentials were greatly exacerbated as unorganized workers in the "secondary sector" became increasingly vulnerable to labor market pressures generated by rising levels of unemployment.[54] When comparing the United States to other industrialized capitalist nations, it is also critical to note that wage inequality between organized and unorganized workers is seriously aggravated in the United States by our relatively low minimum wage rate and extremely weak levels of government protection for nonunion workers. Unlike their European counterparts, unorganized workers in the United States have very little legal protection from arbitrary and/or unjust dismissal. Furthermore, when U.S. workers do lose their jobs, they have no national healthcare program to fall back on. When this low level of protection from the hardships of unemployment is then combined with one of the lowest levels of unionization in the industrialized world, it is reasonable to conclude that the "union threat effect" within most unorganized sectors of the U.S. economy will also tend to be far weaker. Thus, while most unionized workers were able to hold the line on wages at least until the 1980s, unorganized workers have been repeatedly ravaged by the downward pressures of our exceptionally "free" labor market.[55]

The importance of both high levels of unionization and strong government intervention can perhaps best be seen when we compare the United States to countries like Sweden which are at the opposite end of the capitalist spectrum. As a result of exceptionally high levels of unionization (rising from 70 percent in 1955 to 95 percent in 1984), as well as a comprehensive "solidaristic wage policy" that was effectively pursued by Sweden's Social Democratic Party, wage inequality was significantly and continually reduced from the 1940s through the late 1970s.[56] Unfortunately, however, this impressive progress was brought to an abrupt halt in the late 1970s when solidaristic wage bargaining came under employer attack. Nevertheless, Sweden continues to have one of the lowest levels of wage dispersion in the industrialized world.[57]

[54] While most radical economists contend that the U.S. economy reached a critical turning point in the late 1960s, the causes for the emergence of the prolonged profitability crisis are hotly debated. Many of these arguments can be found in *The Imperiled Economy: Book I*, URPE, 1987. From this writer's perspective, one of the most powerful explanations for this crisis is primarily based on Marx's classical argument concerning capitalism's internal dynamics of technical change (see Shaikh's contribution to the URPE volume). For documentation of the long-run decline in profitability within the U.S., see Nordhaus 1974. For similar trends in most European nations, see Hill 1979.

[55] For useful discussions of how the Reagan administration attempted to greatly increase these downward pressures on wage rates throughout the 1980s, see Rosenberg 1983 and Amott 1988.

[56] For a brief discussion of Swedish labor market policies in the postwar period, see Esping-Anderson and Friedland 1982. See also Harrison and Bluestone 1990.

As we begin to arrive at our most concrete levels of analysis, the determinations of differential wage patterns across any particular economy obviously become far more complex. Although our analysis continues to remain within the limits of capitalist competition between and within industries, political factors may also become quite significant. In fact, as we have just argued, the level of effective organization within the working class as a whole becomes an absolutely central factor when comparing the extent of wage differentiation across different capitalist countries (or across different historical periods within the same country).

Yet, although political factors may become more significant at the most concrete levels of analysis, it is important to recognize that the politics of class struggle have been interwoven into every level of our discussion thus far. In our discussion of the laws of accumulation in chapters 3 and 4, we continually argued that class struggle and different levels of class organization are critical to the determination of both the general wage level and various patterns of wage differentiation. Within any particular capitalist country, history, politics, and class struggle are all critically interwoven into the very fabric of Marx's discussion of the determinants of the value of labor power, the length and intensity of the work day, and even the average number of family members which are required to work.

[57] A comparative study of wage dispersion within manufacturing industries of 14 countries can be found in Krueger and Summers 1987. Although these authors find that the rankings of different industries are "remarkably stable," they also note that "there is a moderate degree of variation in the magnitude of industry wage differentials among countries" (1987, 28). More important, because these wage structures are similar across countries with very different levels of unionization, Krueger and Summers also suggest that union density is "probably not an underlying determinant of the industry wage structure" (1987, 36). Given that our argument suggests that structural differences in technical conditions across industries do create an important foundation for interindustry wage differentials, the appearance of similar wage hierarchies across different capitalist nations is not surprising. However, we are suggesting that higher levels of unionization should tend to reduce the overall range of wage dispersion. Curiously, if one correlates unionization levels with Krueger and Summers's own measure of wage dispersion for the eight highly industrialized capitalist nations in their study, the rank correlation coefficient turns out to be −73. Thus, although more sophisticated studies obviously need to be done, the unionization level does appear to have a narrowing influence on the range of wage differentiation. I also expect that this narrowing influence would be far more significant if our measure of wage dispersion was not limited to manufacturing. Unionization rates for Sweden, Britain, Germany, Canada, Japan, France, and the United States were obtained from Goldfield 1987, table 3, p. 16. The unionization rate for Norway was obtained from R. Price, "Trade Union Membership" in R. Bean, ed., *International Labour Statistics*, 1987. New York: Routledge.

Within our present discussion of capitalist competition and differential wage rates, we see once again that politics is an essential component of our analysis. Clearly, the struggle of labor against capital which is expressed in competition as limits in the first instance, and then as the struggle against these limits in the second instance, is entirely political. Thus, at all of these different levels of analysis, politics remains fundamental to our discussion.

On the other hand, politics is not the only factor. The forces of competition and accumulation also continually make their presence felt. Thus, although the level of worker organization is a key variable in the determination of the general wage level within any particular country, the level of productivity and the efficiency of that nation's capitals remain fundamental limiting factors.[58] And, as we moved on to our discussion of wage differentials and capitalist competition, we discovered an additional complex of dynamic constraints.

Once the limits of competition and accumulation are clearly understood, however, it is essential to point out that political variables are not thereby diminished in their social importance. On the contrary, they merely become richer in their determinations. Indeed, comparing our own analysis of these political determinations with the arguments of segmentationists and other "class struggle" theorists, political factors may often take on *even greater significance* once they are properly understood.

Within most labor market segmentation discussions of interindustry wage differentials, for example, low-wage rates, are primarily assumed to be the result of the lack of monopoly power, not the lack of union organization. Thus, as noted in chapter 2, the periodic occurrence of high wage rates and strong unions within unconcentrated industries has generally presented a serious anomaly for segmentationists.

Once the limits to capital are reestablished through Marx's analysis of ongoing capitalist competition, however, it is much more difficult to suggest that differential wage patterns are primarily determined by the discretionary pricing policies and divide and conquer strategies of monopoly capitalists. Equally important, given that rising wage rates are no longer dependent on monopoly power, our very different path to the concrete analysis of workers' power suggests that workers and their unions can potentially do a great deal more to improve wages and working conditions within many "secondary" sectors of the U.S. economy. In fact, the arguments in this book suggest that it is the *lack of unionization* and not the presence of high levels of capitalist competition that is the primary cause of chronically low wage rates within many of these sectors.

[58] As Samir Amin has repeatedly pointed out, the standard of living of a nation's working class is never independent of the overall development of that nation's forces of production (Amin 1974).

Thus, although our argument is clearly far more determinate, there is curiously more room for workers and their unions to have a significant effect on wages and working conditions within many more industries across the economy. As Engels once pointed out in *The Labour Standard* of London:

> The law of wages . . . is not one which draws a hard and fast line. It is not inexorable with certain limits. There is at every time (great depression excepted) for every trade a certain latitude within which the rate of wages may be modified by the results of the struggle between the two contending parties. (Engels 1881, 13)

As noted in the introduction to this work, the real dynamics of worker power may be quite different from what many "class struggle" theorists have tended to assume. Indeed, once we have reestablished that the laws of competition provide critical constraints on *capital* as well as on labor, the terrain of the class struggle over wage rates changes dramatically.

A Final Note on Workers' Power and the Costs of Obstruction

In order to further differentiate our argument from radical class struggle arguments, it is necessary to make one final point concerning our analysis of the "costs of obstruction." From the previous discussion, it may appear to be the case that all workers essentially have to do to raise the limits to rising wage rates is simply become better organized and more militant. Quite clearly, the stronger unions become, the higher the potential costs of obstruction may be raised. Thus, if we mistakenly limit ourselves to this very concrete level of analysis, the class struggle does indeed appear to be the overriding factor.

In the analysis developed here, however, the costs of obstruction are only *one* of the constraints to rising wage rates. There are also the very important limits determined by both the cost structures of subdominant capitals and by the profit margins of regulating capitals. Within this overall framework of competitive constraints, if workers in a particular industry should become so powerful that they can potentially generate costs of obstruction that are far beyond these other two competitive limits, these latter constraints will essentially displace the costs of obstruction as the primary limit on wage rates. Thus, if these workers should actually manage to force their regulating capitals to concede to a wage increase that is commensurable to these greatly increased costs of obstruction, they may soon discover that they will be forced to pay a very stiff penalty in rising layoffs and possible plant closures.

As we have shown, a local wage increase that forces unit costs above the unit costs of the subdominant capitals will cause the original regulating capitals to lose their position as the regulating conditions of produc-

tion within the industry. An even greater wage increase that eliminates the profit margins of the regulating capitals may force these firms to close their doors. Thus, regardless of the militancy of the union, wage increases that go beyond these other two limits will be difficult to sustain. At this level of analysis, the limit to the class struggle is therefore quite clearly the competition of capitals.

Before we go on to a discussion of the limits to rising wage rates for *non*regulating capitals, we must still discuss one final set of limiting forces that many radicals have also tended to lose track of. These limits are determined by the general laws of capitalist accumulation.

The General Laws of Capitalist Accumulation

Within chapters 3 and 4 we developed a fairly detailed analysis of how movements in the general wage level will tend to be limited and regulated by the dynamics of capitalist accumulation within the aggregate labor market. At this point, it will be useful to briefly link our discussion of competitive wage determination back up to this more general analysis. As noted earlier, it is primarily at the aggregate level that general movements in the productivity of labor will tend to play an important role in the wage determination process. In order to develop these links we will first discuss the case of local wage increases within one particular industry. We will then go on to discuss wage increases that take place over wider sectors of the economy.

Local Wage Increases within a Single Industry

Up to this point, we have argued that effectively organized workers *within any single industry* should be able to achieve a continuous series of gradual increments in their wage rates during periods of normal market growth. This is provided, of course, that workers' wage demands do not seriously exceed the three sets of constraints that have been outlined above, and that workers allow sufficient time for relative prices to adjust. Equally important, we have also argued that these wage increases do not require commensurate increases in the productivity of labor, nor will they tend to result in declining levels of employment.

Thus, in direct contrast to neoclassical theory, local wage increases may be largely independent of movements in the productivity of labor within the affected industry. Moreover, as long as we are dealing with rising wage rates in only one isolated industry, there is little reason to suggest that aggregate movements in labor productivity will have any significant limiting effect on that industry's wage rates. Even if wage rates in this industry should rise well above the general wage level, outpacing both local and

aggregate productivity growth, this would merely imply that a portion of the surplus value that is being realized in other industries would eventually have to be transferred into this industry. Once relative prices have adjusted to allow for the equalization of profit rates between industries, these higher wage rates would merely imply a very slight decrease in the general rate of profit. *In sum*, within the above Marxian analysis of competitive wage determination, the *neoclassical* linkages between labor productivity, wage rates, and employment rates have been irreparably severed.

Yet, although local wage increases are not generally constrained by movements in productivity per se, it is important to point out that the actual *process* of raising the productivity of labor *will* tend to have important limiting effects on local wage determination that should not be ignored here. Contrary to neoclassical theory, Marx's analysis of capitalist production argues that the actual process of increasing labor productivity normally has a number of very detrimental effects on both the wages and working conditions of the affected work force.

As noted in chapter 3, the primary way to increase labor productivity is through mechanization. Yet, under capitalism this process of mechanization creates a number of serious problems for the worker. Within the industry where mechanization is taking place, skill levels tend to be lowered. Thus, the value of labor power (which forms the center of gravity for the market wage) also tends to be reduced. Along with this deskilling process, the majority of workers will gradually come to command less overall knowledge of the production process and will therefore have less ability to control it. Finally, because deskilling also tends to cut down on required training time, an increasing number of workers will become more and more vulnerable to competition from the reserve army. (Of course, at the aggregate level, this reserve army is continually reproduced in various forms by the same process of mechanization and rising capital intensity that takes place throughout the entire capitalist economy.)

Within the context of our discussion of the "costs of obstruction," it should not be difficult to see that the continual mechanization of production and its accompanying generation of a sizable reserve army act as important constraints on workers' abilities to raise these costs of obstruction. In fact, rather than improving the lot of the working class, Marx's argument suggests that capitalist mechanisms for raising productivity will generally tend to make the worker's situation more and more precarious.[59]

[59] It was for all of the above reasons that Marx argued that workers must constantly organize and struggle against this continual onslaught just to keep from losing ground. See Marx 1865 (see also chapter 3 above).

It is also worth recalling that this combined process of deskilling and continual underemployment acts as a powerful vise that keeps wage differentials between organized and unorganized workers in check over time. As the wages of organized workers continue to rise above the wage rates of unorganized workers who are less sheltered from the reserve army, the incentive for employers to opt for the more costly strategy of obstructing further wage increases and tapping into that reserve army is increasingly enhanced. Over time, this incentive will tend to be further increased as costly fixed capital structures are eventually depreciated and the costs of capital mobility are thereby greatly reduced. Thus, as argued in chapter 4, not only does the reserve army help to generate wage differentials by providing capitals with a constant stream of desperate workers who are forced to work at substandard wage rates, but it also acts as a powerful constraint on the overall range of wage variation.

Wage Increases across the Economy

Once we move to a more general discussion of the limits to rising wage rates within a large number of industries, movements in both the productivity of labor and in the general rate of profit become far more critical. In this context, increases in the general wage level that outstrip increases in the productivity of labor *will* have significant consequences for both the general rate of profit and aggregate levels of employment. Thus, it is here that we must finally address the limits to rising wage rates that are derived from aggregate movements in the productivity of labor, or, in other words, from Marx's general laws of capitalist accumulation.

In our previous discussion of these general laws in chapter 3, we argued that *during healthy periods of accumulation*, the continual mechanization of the production process provides capital with several important levers to assure that wage increases will tend to remain within the limits of capitalist profitability. In addition to the depressing effects that we have just enumerated (i.e., deskilling and chronic underemployment), the mechanization of production also causes the productivity of labor to rise. To the extent that these productivity increases take place within industries that are either directly or indirectly connected to the production of workers' means of subsistence, this provides a limited space for real wages to rise without seriously impinging on capitalist profitability. Indeed, as long as real wages rise more slowly than productivity, both real wages and the rate of surplus value can continue to rise—if workers organize effective unions that have the ability to impose costs on capital.

Given that the reserve army continues to be replenished even during periods of rapid accumulation, it will be unlikely for wage rates to rise above the limits set by the productivity of labor. However, in extraordinary cases where general wage increases do begin to impinge on capitalist profitability, this will primarily tend to have a decelerating effect on the rate of accumulation. Thus, the rate of growth of aggregate employment across the economy as a whole will tend to decelerate until the growing reserve army places a check on these rising wage rates. Of course, within any particular industry, these declines in the general rate of profit will tend to make their presence felt by placing a downward pressure on individual firm profit margins and profit rates.

During periods of general crisis such as the 1970s and 1980s, however, the dynamics of wage determination and productivity growth take on a very different character. When the capitalist economy enters into periods where the rate of profit has declined to seriously low levels as a result of secular increases in the organic composition of capital, the space for rising wage rates becomes much more narrow. As the profitability crisis continues to express itself, the rate of growth of investment will eventually tend to decline and improvements in the productivity of labor will become far more difficult. Moreover, declining rates of growth will cause the reserve army to grow more rapidly.

As profit rates continue to decline, capitalist competition will also become more and more intensified. Thus, individual capitals are increasingly pressured to protect their declining rates of profit by intensifying the labor process and by forcing workers to accept cuts in their wage rates. As Marx points out in *Capital*, these often brutal methods of increasing the rate of surplus value are some of the primary ways that the capitalist system eventually restores the rate of profit in order to set the stage for a new wave of rapid accumulation[60] (Marx 1894, 254–55).

Finally, within this context of declining rates of investment and decelerating rates of growth of employment, we can no longer assume healthy periods of market growth. Thus, even in the case of local wage increases, it will become increasingly difficult for many regulating capitals to absorb further wage increases through dynamic changes in the relative price structure.

Thus, for the economy as a whole, movements in the productivity of labor and in the general rate of profit do indeed provide important limits to rising wage rates. And it is within this aggregate context that we must finally situate the previous competitive limits that have been derived for wage rates within single industries. It is also by carefully combining these various levels of analysis that we can finally begin to distinguish the different potential effects of particular movements in the productivity of labor on both the general wage level and on interindustry wage rates. In the next chapter we will complete our discussion of differential movements in labor productivity by analyzing the very important issue of productivity differentials within each industry.

[60] Another key process is the destruction of capital value. See Marx 1894, chap. 15.

CHAPTER 7

Capitalist Competition and Differential Wage Rates (II): Nonregulating Capitals and Differential Profit Rates

IN THE PREVIOUS chapter we limited our discussion of wage differentials to regulating capitals across different industries. Although we based our analysis on the strict assumption of equal profit rates for regulating capitals across all industries, we discovered that several potential patterns of persistent wage differentials can nevertheless be derived from Marx's analysis of capitalist competition between and within industries.

In this chapter we broaden the range of differential wage phenomena that can be anticipated from Marx's analysis by making our discussion considerably more complex. In the first section, we discuss the far more restrictive limits to rising wage rates for capitals that are less efficient than the regulating conditions of production within an industry. We will then develop a similar analysis for capitals that are more efficient than regulating firms due to the possession of unique conditions of production that cannot be readily reproduced. Finally, the last section will relax our previous assumption of equal profit rates between industries in order to further explore the implications of Marx's argument concerning the dynamic equalization of profit rates through tendential regulation (see chapter 5, the section titled "Competition between Industries.")

THE CASE OF LESS EFFICIENT CAPITALS

Even in the best case scenario when wages are increasing across an entire industry, the constraints on rising wages within less efficient capitals tend to be significantly more restricted in both the short and the long run. In the short run (i.e., when relative prices have not yet adjusted to the industrywide wage increase), these capitals will be primarily disadvantaged by three key factors: higher unit costs, higher unit labor requirements, and lower profit margins. In the long run, they will also be adversely affected by their inability to regulate movements in their industry's price of production. Thus, even when relative prices have eventually adjusted to allow the *regulating* capitals to achieve the general rate of profit, the profit margins and profit rates of less efficient capitals will remain permanently reduced. Moreover, their initial cost disadvantage vis-à-vis regulating capitals will tend to be increased. In addition to providing a rich foundation

for wage differentials within each industry, these more restricted wage constraints for less efficient capitals can also provide the basis for important patterns of *inter*industry wage differentials.

Although institutionalists have sometimes noted that intraindustry wage differentials may periodically arise due to the presence of differential conditions of production within an industry (Reynolds 1951 and Averitt 1968), these results have not been systematically analyzed within a framework of competitive wage determination. Moreover, the implications for interindustry wage differentials have hardly been recognized at all. Once again, this is primarily due to the widely held neoclassical assumption that differential conditions of production (and hence, differential profit rates) are not a general result of effective capitalist competition within industries.[1] As we have argued in chapter 5, however, Marx very persuasively suggests that differential conditions of profitability within each industry are an expected outcome of ongoing capitalist competition.

Initial Limits to Rising Wage Rates: Holding Prices Constant

In contrast to the previous chapter, which developed a detailed analysis of three different competitive limits to rising wage rates, this section will primarily focus on the limit that is determined by the immediate profitability of the nonregulating capitals (i.e., the profit margin per unit labor requirement). In chapter 6, the unit costs of subdominant capitals provided an important limit to rising wage rates because it ensured that our regulating capitals could maintain their status as the least cost producer within the industry. Because less efficient capitals are not regulating capitals to begin with, however, this second limit is no longer relevant here.

Finally, although the "costs of obstruction" continue to remain relevant to this discussion, the implications of this limit for nonregulating capitals are easily derived from the previous discussion in chapter 6. It is important to note, however, that in the case of less efficient capitals, the potential costs of obstruction may play a far more restricted role. Indeed, where less efficient capitals have significantly higher unit costs relative to regulating capitals, this cost disadvantage may become the dominant factor placing constraints on wage rates regardless of the militancy of the workers.

WITHIN INDUSTRIES

To lay the foundation for our discussion of less efficient capitals, we will once again rely on Marx's general arguments concerning the dynamics of technical change and the development of differential cost struc-

[1] Even within unorthodox analyses of differential wage and profit rates, firms within each industry are generally assumed to have very similar levels of efficiency. See Edwards 1979; Howell 1982; and Bowring 1986.

It is also worth recalling that this combined process of deskilling and continual underemployment acts as a powerful vise that keeps wage differentials between organized and unorganized workers in check over time. As the wages of organized workers continue to rise above the wage rates of unorganized workers who are less sheltered from the reserve army, the incentive for employers to opt for the more costly strategy of obstructing further wage increases and tapping into that reserve army is increasingly enhanced. Over time, this incentive will tend to be further increased as costly fixed capital structures are eventually depreciated and the costs of capital mobility are thereby greatly reduced. Thus, as argued in chapter 4, not only does the reserve army help to generate wage differentials by providing capitals with a constant stream of desperate workers who are forced to work at substandard wage rates, but it also acts as a powerful constraint on the overall range of wage variation.

Wage Increases across the Economy

Once we move to a more general discussion of the limits to rising wage rates within a large number of industries, movements in both the productivity of labor and in the general rate of profit become far more critical. In this context, increases in the general wage level that outstrip increases in the productivity of labor *will* have significant consequences for both the general rate of profit and aggregate levels of employment. Thus, it is here that we must finally address the limits to rising wage rates that are derived from aggregate movements in the productivity of labor, or, in other words, from Marx's general laws of capitalist accumulation.

In our previous discussion of these general laws in chapter 3, we argued that *during healthy periods of accumulation*, the continual mechanization of the production process provides capital with several important levers to assure that wage increases will tend to remain within the limits of capitalist profitability. In addition to the depressing effects that we have just enumerated (i.e., deskilling and chronic underemployment), the mechanization of production also causes the productivity of labor to rise. To the extent that these productivity increases take place within industries that are either directly or indirectly connected to the production of workers' means of subsistence, this provides a limited space for real wages to rise without seriously impinging on capitalist profitability. Indeed, as long as real wages rise more slowly than productivity, both real wages and the rate of surplus value can continue to rise—if workers organize effective unions that have the ability to impose costs on capital.

Given that the reserve army continues to be replenished even during periods of rapid accumulation, it will be unlikely for wage rates to rise above the limits set by the productivity of labor. However, in extraordinary cases where general wage increases do begin to impinge on capitalist profitability, this will primarily tend to have a decelerating effect on the rate of accumulation. Thus, the rate of growth of aggregate employment across the economy as a whole will tend to decelerate until the growing reserve army places a check on these rising wage rates. Of course, within any particular industry, these declines in the general rate of profit will tend to make their presence felt by placing a downward pressure on individual firm profit margins and profit rates.

During periods of general crisis such as the 1970s and 1980s, however, the dynamics of wage determination and productivity growth take on a very different character. When the capitalist economy enters into periods where the rate of profit has declined to seriously low levels as a result of secular increases in the organic composition of capital, the space for rising wage rates becomes much more narrow. As the profitability crisis continues to express itself, the rate of growth of investment will eventually tend to decline and improvements in the productivity of labor will become far more difficult. Moreover, declining rates of growth will cause the reserve army to grow more rapidly.

As profit rates continue to decline, capitalist competition will also become more and more intensified. Thus, individual capitals are increasingly pressured to protect their declining rates of profit by intensifying the labor process and by forcing workers to accept cuts in their wage rates. As Marx points out in *Capital*, these often brutal methods of increasing the rate of surplus value are some of the primary ways that the capitalist system eventually restores the rate of profit in order to set the stage for a new wave of rapid accumulation[60] (Marx 1894, 254–55).

Finally, within this context of declining rates of investment and decelerating rates of growth of employment, we can no longer assume healthy periods of market growth. Thus, even in the case of local wage increases, it will become increasingly difficult for many regulating capitals to absorb further wage increases through dynamic changes in the relative price structure.

Thus, for the economy as a whole, movements in the productivity of labor and in the general rate of profit do indeed provide important limits to rising wage rates. And it is within this aggregate context that we must finally situate the previous competitive limits that have been derived for wage rates within single industries. It is also by carefully combining these various levels of analysis that we can finally begin to distinguish the different potential effects of particular movements in the productivity of labor on both the general wage level and on interindustry wage rates. In the next chapter we will complete our discussion of differential movements in labor productivity by analyzing the very important issue of productivity differentials within each industry.

[60] Another key process is the destruction of capital value. See Marx 1894, chap. 15.

tures within industries. Within "modern industry," Marx repeatedly argues that the primary means of increasing the productivity of labor (and hence lowering unit costs) is through increasing capital intensity.[2] As noted in chapter 3, the key way for capitalists to increase productivity is through the mechanization of production, which generally entails increases in the scale of plant and equipment.[3] Thus, decreases in unit costs are primarily achieved through increasing levels of fixed capital investment and rising fixed capital costs per unit output. As Shaikh has pointed out, "Higher fixed costs are traded off in return for lower variable costs—as long as the overall costs per unit output are reduced. This is the capitalization of production" (Shaikh 1987, 116).

Given these rising fixed capital costs, unit depreciation charges and unit auxiliary costs (i.e., electricity, fuel, etc.) will also tend to rise. Equally important, increases in the productivity of labor normally imply that workers process ever greater amounts of materials per hour. Thus, comparing cost structures across different capitals within any particular industry, less efficient capitals will tend to be less capital-intensive and have lower fixed capital costs per unit output (Kf/Q). They will also tend to have higher unit costs (k), lower productivity {i.e., higher unit labor requirements ($L/Q = l$)}, and a higher ratio of labor requirements to total unit costs (l/k).[4]

Using an asterisk (*) to designate the relevant variables for the regulating capitals within an industry, we can summarize the above general results in the following manner:

Less Efficient Capitals	vs.	Regulating Capitals (*)
K/L	$<$	$(K/L)^*$
Kf/Q	$<$	$(Kf/Q)^*$
l	$>$	l^*
k	$>$	k^*
k/l	$<$	$(k/l)^*$
l/k	$>$	$(l/k)^*$

Given these assumptions concerning differential conditions of production within a typical industry, we can now derive some fairly general

[2] "But whether condition or consequence, the growing extent of the means of production, as compared with the labour-power incorporated with them, is an expression of the growing productiveness of labour" (Marx 1867, 622).

[3] "The cheapness of commodities depends, ceteris paribus, on the productiveness of labour, and this again on the scale of production" (Marx 1867, 262).

[4] "The relative magnitude of the element of price, which represents the value of the means of production only, or the constant part of capital consumed, is in direct, the relative magnitude of the other element of price that pays labour (the variable part of capital) is in inverse proportion to the advance of accumulation" (Marx 1867, 622).

results concerning the limits to rising wage rates for nonregulating capitals. As noted earlier, one of the primary limits to rising wage rates for these less efficient producers is determined by their immediate conditions of profitability. Thus, as in chapter 6, we will initially concern ourselves with the profit margin per unit labor requirement. Or

$$\frac{m}{L/Q} = \frac{m}{l}$$

In the case of capitals that are less efficient than regulating capitals, this limit tends to be more constrained for two reasons. Because these capitals must also sell their products at the regulating price of production, their profit margins ($m = P - k$) will obviously be more constrained as a result of relatively higher unit costs ($k > k^*$). Second, we have just pointed out that less efficient capitals will also tend to have larger unit labor requirements ($l > l^*$). Given that these two factors mutually reinforce each other, there will be considerably less space for wage rates to rise within these capitals. Moreover, the higher the unit costs, the lower the profit margins and the higher the unit labor requirements. Thus, within any particular industry, the space for rising hourly wage increases will tend to narrow rather quickly as we move down the ranking of capitals by their relative level of efficiency.

In addition to having less room for wages to rise, it is also important to note that a given wage increase will tend to have far more serious effects on nonregulating capitals. For any given capital, the unit cost-price (k) is determined in the following manner:

$$k = M/Q + wL/Q + dKf/Q \tag{1}$$

where:

M	=	materials costs
wL	=	labor costs
d	=	annual rate of depreciation
Kf	=	fixed capital

Assuming that the local wage increase does not have a significant effect on other input costs, we can generally derive the percentage change in unit costs for a given percentage change in the wage rate by calculating the partial elasticity of (k) with respect to (w).

$$E_{k,w} = \frac{\partial k}{\partial w} \cdot \frac{w}{k} = \frac{L}{Q} \cdot \frac{w}{k} = \frac{wl}{k} \tag{2}$$

From equation (2) we can see that the percentage change in unit costs is a function of the wage share in total unit costs (wl/k). Furthermore, if we

begin with equal wage rates across the economy, the percentage change in unit costs will be directly related to the ratio of unit labor requirements to total unit costs (l/k).[5]

In the above comparison of regulating and nonregulating capitals, we already noted that less efficient capitals will normally have higher unit labor requirements relative to total unit costs ($l/k > l^*/k^*$). Thus, starting out from similar wage rates within an industry, an industrywide wage increase will clearly tend to result in a higher percentage increase in the unit costs of the less efficient capitals. Hence, not only will these nonregulating capitals tend to have lower profit margins to start out with, but a given wage increase will cause both profit margins and profit rates to decline far more rapidly relative to regulating capitals.

BETWEEN INDUSTRIES

Between industries, different levels of capital intensity will once again play an important role in the establishment of differential limits to rising wage rates. As in our discussion of regulating capitals in chapter 6, less efficient capitals within highly labor-intensive industries will tend to be burdened with additional disadvantages when attempting to absorb rising wage rates. In addition to experiencing all of the disadvantages discussed in the previous section, the overall profit margins for *all* of these labor-intensive capitals (regulating and nonregulating) will tend to be lower relative to capital-intensive industries. Moreover, as also noted in chapter 6, labor-intensive industries will tend to have lower (k/l) ratios. Consequently, we can assume that labor-intensive industries will generally have *higher* labor requirements relative to total unit costs (i.e., higher l/k ratios).

Thus, even if less efficient capitals within labor-intensive sectors are equally disadvantaged by the same unit cost differentials as their cousins in more capital-intensive sectors, they will nevertheless tend to be harder hit by a given wage increase. Indeed, not only is there less immediate space for wage rates to rise due to lower profit margins, but the percentage increase in unit costs will also tend to be greater as a result of higher (l/k) ratios.[6]

[5] Because our results are derived from the *wage share* in total unit costs (rather than from the ratio of unit labor requirements to unit costs), the development of differential wage rates between and within industries will obviously tend to complicate these results. Nevertheless, given that we are attempting to establish how wage rates can ultimately develop within the confines of capitalist competition, this initial assumption of equal wage rates is still analytically useful. (For further implications concerning interindustry wage differentials, see footnote 6.)

[6] As we already noted in the previous footnote, because the percentage change in unit costs is a function of the wage share in total unit costs (wl/k), the development of significant interindustry wage differentials may tend to complicate the above results. For example, if wages in highly capital-intensive industries are extremely high relative to labor-intensive sectors, these "core" sectors could theoretically possess a higher wage share in total costs despite their relatively low (l/k). As Howell (1982) has shown, however, the ratio of actual wage rates in capital-intensive sectors relative to labor-intensive sectors has tended to range from 1.3 in the 1950s and 1960s to 1.56 in the late 1970s. (Howell 1982, 147). On the other hand, corresponding ratios comparing critical technical variables across these same sectors tend to be of a significantly higher order. Comparing differences in overall (K/L), materials costs per worker, and energy costs per worker, Howell estimates these ratios to be 4.6, 2.3, and 7.2, respectively (Howell 1982, 129). Thus, even within the postwar period when interindustry wage differentials have been quite large, it is still generally true that the wage share in total costs remains significantly higher in labor-intensive sectors of the U.S. economy.

NUMERICAL EXAMPLE

In order to illustrate the above results, we can use the two-sector example from chapter 6. Here we will simply allow the previous "subdominant" capitals to play the role of our less efficient capitals within each industry.[7] Reproducing the results from table 6.5 on page 195, and calculating the appropriate information for all capitals in industries A and B, we now have the results shown in table 7.1.

To allow us to generalize from the results in table 7.1, it is important to review several points. First, the example was constructed assuming equal wage rates of $0.50 per hour across all capitals. Second, the unit costs of less efficient capitals in both industries have been constructed so that the percentage differential in unit costs between regulating and nonregulating capitals is the same for both industries (see column 9). Finally, although this example abstracts from fixed capital, the differences in cost structures between regulating and nonregulating capitals within each industry nevertheless conform to Marx's general argument. Within each industry, less efficient capitals possess both higher unit labor requirements and a higher share of labor costs in total unit costs (wl/k) relative to regulating capitals.[8] Comparing the immediate limits to rising wage rates for regulating (*) and nonregulating capitals within each industry, we can now see that the above general results are clearly illustrated. As anticipated, the profit margins per unit labor requirements (see column 10) are significantly lower for each of the nonregulating capitals (A and B) as a result of both higher unit costs and higher unit labor requirements.

Between industries, we also see that the nonregulating capitals in industry B are doubly disadvantaged by the industry's relatively low level of

[7] Of course, it is entirely possible for a number of other firms to exist that are suffering from even higher unit costs and hence, lower profit margins. Clearly, the more inefficient a firm is, the more restrictive the limits to rising wage rates will become.

[8] This was achieved by assuming equal unit materials costs for both regulating and nonregulating capitals within each industry. Thus, the above intraindustry differentials in unit costs are due solely to differentials in the productivity of labor.

TABLE 7.1
Comparing Initial Costs across Industries A and B

INDUSTRY "A" - HIGH (C/V), (K/L)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k*, k	r*, r	P*	K/L	l/k	$\frac{k-k^*}{k^*}$	$\frac{m}{L/Q}$
A*	90C+10W	20	10	$10	.5	$15	5	.2	25%	$2.50
A	72C+28W	56	8	$12.50	.2	$15	1.79	.56		$0.36

INDUSTRY "B" - LOW (C/V), (K/L)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k*, k	r*, r	P*	K/L	l/k	$\frac{k-k^*}{k^*}$	$\frac{m}{L/Q}$
B*	50C+50W	100	100	$1	.5	$1.50	1	1	25%	$0.50
B	40C+60W	120	80	$1.25	.2	$1.50	0.83	1.2		$0.17

capital intensity. Despite identical cost disadvantages vis-à-vis regulating capitals, B's profit margin per unit labor requirement is significantly lower than A's. Thus, the limit to rising hourly wage rates is far more restrictive. In fact, while capital A's profitability would be eliminated by a wage increase of $0.36 per hour, capital B would be facing bankruptcy as a result of less than half that increase (i.e., $0.17).

Last, it is important to note that the less efficient capitals in industry B have a higher ratio of labor requirements to total unit costs (l/k) relative to those in industry A (see column 8). As a result, their profit margins and profit rates will be more severely affected by a given wage increase across both industries.

SHORT-TERM EFFECTS OF RISING WAGE RATES

To further explore the implications of these differential limits to rising wages, we will now examine the short- and long-term effects of a 20 percent wage increase across *all* capitals in both industries. In order to capture the short-term effects of the wage increase, we will first examine the results while prices remain at their original levels. We will then derive our long-term results by allowing market prices to adjust to the new prices of production which continue to be determined by the regulating conditions of production within each industry.

Moving to the short-run scenario, table 7.2 illustrates the results of a

TABLE 7.2
Short-Run Results of 20 Percent Wage Increase

INDUSTRY "A" - HIGH (C/V), (K/L)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k*, k	r*, r	P*	Orig-inal K/L	Orig-inal l/k	$\frac{k-k^*}{k^*}$
A*	90C+12W	20	10	$10.20	.47	$15	5	.2	29%
A	72C+33.6W	56	8	$13.20	.14	$15	1.79	.56	

INDUSTRY "B" - LOW (C/V), (K/L)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k*, k	r*, r	P*	Orig-inal K/L	Orig-inal l/k	$\frac{k-k^*}{k^*}$
B*	50C+60W	100	100	$1.10	.36	$1.50	1	1	27%
B	40C+72W	120	80	$1.40	.07	$1.50	0.83	1.2	

20 percent rise in wage rates (from $0.50 to $0.60 per hour) while prices remain constant.

Within industries, an equal wage increase for all capitals will clearly have a far more negative effect on the profit margins and profit rates of the nonregulating capitals (see column 5). Once again, these results are due to the fact that less efficient capitals tend to possess lower levels of capital intensity, hence higher unit labor requirements, and a higher share of wage costs in total costs (relative to the regulating conditions of production within each industry).

Starting out with equal wage rates, we have already seen from equation (2) that the percentage increase in unit costs for each capital will be directly proportional to the ratio of unit labor requirements to total unit costs (l/k). As shown in the example, this is precisely what has happened. Given that capital A has an (l/k) ratio that is approximately 2.8 times higher than the respective ratio for regulating capitals (see column 8), A experiences an increase in unit costs that is 2.8 times higher than capital A*. Thus, while A* sustains a 2 percent increase in its unit costs, A sustains a 5.6 percent increase (compare column 4 in tables 7.1 and 7.2).

Because the less efficient capitals already possessed significantly higher unit costs and far lower profit margins *before* the wage increase, these larger percentage increases in unit costs become even more serious when we look at the resulting declines in profit rates [$r = (P^* - k)Q/K$]. Com-

paring column 5 in tables 7.1 and 7.2, we see that while the regulating capital A* merely sustains a 6 percent decline in its profit rate (from 50 percent to 47 percent), capital A is forced to suffer a 30 percent decline in its already low profit rate (from 20 percent to 14 percent).

Comparing results across both industries, we see that although capital B is similarly disadvantaged in terms of relative efficiency, the above wage increase causes its profit rate to decline by 65 percent! Thus, as anticipated in the above general discussion, the very same wage increase will tend to result in far more serious declines in profit rates for the nonregulating capitals of industry B. (In fact, in certain cases, inefficient capitals within labor-intensive industries may not even be able to survive the transitional period until relative prices finally adjust to the new regulating prices of production!) Here again, these more serious results are a direct result of industry B's significantly higher labor intensity.[9] This same factor also causes the profit rate of industry B's regulating capitals to decline far more significantly relative to regulating capitals in industry A.

Summing up our results, the existence of less efficient capitals within each industry automatically implies that the immediate short-run limits to rising wage rates will vary quite substantially between and within industries. Thus, while some nonregulating capitals may be able to endure a significant rise in wage rates without serious difficulties, that very same wage increase may literally drive other nonregulating capitals to the wall. *Within each industry*, less efficient capitals are hurt more because they not only have higher unit costs and higher unit labor requirements, but because they also tend to have higher labor intensity. Hence, a given increase in wage rates will tend to have a greater percentage impact on unit costs as a result of higher unit labor requirements relative to total unit costs (l/k). *Between industries*, less efficient capitals in industries that are highly labor-intensive will be doubly disadvantaged relative to nonregulating capitals in capital-intensive industries. In addition to the above general problems of being less efficient relative to regulating capitals within their respective industries, higher levels of labor intensity imply two additional problems. Not only will these capitals tend to have lower overall profit margins per unit labor (relative to capitals in more capital-intensive industries), but they will also tend to have even higher unit labor requirements relative to total unit costs.

FURTHER IMPLICATIONS FOR INTERINDUSTRY WAGE DIFFERENTIALS

Before going on to examine the longer term effects of the wage increase as market prices are allowed to adjust, it is extremely important to note

[9] Once we allow the new prices of production to be achieved, we will see that this initial disadvantage for nonregulating capitals within industry B may be partly reduced or even *reversed*.

that *if the above wage increase had only occurred within the less efficient capitals, relative prices would not display any necessary tendency to adjust*. In the previous chapter we saw that rising wage rates within all of the regulating capitals of a particular industry would eventually cause relative prices to adjust because these capitals act as the practical standard for the industry as a whole. Thus, when the regulating rates of profit are squeezed by rising wage rates, a deceleration in the rate of growth of industry supply will eventually bring about a rise in relative prices. Yet, when wages only rise within *non*regulating capitals, the regulating conditions of production remain unchanged. Thus, the rate of growth of supply will not tend to decelerate, and relative prices will not tend to adjust. *Under these circumstances, in other words, the above short-term results would become permanent.*

It is within this context that we can now see how certain nonregulating capitals can become quite vulnerable to rising wage rates that do not affect the industry as a whole. It is also here that we can begin to see how these far more restrictive limits to rising wage rates may have very important consequences for interindustry wage differentials.

As noted in chapter 5, once national capitals within a particular industry begin to compete across national borders, it becomes possible for the regulating capitals of certain world industries to be located outside of the nation (or region) being investigated. Thus, it also becomes possible for *an entire national industry* to be placed in the position of nonregulating capitals, which has just been analyzed. Given their nonregulating status within the world industry, the ability of these less efficient local capitals to pay higher wage rates will be seriously restricted by two key conditions. First, like all less efficient capitals within any industry, these local capitals will tend to have lower profit margins and lower profit rates relative to the regulating conditions of production in the worldwide industry. (Within the nation in question, the average rates of profit for these local industries will also tend to be below the rates of profit for local industries that *do* contain regulating conditions of production.) Second, the nonregulating status of these capitals suggests that they will encounter significant difficulty attempting to pass on local wage increases in higher prices—even in the long run!

Given these restrictive conditions, both the short- and the long-run repercussions of a sizable wage increase could become quite serious. If local wage rates merely rise within these less efficient national capitals (and not within the world industry as a whole), sharply declining profit rates may certainly cause the rate of growth of supply directly pertaining to these *local* capitals to decelerate.[10] It may even cause local output and employ-

[10] The severity of the decline in profit rates will depend on both the level of efficiency of the capitals in question and the capital intensity of the industry as a whole. The reader

ment levels to decline absolutely. Unfortunately for these national capitals, however, the rate of growth of supply for the *industry as a whole* will not tend to decelerate relative to demand, and prices will not be forced upward. Without strong import restrictions, the declining growth rates of these local capitals will be eagerly supplemented by the growth of imports from the regulating capitals producing outside of the nation in question. Thus, not only will these local capitals be forced to endure even lower rates of profit for a sustained period of time, but their market shares may become seriously compromised.[11]

By combining Marx's analysis of capitalist competition with our own discussion of wage differentials, we once more discover that the analysis of both differential profit rates and differential wage rates between and within industries must pay careful attention to the *location* of the regulating conditions of production within each industry. Indeed, it may be the case that many "competitive" sectors of the U.S. economy (e.g., textiles and apparel) that have been suffering from both chronically low profit rates and the inability to pass on wage increases are encountering this fate not because of the absence of high market concentration and monopoly pricing power, but because of the absence of *regulating conditions of production*. On the other hand, many "core" firms within the United States (e.g., steel, auto, and rubber tire) that easily accommodated substantial wage increases up into the 1960s were able to do so precisely because they represented the regulating conditions of production within the world

should also note that we are presently discussing rising wage rates in only one particular industry. Hence the potential feedback effects of this wage increase on aggregate demand and related employment levels will tend to be minimal.

[11] The U.S. steel industry is an interesting example of a national industry that continued to experience rising labor costs despite the loss of its regulating status. As a result of its declining competitive position in the world industry, U.S. steel firms began to suffer from a "flood of high-grade steel" in the mid–1960s (Adams and Mueller 1986, 85). Although most industry executives claimed that uncompetitive hourly wage rates and restrictive union work rules were the primary causes of the U.S. industry's decline, most analysts argue that more important factors were the sluggish adoption of more efficient production methods and rising raw materials costs. In any case, to head off this rise in foreign imports and the resulting decline in profit rates, the U.S. industry convinced the government to adopt various import restrictions throughout most of the 1970s. As a result of these restrictions, the U.S. industry was once again able to pass on all of its rising costs in higher prices, and "steel prices increased at an annual rate 14 times greater than in the nine years prior thereto" (Adams and Mueller 1986, 94). Yet, although profit rates were temporarily shored back up, the U.S. industry's total output and its market share in the world industry continued to decline seriously throughout the 1970s and 1980s. By the late 1970s, the cost of a ton of raw steel produced in Japan was at least $100 cheaper than similar steel produced in the United States (Craypo 1986, 169). Informative discussions of the decline of U.S. steel can be found in Adams and Mueller 1986 and Craypo 1986. Although these authors view the U.S. industry as a declining oligopoly, the loss of regulating status provides an alternative explanation for the phenomena described in these accounts.

industry as a whole. Thus, the phenomena of "core" and periphery may have a great deal more to do with the relative level of efficiency of these capitals within their respective world industries, rather than with the level of monopoly pricing power. Once again, we have discovered yet another potential basis for interindustry wage differentials that can be directly derived from Marx's analysis of capitalist competition. Moreover, it is the presence of *intra*industry differentials in productivity (not interindustry differentials) that is the key basis for these wage differentials.[12]

Long-Term Results of Rising Wage Rates

This final section on less efficient capitals examines the long-term results of local wage increases when relative prices have been allowed to adjust to the new regulating conditions of production that must now entail these higher labor costs. In order to simplify the discussion of these changes in the prices of production, we will continue to assume that wages are only rising within the sectors being considered. Thus, the effect on the general rate of profit for the economy as a whole will tend to be very small. Similarly, we will continue to assume that any potential feedback effects on other input costs are minimal.[13]

Given that both constant capital costs and the general rate of profit will essentially remain constant, the changes in the prices of production that will eventually allow the regulating capitals to achieve the average rate of return can be easily derived. As noted in chapter 6, the general formula for the price of production (P^*) is the following:

$$P^* = k^* + r^*(K/Q) \tag{3}$$

Expanding this formula so that all of the respective components of both unit costs (k) and total capital costs (K) are expressed obtains the following:

$$P^* = \frac{M}{Q} + \frac{wL}{Q} + \frac{dKf}{Q} + r^* \left[\frac{M/t + wL/t + Kf}{Q} \right] \tag{4}$$

(t = rate of turnover = 1)

[12] Marx clearly recognized that the national location of the regulating conditions of production could be an important source of interindustry wage differentials. Thus, in order to argue against the notion that prices are primarily determined by wage rates, he noted the following: "I might tell you that the English factory operatives, miners, shipbuilders, and so forth, whose labour is relatively high-priced, undersell by the cheapness of their produce all other nations; while the English agricultural labourer, for example, whose labour is relatively low-priced, is undersold by almost every other nation because of the dearness of his produce" (Marx 1865, 200).

[13] See note 16, chap. 6, on Marx's original transformation procedure.

Holding r^*, Kf, M, and t constant, we can simply calculate the necessary change in P^* in the following manner:

$$\Delta P^* = \frac{\Delta wL}{Q} + r^* \frac{(\Delta wL)}{Q} \qquad (5)$$

Furthermore, to calculate the percentage change in the price of production for a given percentage change in the wage rate, we can calculate the partial elasticity of (P^*) with respect to (w).

$$E_{p,w} = \frac{\partial P}{\partial w}\left[\frac{w}{P}\right] = \frac{L}{Q} + r^* \frac{L}{Q}\left[\frac{w}{P}\right] = \frac{wL}{PQ}(1 + r^*) \qquad (6)$$

Given that r^* remains constant, the final expression for partial elasticity indicates that the percentage change in price will be directly proportional to the share of labor costs in total output (wL/PQ).

Using equation (5) we can now return to the original numerical example and calculate the new prices of production that will be required in both industries (A and B) as a result of the $0.10 increase in the hourly wage rate. In table 7.3, these new prices of production are indicated in column 6. Because these new prices will eventually become the new centers of gravity for market prices in each of the respective industries, we then used these prices to calculate the long-term results of the wage increase on profit rates (see column 5).

Table 7.3 shows that although the above changes in market prices will clearly lessen the negative impact of rising wage rates for the less efficient capitals (A and B), these capitals will nevertheless sustain a permanent decline in profit margins and profit rates. While the new prices of production will accommodate the rise in unit labor costs for *regulating* capitals, they will not fully compensate the less efficient capitals for their relatively greater increases in unit costs. Thus, while regulating capitals within both industries are eventually able to achieve their previous rates of return, the less efficient capitals are not so fortunate.

Assuming that the less efficient capitals can survive the more serious effects of rising wage rates during the transition to new prices of production, the long-term effects on these capitals are as follows.[14] While capital A is forced to sustain a 20 percent decline in its profit rate from 20 percent to 16 percent, capital B must sustain a 10 percent decline from 20 percent to 18 percent.

Unfortunately for the less efficient capitals, these permanent declines in

[14] Here again, the reader should note that this transitional stage is entirely left out of comparative static analyses.

TABLE 7.3
Long-Run Results of 20 Percent Wage Increase

INDUSTRY "A" - HIGH (C/V), (K/L)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k*, k	r*, r	P*	Orig-inal K/L	Orig-inal l/k	k-k* / k*
A*	90C+12W	20	10	$10.20	.50	$15.30	5	.2	29%
A	72C+33.6W	56	8	$13.20	.16	$15.30	1.79	.56	

INDUSTRY "B" - LOW (C/V), (K/L)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k*, k	r*, r	P*	Orig-inal K/L	Orig-inal l/k	k-k* / k*
B*	50C+60W	100	100	$1.10	.50	$1.65	1	1	27%
B	40C+72W	120	80	$1.40	.18	$1.65	0.83	1.2	

profit rates are not the only negative effects of the industrywide wage increase. Another result is that higher increases in unit costs for the less efficient capitals will also tend to enhance the competitive advantage of the regulating capitals within each industry. This increased competitive advantage is clearly expressed by the increased differential in unit costs between regulating and nonregulating capitals (compare column 9 in tables 7.1 and 7.3). Before the wage increase, both nonregulating capitals were suffering a 25 percent differential in unit costs. Now, both of these cost differentials have increased.

Given both of these results, it now becomes clear why many regulating firms often support the development of industrywide wage patterns when they can no longer defeat union pressures to raise their own wage rates. Indeed, if these higher wage rates can be imposed on the entire industry, some of the more inefficient capitals may be forced to go to the wall. Thus, in addition to enhancing their competitive advantage versus other surviving capitals, regulating capitals may actually be able to enlarge their market share as a result of the wage increase.[15]

[15] At other times, when regulating profit rates are unusually low and/or union organization is extremely weak, these same regulating capitals may attempt to impose a very different type of wage pattern using the *less* efficient capitals as the "competitive standard." Here, the primary goal is to reintroduce wage competition into the competition of capitals. The recent

For workers within these less efficient capitals, the development of industrywide wage patterns can sometimes present a serious dilemma. In the long run, the achievement of industrywide wage standards will clearly strengthen the union movement as a whole by removing wage competition from the arsenal of weapons used by capital within the battle of intraindustry competition. In the short run, however, workers within some of the least efficient nonregulating capitals may be forced to suffer declining levels of employment in order to achieve wage rates that are in line with the industrywide pattern.[16] Yet, even if workers do agree to accept wage concessions in order to save employment levels, there is no guarantee that these less efficient capitals will be able to survive in the long run. On the contrary, lower wage rates may merely allow these capitals to temporarily avoid the only long-run solution to their ultimate survival, which is investment in more productive plant and equipment. Even worse, as we have recently seen in numerous U.S. industries (e.g., meatpacking, steel, auto), these wage concessions can often allow other capitals in the industry to begin to "whipsaw" wages downward throughout the entire industry. And as we have just witnessed in auto and steel, several rounds of deep concessions in wages and working conditions have done little to prevent the permanent layoff of thousands of workers.[17] Thus, through no fault of their own, workers within less efficient capitals are often placed in an extremely difficult situation.[18]

struggle at the Hormel plant in Austin, Minnesota is a good example of this type of situation. In this case both Hormel and the international leadership of the United Food and Commercial Workers (UFCW) argued that workers at Hormel would ultimately have to submit to wage concessions given that other less efficient firms in the industry had already accepted lower wage rates. Hence, in order not to break the industry pattern, the union leadership curiously maintained that workers should abide by the new "competitive" standard. Yet, interestingly enough, the workers at Hormel and the Local P-9 leadership saw things differently because they had a very solid sense of the importance of setting the wage standard at the regulating firm. As the president of Local P-9, Jim Guyette, clearly pointed out: "If the newest plant in the industry takes a cut in wages, then the other plants are going to say they can't compete. If concessions are going to stop, then they are going to have to stop at the most profitable company with the newest plant" (Moody 1988, 316). See also Green 1990.

[16] A classic example of this type of trade-off was experienced by the miners in the 1920s. At that time John L. Lewis and the UMW essentially forced the closing of some of the least efficient and most dangerous mines because employers continually used their exceptionally high operating costs as an excuse to pay substandard wage rates and recklessly ignore conventional safety standards.

[17] For excellent analyses of how union wage concessions in the 1980s have not saved jobs but have enabled many U.S. industries to unleash a relentless downward spiral of wage competition, see Slaughter 1983 and Moody 1988. In the case of steel, see also Craypo 1986.

[18] The Swedish labor movement's "solidaristic wage policies" represented an interesting attempt to at least partially resolve this dilemma for workers who are employed in backward

Before moving on, two final points concerning the long-run effects of the above industrywide wage increases are worth noting. First and foremost, if we compare the long-run results of these wage increases for the regulating capitals across both industries, it is clear that both industries should ultimately possess the long-run potential to incorporate higher wage rates within their cost structures, regardless of the level of capital intensity, the level of market concentration, or any other so-called competitive restrictions to rising wage rates. Although effective union organization may certainly be more difficult in many labor-intensive industries, the long-run potential for rising wage rates is nevertheless present. Thus, contrary to institutionalist arguments based on the dual economy, there is nothing within the nature of capitalist competition within these industries that will tend to act as an insurmountable barrier to rising wage rates (providing, of course, that these rising wage rates take place within all of the regulating capitals in the industry).

Second, when we compare our results for nonregulating capitals in each industry, we discover an even more surprising effect. Within the short-term scenario when prices were held constant, we saw that the profit rates of less efficient capitals in the more labor-intensive industry (B) were more seriously affected by the wage increase. Within the short run, the profit rate for capital B plummeted by 64 percent as opposed to a 32 percent decline for capital A. Yet, once relative prices adjusted to the new prices of production, this initial disadvantage for capital B was actually reversed! Thus, while capital A is eventually forced to sustain a 20 percent decline in profit rates, capital B curiously sustains only a 10 percent decline (see column 5, table 7.3).

The reason for this surprising reversal in long-run effects is ultimately rooted in what Marx described as the "Ricardo Effect" which takes place when wage increases occur across industries with varying organic compositions (or different capital intensities).[19] Put simply, because industry B is far more labor-intensive, an equal increase in wage rates will require a larger percentage increase in this industry's price of production in order to allow the regulating capitals to achieve the average rate of profit for the economy as a whole.[20] Thus, although the less efficient capitals will obvi-

firms. Recognizing that their continued demands for higher wage rates throughout the Swedish economy would put significant pressure on inefficient firms, in the 1950s both the unions and the Social Democratic Party pushed for an "active" government labor market policy that would retrain redundant workers and create alternative jobs for workers who were unable to relocate or retool. Although these policies appeared to be fairly successful in the 1950s and 1960s, they came under increasing employer attack in the late 1960s and 1970s (see Esping-Anderson and Friedland 1982).

[19] See Marx 1894, chap. 11.

[20] In our example, this effect is slightly transformed because we assumed that the local wage increase would not have a significant effect on the general rate of profit. Thus, by

ously not be allowed to recoup their previous profit rates before the wage increase, this relatively greater increase in market prices may enable them to recover a sizable portion of their short-term losses. The strength of the Ricardo effect in reversing the short-run positions of less efficient capitals will ultimately depend on how far their respective industry deviates from the average organic composition for the economy as a whole.

Summing up the discussion of less efficient capitals, it is quite clear that once we recognize that capitalist competition tends to generate differential conditions of productivity within each industry, it also generates differential limits to rising wage rates. Hence, competition also lays the potential basis for certain patterns of persistent inter- and intraindustry wage differentials. Indeed, even in the best case scenario where an equal wage increase is imposed on the entire industry, the short-run effects on profit rates and profit margins can be quite serious for nonregulating capitals, depending on: (1) their relative efficiency within the industry, and (2) the capital intensity of the industry as a whole. Although these negative effects will be somewhat reduced in the long run, *all* of the less efficient capitals will nonetheless sustain permanent reductions in profitability and an enhanced competitive disadvantage versus regulating capitals. Finally, if wage rates should only rise within these less efficient capitals, relative prices will not adjust to these higher labor costs, and decreases in profit margins and profit rates will be far more serious.

Thus, within Marx's analysis of capitalist competition, the competition of capitals does not necessarily tend toward the equalization of wage rates for workers of similar skill and ability. In fact, real capitalist competition often *militates against the equalization of wage rates* between and within industries as less efficient capitals are continually compelled to pay lower than average wage rates in order to prolong their survival. Different levels of efficiency do provide an important foundation for differential wage rates. But, contrary to neoclassical theory, it is the efficiency of the capitalists' plant and equipment that is the crucial factor here, not differences in the skill and ability of individual workers.[21]

Thus, although the high costs of production of inefficient capitals will often have very little to do with the skill and quality of the workers who are employed in these firms, these workers will often find it difficult to

simply deriving the partial elasticity of the price of production with respect to the wage rate, we saw that the percentage change in prices would be directly proportional to the wage share in total output (wL/PQ). In the case of a general wage increase across the entire economy, the relative price structure would be transformed far more dramatically. Indeed, Marx noted that while prices in labor-intensive industries would tend to rise, the prices of production of extremely capital-intensive industries may actually fall. This again reminds us that within Marx's labor theory of value, changes in the general wage level do not necessarily imply changes in the aggregate price level.

[21] "Whether the material factors of the process are of normal quality or not, depends not upon the labourer, but entirely upon the capitalist" (Marx 1867, 196).

achieve the average wage rate. Indeed, in the presence of substantial differentials in unit costs, Marx pointed out that skilled workers who are employed by the most backward capitals may be forced to concede to wage rates that are actually lower than the wages of unskilled workers who are employed by the most advanced capitals.[22]

Finally, if we now combine the above results arising from capitalist competition with the dynamics of the aggregate labor market, we see that the capitalist mode of production as a whole contains very powerful forces that constantly regenerate wage inequality. For, not only does the capitalist mode of production continually create inefficient firms and declining industries that are constantly forced to seek out low-wage workers, but it also generates a never ending supply of desperate workers who are repeatedly forced to work at these substandard wages in order to survive. As Lloyd Reynolds pointed out in the early 1950s, "except during brief periods of peak prosperity, even the lowliest jobs find an adequate labor supply" (Reynolds 1951, 246).

In chapter 4, we discussed how the first volume of Marx's *Capital* provides a number of important, yet incomplete, glimpses of how the dynamic interaction of capitalist competition, uneven technical change, and the reserve army of labor creates the basis for sustained differentiation within the working class. In this section we have essentially extended Marx's more detailed analysis of capitalist competition in volume 3 of *Capital* to provide some of the critical missing links between his theory of competition and these far more concrete discussions of differential wage rates.

The Case of More Efficient Capitals

At the other polar extreme of certain industries, nonregulating capitals may also exist that have lower costs and higher profit margins relative to the regulating conditions of production. Here, of course, the limits to rising wage rates will tend to be more relaxed rather than more constrained. Under certain limited circumstances, wages within this type of nonregulating capital may persistently rise *above* wage rates within the regulating conditions of production. It is to these very special capitals that we now turn.

In order for nonregulating capitals to be able to maintain a competitive advantage over regulating capitals within the same industry, these capitals must enjoy some form of monopoly over a productive resource that provides them with a unique cost advantage. Thus, what we are essentially describing is the situation of surplus-profits, which often take the form of differential rents.

[22] See Marx 1867, chap. 15.

Although differential rents resulting from unique conditions of production tend to be the general case within agriculture and raw materials production, there are special cases within manufacturing where persistent surplus-profits may also arise. Marx's original discussion of differential rent within manufacturing described a situation where certain factories were able to obtain a special cost advantage as a result of their unique location at the site of a waterfall. Thus, while other factories were forced to utilize more expensive man-made sources of power, these capitals were able to harness the less costly forces of nature. Given these unique cost advantages, these capitals were therefore able to enjoy a surplus-profit above the average rate of return which could then be seized as ground rent by the owners of these special locations.[23]

Although Marx's example of the waterwheel is clearly outdated, there are situations within modern manufacturing where surplus-profits may still be obtained due to the existence of a unique productive resource. For example, in heavy industries like steel, special locations next to critical sources of raw materials like coke and iron ore may help to reduce transportation costs. In other industries where transportation costs are important, locations close to key ports or vital waterways may provide unique opportunities for exceptionally low costs. Furthermore, legal rights to patents or the possession of a newly developed secret process of production may also be sources of surplus-profits. Finally, certain industries (or firms) that are involved in the processing of raw materials (such as steel fabrication and oil refining) may be vertically integrated so that differential rents deriving from raw materials production can filter back up to the capitalist enterprise as a whole.

While Marx used the example of the waterwheel to develop a detailed analysis of how capitalist landlords can ultimately capture these excess profits as differential rents, this section will argue that these profits may also be transferred in a very different direction. We suggest that at least a portion of these surplus-profits may be captured by organized workers who are employed within these exceptional firms.

Although the logical possibility for the transfer of surplus-profits to workers is obviously contained within Marx's analysis of differential rent, he did not generally argue that this would be the case. On the contrary, basing his discussions primarily on the agricultural sector, Marx argued that a portion of the rents that accrued to capitalist landlords was often due to the *depression* of the agricultural laborer's wage below "the normal level of wages"[24] (Marx 1894, 627).

[23] See Marx 1894, chap. 38.

[24] Here Marx gives us another important example of how wage differentials may be sustained within ongoing competition through the eventual adjustment of regulating prices of production. But, in this case, the adjustment takes place in the downward direction: "In so far as the wages of the agricultural labourers in a given country are, in general, depressed below the normal average level of wages, so that a deduction from wages, a part of the wages, as a general rule enters into rent, this does not constitute an exceptional case for the farmer cultivating the worst soil. In the same price of production which makes cultivation of the worst soil possible these low wages already form a constituent element" (Marx 1894, 756).

Unfortunately, within the agricultural sectors of virtually all modern capitalist nations, Marx's argument continues to ring true. Given the seasonal nature of agricultural labor and many other circumstances that continue to make effective union organization unusually difficult, these workers remain among the lowest paid strata within the working class. Thus, certain interindustry wage differentials within the capitalist mode of production apparently have the ability to persist *for generations*!

Within some of the above-mentioned manufacturing sectors, however, workers who are able to take advantage of more favorable conditions for collective organization may be able to partially reverse this process and recapture a portion of these surplus-profits. It is this possibility that we will attempt to address.

Before we develop an analysis of the limits to rising wage rates within these exceptional capitals, one additional point concerning Marx's analysis of differential rent is required. Although Marx argued that these surplus-profits were the result of a "monopoly" of a unique productive resource, he took great pains to show that these surplus-profits were nevertheless limited by the forces of ongoing capitalist competition. In fact, one of his primary purposes in addressing the issue of ground rent in *Capital* was to show that it is precisely within the capitalist mode of production that rents are systematically limited for the first time. Thus, in the introductory remarks to his discussion on ground rent in volume 3 of *Capital*, he noted the following:

> Landed property is based on the monopoly by certain persons over definite portions of the globe, as exclusive spheres of their private will to the exclusion of all others. With this in mind, the problem is to ascertain the economic value, that is the realisation of this monopoly on the basis of capitalist production. With the legal power of these persons to use or misuse certain portions of the globe, nothing is decided. The use of this power depends wholly upon economic conditions, which are independent of their will. (Marx 1894, 615–16)

It is with a similar purpose in mind that we will now attempt to analyze the economic limits to differential wage rates.

In order to construct an illustration of the competitive limits to rising wage rates under the conditions of surplus-profits, it will be useful to refer back to the previous hypothetical industry A. At this point, however, we will now include an additional nonregulating capital A^1, which has the

TABLE 7.4
Unit Costs of More Efficient Capital A^1

	(1)	(2)	(3)	(4)	(5)	(6)
FIRM	Total Capital Adv. (K)	Total Labor Hrs (L)	Out-Put (Q)	Unit Cost k^*, k^1	r^*, r^1	P^*
A^*	90C+10W	20	10	$10.00	.50	$15
A^1	108C+8W	16	12	$ 9.67	.55	$15

good fortune of possessing a patent on a new low-cost production process that is not yet generally available.

Let us assume that our new nonregulating capital A^1 has the following total costs, which are depicted in table 7.4. Given these production costs for A^1, the capitalist who owns the rights to this new technology will obviously enjoy profit rates that are persistently above the regulating rate of profit. And, of course, it is these excess profits that form the potential basis for above average wage rates. The key point, however, will be to determine the competitive limits to these differential wage rates.

As Marx argued in volume 3, "The two regulating limits of this excess (profit) are on the one hand, the individual cost-price, and thus the individual price of production, and on the other hand, the general (or regulating) price of production" (Marx 1894, 641). Proceeding from Marx's argument, these same differences in cost-prices will also provide us with the competitive limits to rising wage rates for our nonregulating capital (A^1). Again, we simply divide this difference in cost prices ($k^* - k^1$) by the unit labor requirements (L/Q) for our uniquely productive capital. Thus, the limit to rising wage rates for (A^1) will be the following:

$$\frac{(k^* - k^1)}{(L/Q)_{A1}} = \frac{.33}{1.33} = \$.25$$

From this calculation it should now be clear that even in the case of a wage increase which only affects A^1, this firm will still enjoy the average rate of profit as long as the wage increase does not exceed the above limit.[25] Hence, if workers within this firm can organize effectively, they may be able to achieve a significant wage differential that would be sustainable within the ongoing pressures of capitalist competition. We therefore finally arrive at one of the few instances within Marx's analysis

[25] Starting from the base wage of $0.50, the above limit implies that downward competitive pressures will intensify if the final hourly wage rate rises above $0.75 per hour.

where "monopoly power" may actually be able to generate above average wage rates.

Unlike modern monopoly arguments, however, our discussion sets very clear limits to this monopoly power. Indeed, if wages should rise beyond the above limit, these wage rates would be difficult to sustain. Not only would such a wage increase force A^1 to suffer below average profit rates within the short run, but there would also be no relief in the long run. Like our less efficient capitals, A^1 does not act as the practical standard for the industry as a whole. This function is reserved only for the regulating capitals. Thus, a reduction in this unique capital's rate of profit will not tend to cause industry supply to decelerate, and there will be no long-run pressure for prices to adjust upward.

If workers persist in demanding wage rates that are above $0.75 per hour, the rate of profit for the nonregulating capital will be permanently forced below the average rate of profit. And, just as Marx argued that the capitalist landlord would not be able to sustain rents that persistently cut into the capitalist's average rate of profit, workers will also encounter the same difficulty. In short, our capitalist will eventually search for other investment outlets where the average rate of return may at least potentially be obtained.

Finally, in the case of an equal wage increase *throughout the industry*, the above nonregulating capital will continue to possess a distinct advantage over all other capitals in the industry. Because this capital's unit labor requirements continue to be lower than the regulating conditions, the new regulating price of production will continue to allow A^1 to achieve above average rates of return.

In sum, it is quite possible that workers may be able to persistently achieve above average wage rates within capitals that are enjoying surplus-profits. In order to capture these above average profits, however, workers would once again have to convince their employers that they are potentially capable of imposing costs of obstruction that are a close equivalent to these above average wage rates. And, once again, the ability of workers to impose these costs will largely depend on all of the factors that have been discussed in chapter 6.[26]

[26] In the case of surplus-profits that are due to the monopoly of a scarce resource that is owned by a third party (i.e., a classical case of differential rent), worker efforts to capture these profits would simply tend to be more complex. Rather than two parties, there would now be three factions struggling over these excess profits. And just as in our first scenario, the size of the shares going to the various parties would largely be determined by the relative power of these different factions. Nevertheless, in the case of the landlord it is important to note that there are no competitive forces within the capitalist economy that require the landlord to receive an average rate of return. Indeed, within Marx's analysis, the price of the land itself is merely the capitalized value of the collectable rent calculated at the going rate of interest. Thus, although the struggle over rents would clearly become more complex,

Implications of the Dynamic Equalization of Profit Rates

Throughout chapters 6 and 7, we have been assuming that profit rates for the regulating capitals of each industry are precisely equal across all industries. As a result, the only differentials in profit rates that have been allowed to influence the determination of wage rates have been those generated by differences in productivity within each industry. We proceeded in this fashion in order to show that even under the strict assumption of equal profit rates between industries, a whole host of differential wage phenomena can nevertheless be derived. At this point, we will now relax this assumption in order to explore some of the more complex implications of Marx's dynamic analysis of the equalization of profit rates.

As already explained in chapter 5, Marx's analysis of the equalization of profit rates between industries is fundamentally distinct from the neoclassical discussion. Rather than arguing that effective competition will instantaneously generate equal profit rates, the classical Marxist perspective suggests that the real process must be analyzed within a dynamic context of tendential regulation that must allow for varying degrees of fixed capital. Given the anarchic nature of capitalist production and the presence of significant amounts of fixed capital, the equalization of profit rates can only take place through the constant correction of quite substantial deviations above and below the average rate. Thus, not only would we expect to find evidence of the convergence of different profit rates only over fairly long periods of time (i.e., Marx's cycles of "fat and lean years"), but we would also expect to find evidence of the continual redifferentiation of profit rates as well. The key issue here is to assess the effect that these differential profit rates may (or may not) have on competitive wage determination.

Although most discussions of wage differentials generally assume that there will tend to be a systematic, positive relation between high (low) profit rates and high (low) wage rates, Marx's analysis of capitalist competition provides several reasons to suggest that the relation between profit rates and wage rates may be more complex. To summarize the argument below, any potential relation between wage rates and profit rates will primarily depend on three key issues. *First*, in attempting to assess the relationship between industry rates of return and industry wage levels, it will be important to understand the underlying causes of significant deviations in any particular industry's average rate of return. While some instances of above (or below) average rates of profit may have important implications for wage rates, others may have very little effect.

workers may still be able to capture a portion of the ground rents that were originally going to the landlord. Whatever the ultimate division of the rents, however, there is one important limit that cannot be overstepped for prolonged periods of time. Neither landlords nor workers will be able to persistently cut into the capitalist's average rate of return.

Second, we must also be careful to distinguish which "profit rates" are actually being examined. In other words, are we looking at the average rate of profit for the entire industry, the average rate of profit for a local subset of an industry, the regulating rate of profit, or merely the profit rates of individual firms? *Third*, we must also keep in mind that wages rarely rise by themselves. Thus, although certain above average rates of return may create the *potential* for above average wage rates, this potential will not be realized unless workers are effectively organized to impose costs of obstruction.

We have just provided a reminder that Marx's discussion of the equalization of profit rates clearly suggests that many of these above (below) average profit rates may merely be part of the actual equalization process that necessarily takes place over various cycles of fat and lean years. Thus, in many industries that are characterized by heavy fixed capital investments, periods of rapid market growth may allow these sectors to enjoy prolonged periods of above average profitability. On the other hand, these same conditions of sluggish capital mobility also imply that many of these industries will be forced to suffer sustained periods of below average profitability during periods of stagnation. Finally, it would not be surprising to observe dying industries with high levels of fixed capital that are attempting to hang on with below average profit rates for a number of years as they attempt to minimize their losses and depreciate their plant and equipment.

Starting from this more complex understanding of the equalization process we can therefore see why it is extremely important to investigate the *causes* of these various differentials in interindustry profit rates. In situations where industries are merely going through various phases of their cycle of fat and lean years, these interindustry profit differentials will tend to have a less serious impact on interindustry wage rates. While these periodic swings in industry rates of profit may clearly affect the union's tactical considerations concerning the *timing* of when to press for higher wage rates, they do not provide a sufficient basis for any systematic divergence in either interindustry profit rates or interindustry wage rates over prolonged periods of time.

On the other hand, there are other causes of interindustry profit differentials that may have a very significant effect on wage rates. For example, when an industry has entered a prolonged phase of below normal profit rates because it is actually in the process of *dying*, these low rates of profit may clearly tend to be correlated with below average wage rates. Indeed, the ability of many of these firms to prolong their survival may be predicated on their ability to force workers to accept substandard wage rates.

In both of the above cases, we have been discussing situations where the rates of profit for *all* capitals within an industry will tend to be moving in similar directions due to circumstances that are affecting the industry as a

whole.[27] Thus, the analytical distinction between the various rates of profit that have been listed above may not be quite so critical. In other cases, however, the failure to distinguish between these different types of profit rates can result in serious misinterpretations of the data. Indeed, although empirical investigators may believe that they are looking at an industry's "average" rate of profit, they may actually be observing something quite different.

We have already seen that there may be certain national industries that do not possess any regulating capitals. Consequently, the average rates of profit for these incomplete industries will tend to be persistently below those of other national industries that do contain regulating capitals. In this case, once again, there will be very good reason to suggest that the observed low rates of return for these national capitals *will* tend to have a fairly restrictive influence on wage levels. Yet, if we do not pay careful attention to the distinction between these below average rates of return and the regulating rates of return for the world industry as a whole, we may jump to a number of incorrect conclusions. This would particularly tend to be the case if many of these inefficient national industries are also characterized by low levels of market concentration and low levels of capital intensity.

Although it may appear that these national industries are generally suffering from low levels of market concentration and a resulting lack of "monopoly pricing power," the real cause of these low wage and profit rates would primarily be the lack of efficiency of these national capitals. Thus, not only do these local rates of profit provide a very inaccurate picture of the world industry as a whole, but they also give us very little insight into the underlying causes of these persistently low rates of return.

At the other end of the spectrum, we must also remember that certain industries that are either directly or indirectly connected to the use of natural resources may result in "average" industry rates of profit that are persistently above those of the regulating conditions of production.[28] In these situations where above average rates of profit are essentially secured by the appropriation of differential rents, unusually high rates of profit may provide the potential basis for above average wage rates. Once again, however, we would have to be very clear about which specific rates of profit we were actually observing, particularly if we are attempting to suggest that these above average wage rates are the result of monopoly power.

In order to look for evidence of the lack of competition within Marx's

[27] Obviously more efficient capitals would continue to be placed in a better position relative to less efficient capitals.

[28] As already explained in chapter 5, the regulating conditions of production within mining and agriculture are determined by the regulating capitals on the marginal land.

analysis, we would have to pay close attention to the rates of profit for the *regulating conditions of production* within each industry. And, in many of these cases where differential rents are present, the regulating rates of profit will tend to be *below* the "average" rates within the industry as a whole.[29] Thus, while the regulating capitals may be tending to achieve the competitive rate of return relative to other *regulating* capitals throughout the economy, the above average rates of return for the industry as a whole would appear to suggest that monopoly power is a key factor here. Hence, differential rents that have strict determinations would be confused with "monopoly profits."

Finally, in the case of cross-sectional studies that simply look at the individual firm's profit rate, we can also anticipate a number of serious problems. As discussed in great detail in the first section of this chapter, there is the very important case of individual capitals that are less efficient and hence less profitable than the regulating conditions of production. In these cases, we would obviously have good reason to presume that wage rates may be significantly restricted within these firms over prolonged periods of time. On the other hand, there may be individual firms within other industries that are also enduring similarly low profit rates merely because the industry as a whole is in the midst of a downward phase in its profit cycle. In this case, low profit rates would have a much weaker effect on wage rates.

Of course, the final reason for exercising caution concerning any systematic relation between high industry profit rates and high wage rates is that workers must generally organize (either formally or informally) and fight for these wage increases. Although above average rates of profit may sometimes lay the potential basis for above average wage rates, this potential will not be realized unless workers collectively struggle to achieve them.

For all of the above reasons, empirical analyses of the relation between profit rates and wage rates must be done carefully. Moreover, this care must be greatly increased when conducting cross-sectional studies over relatively short periods of time. Unfortunately, the great majority of existing studies have been conducted with the basic premises of the neoclassical theory of competition firmly in mind. Thus, not only have these studies generally tended to ignore the above analytical distinctions between regulating, average, and individual rates of profit, but the vast majority of these studies have also been conducted over very short periods of time. Perhaps most disturbing, the great majority of these researchers have not been even remotely aware of the serious problems that may arise from these shortcomings.

[29] See chapter 5, the section titled "Marx's Concept of Regulating Capitals."

CHAPTER 8

Summary and Conclusion

THE MAIN PURPOSE of this book has been to show that Marx's distinctive analysis of capitalist accumulation and competition provides the foundation for a powerful, alternative explanation for persistent wage inequality within the modern capitalist economy. While radical, institutional, and neoclassical economists have all generally assumed that wage differentials among similar workers will only tend to persist when competition in the capital and/or labor markets is seriously restricted, we have shown that many well-known patterns of inter- and intraindustry wage differentials are actually quite consistent with both high levels of capitalist competition and substantial degrees of labor mobility. In the cases of inefficient firms and dying industries, we have also shown that the pressures of capitalist competition can often militate against the equalization of wage rates.

One of the most important theoretical strengths of this more classical Marxian approach is that we have been able to incorporate a number of critical institutionalist insights concerning the impact of unions and product markets on wage determination *while remaining within a highly competitive framework*. Thus, unlike previous radical and institutional arguments, our analysis is no longer vulnerable to the traditional neoclassical critique of "indeterminacy." Equally important, this framework provides unorthodox labor economists with a robust alternative to efficiency wage arguments that tend to downplay the importance of collective worker resistance and unions in the final patterning of the wage structure.

As we now come to the end of our analytical journey, it should also be quite clear that the social policy implications of our argument are diametrically opposed to traditional neoclassical economics. Contrary to the claims of Milton Friedman and other free market ideologues who are now triumphantly celebrating the victory of capitalism within Eastern Europe, the relentless forces of capitalist competition are anything but the protectors of labor. As Marx argued over one hundred years ago, the combined dynamics of competition, technical change, and the ever present reserve army work tirelessly *against* the wages and working conditions of the laboring class. Thus, if working people are to hold the line against these relentless forces and eventually achieve improvements in their standard of living, collective worker organization and high levels of state intervention are absolutely necessary. Last, in contrast to more progressive neoclassical economists who primarily support unions as a necessary counterbalance to the excesses of corporate monopoly, our argument suggests that unions are imperative not because the forces of competition are sometimes restricted, but because they almost always work far too well in the service of capital.

In the first two sections of this final chapter, we briefly summarize all of the potential patterns of differential wage rates that can be anticipated from Marx's dynamic analysis of capitalist competition and the aggregate labor market. The next two sections compare our distinctive results to both orthodox and radical arguments. After a brief discussion of implications for future empirical work, we then conclude by presenting important extensions of our argument for the development of viable trade union strategies in an increasingly competitive environment.

CAPITALIST COMPETITION AND DIFFERENTIAL WAGE RATES—ABUNDANT POSSIBILITIES FOR SUSTAINED INEQUALITY

Even before we allowed for the systematic appearance of differential profit rates between industries, our analysis of the competitive limits to rising wage rates within regulating capitals uncovered a number of important foundations for interindustry wage differentiation (see chapter 6). As institutionalists have always suggested, industries with relatively high levels of capital intensity do generally possess a number of important advantages that enable them to more easily incorporate higher wage rates in their cost structures. Yet, contrary to these previous arguments, very few of these advantages stem from monopoly power.

As a direct result of the equalization of profit rates between industries, we pointed out that regulating capitals within capital-intensive industries require relatively high profit margins per unit labor requirement in order to achieve the *competitive* rate of return. Consequently, these capitals can more easily absorb immediate increases in wages during the transition period when relative prices have not yet fully adjusted to these rising labor costs.

When high levels of capital intensity are further combined with high levels of fixed capital investment and large, concentrated work forces, our analysis of the "costs of obstruction" went on to suggest that many of these industries will often find it more cost-effective to allow wage rates to rise within certain competitive limits. When faced with a militant, organized work force, the potential costs of obstructing wage increases within these industries can be quite significant. On the other hand, because wages tend tend to be a small percentage of total costs, the alternative costs of conceding to union wage demands are relatively small.

Finally, our discussion of the second limit to rising wage rates which is

determined by the costs of subdominant capitals suggested that the overall range of wage variation within any particular industry will also tend to vary with the level of capital intensity. Once again, because labor costs are a smaller percentage of total costs, regulating capitals within capital-intensive industries can generally afford to absorb higher wage increases relative to their less efficient competitors without jeopardizing their position as the low-cost producers within the industry.

As we moved on to the analysis of *nonregulating capitals* in chapter 7, we discovered other important foundations for both intra- and interindustry wage differentials. Once we allowed for the competitive reality of differential conditions of productivity and profitability within each industry, it became clear that less efficient capitals generally face more restrictive limits to rising wage rates relative to regulating capitals. As a result of higher unit costs, higher unit labor requirements, and a higher share of labor costs in total unit costs, a given hourly wage increase will immediately have far more serious effects on the profit margins and profit rates of these less efficient firms. (This is particularly true in the case of nonregulating capitals, which are doubly disadvantaged by their location in labor-intensive sectors of the economy.) In the longer run, these nonregulating capitals are further disadvantaged by their inability to regulate their industry's price of production. Thus, if wage rates should merely rise within these capitals (and not within the industry as a whole), these more serious effects on profit rates will be permanent.

Of course, at the other end of the wage spectrum, we also showed that nonregulating capitals that possess a unique competitive advantage vis-à-vis regulating capitals can maintain above average wage and profit rates for sustained periods of time.

Although the implications of our analysis of nonregulating capitals for *intra*industry wage differentials were immediately obvious, we eventually discovered that important patterns of *inter*industry wage differentiation can also be anticipated by paying careful attention to the international location of regulating capitals. Within a particular capitalist nation, national industries can often exist that do not contain the regulating conditions of production within the world industry as a whole. Hence, these national industries essentially constitute less efficient subsets of the industry proper. In these situations, the entire national industry is then placed in the disadvantaged position of less efficient capitals, which was just summarized. Thus, as we compare profit rates across different industries within any particular national economy, those sectors that contain regulating capitals are likely to enjoy higher profit rates. Moreover, if these capitals are also strongly unionized, they will probably be paying higher wage rates as well.

At the end of chapter 7, we finally relaxed our assumption concerning

the immediate equalization of profit rates across regulating capitals in different industries, and we discovered that Marx's analysis of the tendential regulation of interindustry profit rates provides us with two additional foundations for wage differentiation. As a result of the real processes of capital mobility and the equalization of profit rates between industries, industries with relatively high fixed capital investments will tend to experience prolonged cycles of fat and lean years that can require ten to fifteen years to complete. Within sustained periods of above average rates of profit, organized workers may therefore be able to use these opportunities to achieve substantial increases in their wage rates. On the other hand, succeeding periods of below average rates of profit will have the opposite effects.

Similarly, the presence of substantial amounts of fixed capital also suggests that dying industries will often attempt to live on for considerable periods of time in order to depreciate their unwieldy capital investments. Moreover, a key factor enhancing the staying power of these declining sectors will be their ability to prop up their ailing profit rates by paying substandard wages and cranking up the intensity of labor. Thus, not only are there numerous possibilities for above average wage rates, but prolonged periods of below normal wage and profit rates will also tend to occur as a direct result of capitalist competition.

As we pointed out in chapter 6, even if workers are very evenly organized throughout the capitalist economy, different technical conditions of production and the constant generation of differential profit rates between and within industries suggests that certain patterns of inter- and intraindustry wage differentiation are likely to arise. As we have just seen, the realities of ongoing capitalist competition create an elaborate web of differential constraints on wage rates that have little to do with the skill and quality of individual workers. Equally important, the constant presence of the reserve army of labor conveniently ensures that many of these highly labor-intensive industries, inefficient firms, and even dying industries will find adequate supplies of desperate workers who have little alternative but to work at these substandard wage rates.

Once we allowed for uneven levels of worker organization, however, we arrived at a critical set of political determinations that will also tend to have an important impact on the final patterning of wage rates. As noted in chapter 6, when the political and institutional conditions of a particular capitalist nation are such that it is primarily those industries that can most easily absorb local wage increases that are also the most effectively organized, the actual patterns of wage differentiation will tend to be pushed to the maximum range of variation allowed within the confines of ongoing capitalist competition.

Because this scenario is unfortunately a good first approximation of the

economic and political realities in the modern U.S. economy, we were eventually able to arrive at many of the well-known patterns of interindustry wage variation within the post–World War II period. As numerous empirical studies within the manufacturing sector have repeatedly shown, there is a strong correlation between above average wage rates and "core" sectors of the economy which are generally characterized by high levels of capital intensity, large masses of fixed capital investment, large work forces, and relatively high levels of union organization (Garbarino 1950; Bowen 1960; Masters 1969; Dalton and Ford 1978; Howell 1982, 1989; Reich 1984; Hodson 1986; and Dickens and Katz 1987). And, of course, many of these core sectors (although not all of them) have also experienced prolonged periods of above average rates of profit.

Unlike radical and institutional discussions of these empirical patterns, however, we were able to arrive at these same results without requiring any assumptions concerning monopoly pricing power, monopoly capitalism, or the dual economy. In fact, at every level of our long analytical journey to these concrete patterns of wage differentials, several sets of competitive limits were strictly observed.

Because we derived our analysis of the differential limits to rising wage rates within Marx's analysis of capitalist competition, we discovered that the differential ability of certain capitals to pay higher wage rates may have very little to do with the presence of monopoly profits. As noted previously, relatively high profit margins per unit labor requirement (or a "high value productivity of labor") within capital-intensive sectors is an expected result of capitalist competition between industries. Moreover, similar competitive explanations can be developed for numerous patterns of differential profit rates within and between industries (see chap. 5).

Perhaps most important, our analysis of the dynamics of "regulating capitals" suggests that the ability to incorporate higher wage costs into an industry's price structure also has little to do with monopoly pricing power. On the contrary, the long-run ability to pass on local wage increases within any industry is a direct result of the regulating capital's ability to maintain its status as the *competitive* standard for the industry as a whole.

Given this competitive framework, we therefore argued that inter- and intraindustry wage differentials that may clearly develop within the confines of capitalist competition must nevertheless face three important sets of constraints:

1. The limits of immediate profitability, which are determined by the profit margins of the regulating capitals experiencing the wage increase.
2. The potentially more narrow limits, which are determined by the unit costs of the subdominant capitals.

3. The internal bargaining limits, which are determined by the potential costs of obstructing the wage increase.

It is also important to remember that although wage rates within certain sectors of the economy can potentially rise well above wage levels in other sectors for substantial periods of time, there are important long-term competitive pressures that will eventually bear down on these growing wage gaps. As in the tendential regulation of profit rates (see chap. 5), the regulation of interindustry wage rates often requires significant periods of real time as a result of substantial masses of fixed capital investment. Thus, although heavy industries like steel and auto, which have been persistently forced to pay above average wage rates, may *eventually* attempt to relocate to lower wage areas, the immediate mobility of capital often entails extensive fixed capital costs. But, as these fixed capital costs are depreciated over time, the costs of mobility are eventually reduced. And, as the wage differential between the current high-wage work force and the potential low-wage work force continues to grow, the incentive for capital to relocate is significantly enhanced. Thus, unless these low-wage sectors are effectively organized and their wage rates are forced upward, wages within the capital-intensive sectors will ultimately be forced downward. As we have pointed out on several occasions, capital mobility and labor mobility can not be viewed as distinct and independent processes. They are inextricably bound together within the context of capitalist competition.

Capitalist Accumulation and the Aggregate Labor Market—Further Sources of Wage Variation

In the beginning of chapter 4, we pointed out that the constant redifferentiation of the working class into various sectors of the active and reserve armies of labor has been an integral component of the general tendencies of capitalist accumulation since the industrial revolution. Thus, not only can we anticipate certain patterns of persistent wage differentials without resorting to monopoly arguments, but we can also develop an analysis of the ongoing reproduction of chronic pools of low-wage workers (i.e., a "secondary labor market"), without arguing that capitalism's long-run tendency to homogenize the working class has now been superseded by a more modern process of "labor market segmentation." In fact, a careful reading of Mill (1848) and Marx (1867) reveals that large pools of desperate workers who are constantly forced to endure both the lowest wage rates and the most deplorable conditions of employment have been an enduring legacy of the capitalist labor market.

When we went on to investigate the implications of persistent under-

employment for the analysis of labor mobility and the equalization of wage rates, we discovered that a number of other distinctive arguments can be derived from Marx's analysis of the aggregate labor market. Contrary to orthodox wage theory, serious restrictions in the mobility of labor are not a necessary requirement for the persistence of substantial wage differentials across different sectors of the capitalist economy. For even if we assume that many low-wage workers are eventually able to migrate to high-wage sectors, in the absence of widespread union organization, low-wage firms will continue to find an ample supply of cheap labor within the reserve army of labor. Thus, regardless of how hard these workers must work, or how dangerous and unhealthy their jobs may be, there is very little pressure for wage rates to rise at the low end of the "free" labor market.

While the dynamics of the aggregate labor market clearly create the basis for wage differentiation, it is once again important to remember that these same forces also provide critical limits to that differentiation. As long as there are significant numbers of unemployed workers who are in desperate need of employment, organized workers will face important limits to their ability to raise their wage rates and they must be extremely well organized when they attempt to raise the stakes at the bargaining table. Indeed, Caterpillar Tractor's recent routing of the UAW's six-month strike by threatening to hire thousands of "permanent replacements" is a grim reminder of how serious these downward pressures can become when the labor movement is extremely weak.

Comparing Our Results to Neoclassical Economics

There is little doubt that the central foundations of neoclassical economics provide conservative ideologues with a number of powerful arguments in support of the unfettered capitalist labor market. Within the idealized world of perfect competition, perfect information, and a constant tendency toward full employment, all those who are seriously looking for work should be able to find gainful employment without any assistance from the state. Moreover, the dual processes of employer competition and free labor mobility ensure that workers will be properly compensated for their efforts. Thus, firms that require their employees to work under particularly disagreeable circumstances must pay commensurately higher wage rates in order to equitably compensate these workers for their relative discomfort.

Of course, within this perfectly equitable world, there is little need for state intervention and even less call for unions. At their best, unions merely duplicate the optimum results of the competitive labor market. At

their worst, they create inequality and inefficiency by forcing wage rates beyond the proper levels proscribed by competition. In this case, the excessive wage rates of unionized workers are purchased at the expense of declining employment within the unionized sector and lower wage rates in nonunion sectors. Thus, it is unions that may create serious inequities among workers, not the unbridled mechanisms of the labor market.

Although the assumptions of perfect competition and general equilibrium are quite useful in the ideological defense of the free market system, we have argued throughout this book that this idealized framework cannot begin to capture the actual dynamics of capitalist competition or the real processes of competitive wage determination. Indeed, when one looks at the tremendous competitive struggles that are currently raging in heavy industries like auto and steel, it is hard to imagine a more inappropriate starting place than the framework of perfect/imperfect competition, which suggests that these kinds of industries should be extremely *uncompetitive*! To understand the dynamics of real capitalist competition requires a competitive theoretical framework that can incorporate the realities of large masses of fixed capital, high degrees of uncertainty, and vigorous struggles over market shares from the very beginning. Yet, as numerous critics have repeatedly noted, these essential realities of the capitalist economy are alien to the basic premises of neoclassical economics. Of course, when we go on to examine the predictive power of orthodox wage theory, the constant presence of substantial wage differentials among workers of comparable skill in virtually every capitalist economy also speaks volumes about the inadequacies of orthodox theory.

Within this book, we have shown that it is possible to develop a robust theory of competitive wage determination that can incorporate the essential realities of capitalist competition and explain many of these inequitable patterns of wage differentiation. Yet the ideological cost of building our theory on these far more realistic foundations has been a much darker view of the underlying mechanisms of the capitalist labor market. Equally significant, although our entire argument has been constructed within the determinate confines of ongoing capitalist competition and accumulation, we have shown that there is substantial room for unions to have a significant and largely equitable effect on wage determination at both the aggregate and interindustry levels. Thus, our results are diametrically opposed to neoclassical economics on every level.

As noted above, one of the most striking differences between these two approaches is that within the classical Marxist framework, rapid productivity growth and vigorous levels of capitalist competition do not generally have a positive effect on the wages and working conditions of the working class. On the contrary, the free and unregulated forces of accu-

mulation and competition tend to have disastrous consequences for the working class unless workers are able to organize some form of collective resistance to capital's continuing onslaught.

In sharp contrast to neoclassical theory, workers' collective struggles to defend and improve their standard of living are therefore not only morally justified on the basis of "equity," they are absolutely necessary in order to ensure that real wage rates will not be continually forced down to subsistence levels. Thus, within the classical Marxian framework, the ongoing class struggle over wage rates cannot even remotely be considered to be "anticompetitive" or socially counterproductive. On the contrary, the dynamic of worker resistance is a central component of the Marxian theory of competitive wage determination. Moreover, the analysis of the complex dialectic between the forces of capitalist competition and accumulation on the one hand, and the ongoing class struggle on the other, is a central theme within Marxian political economy as a whole. In order to allow for this dialectic, however, the classical Marxist notions of tendential regulation and systematic variation within limits that are so foreign to neoclassical economics are essential.

Within our analysis of the aggregate labor market, we argued that the dynamics of capitalist accumulation will systematically tend to regulate movements in the general wage level. But, once again, the nature and results of this process of tendential regulation are quite distinct from those that are anticipated within orthodox theory. Although increases in the productivity of labor which are related to the production of workers' means of subsistence do provide important general limits to increases in the real wage level, these increases are not automatically determined by movements in the productivity of labor (marginal or otherwise). Indeed, in periods like the 1980s when worker resistance is extremely weak, the constant pressures of competition and the reserve army of labor will often allow increases in the productivity of labor to be accompanied by *declining real wages*.

During periods of healthy accumulation, however, solidly organized workers can effectively struggle to achieve steady increases in their real wage rates. Nevertheless, the dynamics of capitalist accumulation will normally ensure that these rising wages will fail to keep pace with increases in labor productivity. Thus, although worker organization plays a central role in the final determination of the wage level, the regulating dynamics of the capitalist system will ensure that the rate of exploitation (or the capitalists' share of the *workers'* net output) continues to rise (see chap. 3). Hence, at the level of the aggregate labor market, the immediate linkages between labor productivity and the general wage level that are anticipated within the neoclassical world of comparative statics and marginal productivity theory are unequivocally shattered within Marx's dynamic analysis of capitalist accumulation. So, too, are the neoclassical claims of perfect equity.

Once we moved on to our discussion of wage differentials and capitalist competition, we again showed that the establishment of highly determinate limits to inter- and intraindustry wage variation does not preclude the possibility for class struggle to have a very significant role in the process of competitive wage determination. Indeed, we have argued that workers' collective struggles to raise their wage rates play a central role in the final patterning of the *competitive* wage structure.

Perhaps most surprising, within normal periods of market growth and regardless of any changes in an industry's productivity level, we have shown that well-organized unions can raise wages within the regulating capitals of any industry without causing that industry's actual level of employment to decline. Thus, although uneven worker organization across different industries will obviously cause interindustry wage differentials to grow as union wage rates are pushed upward, the above neoclassical argument, which suggests that union wage increases normally create overemployment and lower wage rates in nonunion sectors, is largely without foundation. In fact, the uneven dynamics of technical change and the continual reproduction of the reserve army of labor strongly suggest that the periodic flooding of labor markets and the subsequent creation of large pools of low-wage workers is far more likely to be the joint product of capitalist competition and the general laws of capitalist accumulation (see chap. 4, the section on Marx's theory of wage differentials).

Finally, in relation to recently developed efficiency wage theories, we would argue that the theoretical framework developed in this book is superior on several counts. Unlike efficiency wage theories, our analysis of competitive wage determination does not primarily rely on highly indeterminate arguments based on monopoly power and rent sharing in order to explain the persistence of above average wage rates in core sectors of the economy. Moreover, by recognizing the existence of exploitation and focusing on collective forms of worker resistance (rather than on conflicting utility preferences and the problems of individual "shirking"), our discussion provides a far more realistic analysis of the dynamics of class struggle and capitalist control within the labor process. It is high time for neoclassical economists of all persuasions to finally recognize, in the face of overwhelming evidence, that unions can and do have an important effect on interindustry wage rates. To suggest, for example, that unionized auto workers on an assembly line are more highly paid than most unorganized secretaries and nurses because auto assembly work is more difficult to monitor (and/or turnover costs are more costly because of lengthy on-the-job training) verges on the absurd. To further suggest that high

efficiency wage rates are the underlying cause of chronic underemployment defies the painful history of capitalist development ever since the industrial revolution. As Marx accurately pointed out in the 1860s, within the world of deskilling, machine pacing, and constant unemployment due to labor displacing technology, capital has little reason to raise wage rates in order to motivate workers. Quite the contrary, before the working class began to organize on a large scale, both the length of the work day and labor intensity were brutally increased at the same time that hourly wage rates were *decreased.*

Comparing Our Results to Radical Economics

Although we have consistently argued throughout this volume that class struggle and different levels of worker organization are absolutely critical to the determination of both the general wage level and various patterns of wage differentiation, our discussion has nonetheless maintained that the actions of both labor and capital remain fundamentally constrained by the laws of competition and accumulation. Hence, while we have clearly attempted to liberate the potentiality of workers' collective action from the far too narrow constraints of orthodox economics, this work also poses a partial critique of many radical and Marxist economists who have tended to argue that the class struggle is the principal and overriding determinant within the wage determination process.

In *Segmented Work, Divided Workers*, Gordon, Edwards, and Reich state that their historical explanation of labor market segmentation is part of a recent school of Marxist thought that has attempted to feature "the relative autonomy of political and ideological forces," and an "emphasis on human agency rather than abstract laws in historical change." By placing greater emphasis on these subjective factors, these writers claim that they are attempting to correct for the "mechanical determinism" that has often been a serious weakness within more traditional Marxist analyses (Gordon et al. 1982, 21). Of course, in doing so they are also implying that when analytical emphasis is placed on the "abstract laws" of competition and accumulation, the space for human agency tends to be greatly underestimated.

One of the most interesting results of our very different analysis of capitalist competition and the ongoing differentiation of the working class is that we have clearly shown that a systematic analysis of the determinate limits that are generated by the forces of competition and accumulation does not at all imply that the significance of political factors is necessarily diminished. More important, this work strongly suggests that the high degrees of indeterminacy within many of these radical arguments actually work to obscure both the real parameters and the potentialities of

workers' struggles. Indeed, within certain circumstances, our far more determinate analysis argues that collective worker organization can actually have a far greater impact on the final patterning of interindustry wage rates. Thus, what is really at stake here is not necessarily the overall scope of human agency within these different theoretical approaches, but the best way to analytically grasp these complex processes. Depending on which analytical path we take, however, our assessment of what *both* capital and labor can and cannot expect to accomplish within the confines of the capitalist mode of production will tend to be quite different.

Within our discussion of movements in the general wage level in chapter 3, we argued that the underestimation of the general dynamics of capitalist accumulation within the aggregate labor market has often led class struggle theorists (segmentationists included) to greatly *overestimate* the power of workers to control long-run movements in the aggregate wage level. Thus, within most wage-profit-squeeze arguments of capitalist crisis, it is generally suggested that workers periodically possess the power to precipitate serious economic crises all on their own by persistently forcing wage rates well beyond the limits of capitalist profitability. Even more curious, these arguments have sometimes been advanced as the primary explanation for the prolonged period of economic crisis that began in the United States in the late 1960s. This at a time when the U.S. labor movement was not only far weaker than many European labor movements, but when U.S. unions had already been suffering from significant declines in private sector unionization for over a decade! (Goldfield 1987).

On the other hand, many of these same economists also claim that there is very little that organized labor can do to raise the wage rates of large numbers of low-wage workers within "competitive" sectors of the modern capitalist economy. This curious tendency to *underestimate* the dimensions of workers' power is, in turn, a direct product of the segmentationists' continuing inability to establish determinate competitive limits to the monopoly pricing power and divide and conquer machinations of "monopoly capitalists."

By developing an understanding of how the dynamics of capitalist accumulation and competition play a key role in the regulation of wages, prices, and profits throughout all sectors of the modern economy, we have argued that the real dimensions of workers' power are actually quite the opposite. Although our analysis of capitalist competition suggests that effective worker organization can do a great deal to improve the wages and conditions of many low-wage workers, our analysis of the forces of capitalist accumulation implies that it is highly unlikely for unions to achieve the kind of leverage that would be required in order to precipitate a full-blown crisis of capitalist accumulation. (Of course, this is barring

the outbreak of a massive worker upheaval that threatens the very existence of the system itself.)

Once having established that the opposing logics of these contrasting frameworks present very different scenarios of what workers can and cannot accomplish in terms of wage rates, we must try to assess which of these arguments has more explanatory power when confronting the real patterns of wage differentiation within the modern capitalist economy. We have already shown that the classical Marxian framework can directly anticipate many of the well-known patterns of inter- and intraindustry wage differentiation without relying on the indeterminate arguments of monopoly capital or a dual economy. Equally important, we have shown that our approach allows us to resolve a number of critical anomalies that have continually plagued both institutional and radical explanations of the modern wage structure.

As noted in chapter 2, arguments based on the dual economy and monopoly pricing power have had great difficulty explaining how unions have somehow managed to force the development of "primary" labor market conditions in "peripheral" industries that were supposedly too unstable, too unprofitable, or too competitive to absorb them. Yet, because our analysis of an industry's ability to pay higher wage rates has very little to do with monopoly pricing power, we have argued that workers within the *regulating capitals of any industry* (concentrated or unconcentrated) will be able to raise their wage rates once they are effectively organized. Although various structural factors (i.e., low capital intensity, large numbers of firms, and easy entry and exit) may certainly make it more difficult for workers to maintain effective levels of union organization within many of these "competitive" industries, it is not the level of competition within these sectors that is preventing these industries from eventually incorporating higher wage rates into their cost structures. Moreover, given that levels of unionization in the United States are among the lowest in the industrialized world, there certainly appears to be far more room for broader levels of union organization.

At the end of chapter 2, we also saw that related anomalies have recently appeared when labor economists have attempted to apply the theory of the dual economy and segmented labor markets to Western Europe (Berger and Piore 1980; Wilkinson 1981; and Lever-Tracy 1984). Given that many of the economies within Western Europe must also be classified as "dual economies" according to LMS criteria, similar patterns of segmented labor markets should have also appeared. Yet, not only are the patterns of segmentation and differentiation within the European working class quite diverse from nation to nation, but these patterns are often in direct opposition to arguments that are based on the core/periphery distinction.

While a growing number of sociologists and economists have become increasingly dissatisfied with the role of the dual economy as the general analytical foundation for the discussion of wage determination and segmentation, very few have begun to question this framework as an adequate conception of capitalist competition within the modern economy. Thus, as a result of the absence of a viable alternative theory of competition, this growing disenchantment with dualism has forced many writers to rely primarily on case studies approaches to segmented labor markets. As noted previously, this has inadvertently moved alternative approaches even further away from establishing a general analysis of the wage differentiation process that can address these complex patterns within a determinate theory of competition and accumulation.

Once again, because our classical Marxian framework does not rely on the dual economy as the key basis for labor market segmentation, divergent patterns of wage differentiation across different capitalist countries no longer present a serious analytical problem. Moreover, because our analysis of competitive wage determination clearly allows political and institutional factors to play a critical role in the actual development of concrete wage patterns, we can easily arrive at these diverse patterns without being forced to give up the project of developing a systematic analysis of the forces of competition and accumulation. Thus, for example, although the dual economy model cannot easily explain why the relative wages of private service workers are far lower in the United States when compared to Germany and Japan, our analysis anticipates these results. As explained in chapter 6, countries like the United States that have some of the *lowest* levels of unionization are also likely to exhibit some of the *highest* levels of wage inequality. Here we see yet another example of how the political dynamics of class struggle actually become richer in their explanatory power once a more systematic hierarchy of determinations is established.

Continuing our discussion of troubling inconsistencies that have been generated by heavy reliance on "the dual economy," recent developments in the world economy have raised serious questions about the generally accepted wisdom concerning the eternally high profit rates of core firms within the modern monopoly sector. Indeed, sharply declining profit rates and intensifying international competition within heavy industrial sectors such as auto and steel have raised very serious doubts concerning the long-standing assumptions of impenetrable "barriers to entry" surrounding many of these bastions of monopoly power. Similarly, we have also pointed out that the assumption of immediate cost-plus markups and systematic price collusion within core industries has made it difficult for segmentationists to explain why these core firms would ever seriously contest worker demands for higher wage rates. And yet, these industries

have continually been characterized by numerous labor disputes throughout the postwar period.

Because our argument does not rely on impenetrable barriers to entry in order to explain the above average profit rates of many core firms, their eventual demise is far less problematic. Using Marx's analysis of regulating capitals, we have argued that these higher rates of return may have been primarily due to the regulating status of many of these U.S. capitals in the immediate postwar period. But, as other more efficient capitals began to arise outside of the United States, declining profit rates were partly caused by the loss of their regulating positions within their respective world industries. Pertaining to the issue of core industry resistance to rising wage rates, our analysis of rising wage rates within regulating capitals also suggests that even capital-intensive industries are often required to endure transitional periods where profitability is reduced until relative prices have adjusted to accommodate these rising labor costs. Thus, the periodic resistance to union wage increases within these industries is no longer difficult to understand.

Finally, perhaps one of the most critical strengths of our alternative framework relative to both institutionalist and radical arguments concerns the issue of wage differentials that are largely the result of race and gender discrimination. As in the case of wage differentials in general, orthodox economics argues that the pressures of capitalist competition should eliminate discriminatory wage differentials that do not reflect real differences in individual productivity. Accepting this competitive logic, alternative economists have therefore generally argued that the persistence of discrimination is primarily due to the lack of effective competition in both the capital and labor markets. Within our argument, however, we have shown that substantial inter- and intraindustry wage differentials can generally persist within highly competitive economies. Thus, it should now also be possible to explain how differentials between black and white workers (and male and female workers) can also persist under the same competitive pressures.

Throughout this book, we have maintained that competitive pressure to lower labor costs by gaining access to cheaper labor supplies is an ongoing dynamic that continually takes place regardless of whether the potential low-wage work force is black, white, male, or female. Nevertheless, our analysis of the costs of obstruction and the dual processes of capital and labor mobility also suggests that gaining access to these low-wage workers will often entail substantial costs—particularly when highly capital-intensive firms are attempting to use this labor mobility to replace their existing work force or lower the overall wage level. Thus, we have essentially been able to explain why wage differentials among similarly productive workers (of any color or gender) can persist for prolonged periods of time despite the ongoing processes of competition and the mobility of labor.

In order to go on to explain the more particular and more serious problems of wage differentials that are further aggravated by race and gender discrimination, we would have to develop a more concrete discussion of the historical and institutional factors that have largely forced women and people of color into peripheral positions within the labor market. Here again, however, we would have to be careful to analyze more than just the divide and conquer machinations of capital. As I and many other writers have argued, we would also want to pay close attention to the activities of white workers and their unions within different historical settings. And finally, we would want to develop a systematic analysis of how the ongoing forces of competition and accumulation generate important constraints on the actions and prejudices of both capital and labor. Although it may be extremely convenient for capital as a whole to force women and people of color to play a disproportionate role within the reserve army of labor, the ongoing forces of capitalist competition and accumulation often place strict limits on the classwide designs of capital. As the civil rights movement of the 1960s also demonstrated, so too do the costs of massive social disruption.

Implications for Empirical Research

In order to further assess the relative strengths of our classical Marxian analysis of competitive wage determination, more empirical work needs to be done. Within this book we have suggested that there are a number of important structural variables that should play a significant role in the patterning of a particular nation's interindustry wage structure. Similar to several other empirical studies, the following structural factors would be important to consider:

level of capital intensity (K/L)
level of fixed capital equipment
share of wage costs in total unit costs
size of work force within average plants in the industry
level of unionization across the industry as a whole

Following Levinson's (1966) suggestion, we would further anticipate that certain spatial and regional characteristics of various industries may also help to facilitate or retard effective union organization. Thus, the number of regulating capitals within each industry, the extent of regional and/or national concentration, and various other factors that may affect both the ease of nonunion entry and the ease of capital flight may also be significant. As studies by Masters (1969), Hodson (1986), and Dickens

and Katz (1987), have already shown, we suspect that once the above structural variables have been properly accounted for, market concentration in and of itself would no longer be a significant factor within our regressions.

Although we have developed a number of theoretical arguments to suggest that the above variables should provide a good foundation for the analysis of overall patterns of wage variation, the statistical analysis of inter- and intraindustry wage differentials presents a number of important problems. In addition to the well-known problems of multicollinearity and the difficulty of measuring the direct and indirect effects of unionization due to spillover effects,[1] our own discussion presents several additional reasons for exercising a good degree of caution when attempting to assess the results of regression analysis.

The first concern pertains to the role of individual skill differentials within competitive wage determination. Within the classical Marxian analysis of competitive wage determination, the differential costs of production for different levels of skill are an important component of the different values of labor power. Hence, *real* differentials in skill levels should provide different centers of gravity for fluctuations in the actual wage rates of different groups of workers. Yet, when we review the evidence of interindustry correlations between skill levels and wage rates, it often appears that skill levels have little to do with wage determination. In testing for the Marxian argument, however, it is important to remember that these centers of gravity for wage rates ultimately pertain to the economy as a whole. Thus, although both unskilled and skilled workers in "core" industries may consistently receive higher wage rates relative to corresponding workers in other sectors, it may still be that the average wage levels of unskilled workers *throughout the economy* will display a lower center of gravity relative to skilled workers.

Also relevant to the issue of skill differentials, Braverman's analysis of the labor process across different sectors of the modern capitalist economy has given us good reason to suspect that real skill differentials are probably far more narrow than what many statistical studies have tended to suggest. Thus, we would also want to exercise caution when attempting to develop accurate measurements of these skill differentials.[2]

The second reason for caution regarding empirical studies concerns the notion of regulating capitals. As in the empirical analysis of differential profit rates across different industries, our analysis of differential wage rates argues that both the location of the regulating conditions of production and the correct identification of the national (or international) boundaries of each industry are critical factors that must be considered. Thus, access to fairly detailed information concerning different firms within each industry would be extremely important. Unfortunately, however, this type of firm data is difficult to obtain.

[1] See Freeman and Medoff 1984 for a good discussion of many of these statistical problems. See also Dickens and Katz 1987.

[2] Howell's 1982 dissertation has already developed a number of important steps in this direction.

Furthermore, because our analysis argues that specific types of union activity (i.e., those related to the ability to impose significant costs on regulating capitals) are the primary indicators of a union's ability to raise wage rates, it is also important to develop a good measure of the effectiveness of different union organizations across various firms and industries. Although the overall level of unionization within a particular national industry is easy to obtain, this may not be an accurate indicator of the ability of unions to impose costs on capital for several reasons. First, in the case of world industries, the national level of unionization suffers from many of the same problems that national measures of market concentration do, that is, an inadequate definition of the industry as a whole. This problem is seriously compounded by our need to measure the extent of unionization within the *regulating* capitals within each industry.

Second, in order to more accurately assess the effectiveness of these unions in imposing significant costs, we would also need a way to measure the relative militancy and ongoing organizing activity of these unions. Here, strike activity over the past three contract periods may be one good indicator of a union's ability to impose costs. Indicators of overall democracy and of the level of rank-and-file involvement would also be very helpful. Without periodic strikes and solid union organization, which make various in-plant organizing activities possible, it is difficult for unions to convince employers that there really is a serious threat of rising costs of obstruction at the bargaining table.

Finally, within our analysis, it is important to remember all of the reasons that we have already cited in chapter 7 for exercising caution concerning the assumed positive correlation between wage and profit rates. In certain cases, differentials in profit rates may provide an important basis for corresponding variations in wage rates. Nonetheless, it would be a mistake to assume that this will always be the case. Thus, it is important to assess the reasons for these variations in inter- and intraindustry profit rates. In order to do this, we would once again have to be careful to distinguish *which profits rates are actually being observed* (i.e., the average rate for the entire industry, the average rate of profit for a local subset of an industry, the regulating rate of profit, or merely the profit rates of individual firms). We would also want to be sure to investigate the patterns of wage variation over fairly long periods of time. Within this long-run context, it would also be interesting to investigate whether or not the long-term movements of various industry wage rates tend to correspond

with their respective industry's cycles of fat and lean years. Indeed, in the case of industries with above average profit rates, it is quite possible that rising union wage rates may become part of the ongoing competitive process that works to force these profit rates downward.

Implications for the Contemporary Labor Movement

As many labor analysts have pointed out, the U.S. labor movement is currently facing a number of very serious problems (Davis 1986; Craypo 1981; Kochan 1986; and Moody 1988). From our perspective, four of the most critical problems are the following: (1) an unprecedented decline in the levels of unionization throughout the private sector; (2) a growing number of industries within both manufacturing and the service sector that are becoming increasingly characterized by poverty level wages; (3) increasing international competition and the growing international mobility of capital; and (4) the deepening secular crisis that began at the end of the prolonged postwar boom in the late 1960s.

Although virtually all progressive labor activists and economists would agree that U.S. unions are in deep trouble, there is heated debate over which strategies to pursue for the renewal of the labor movement. In general, this debate has been largely defined by two opposing positions. Many national union leaders and almost all labor relations consultants argue that the labor movement's long-term survival within an increasingly competitive environment requires unions to move toward a more "nonadversarial" type of unionism that allows for more management "flexibility" and embraces notions of "jointness" and "team" production systems. The counterposition has tended to percolate from rank-and-file activists and a growing number of local union leaders who argue that unions must go back to the militant style of democratic, social unionism, which characterized many of the early CIO unions in the 1930s. Often termed the "new directions trend" because of the key role of the New Directions movement in the UAW, Labor Notes activists argue that "this new trend has arisen in the heat of resistance to concessions, support of key strikes, battles for union democracy, struggles for the rights of minority and women workers, drives to organize the unorganized, fights against plant closings, and fledgling campaigns of international solidarity."[3]

Because progressive labor economists have generally assumed that the past union wage gains within "core" industries were largely dependent on monopoly pricing power, many of these economists have been hard pressed to provide union activists with a coherent alternative to the above

[3] This quote was taken from a Labor Notes pamphlet entitled "Who Will Shape Our Future: Labor's Two Trends." This pamphlet was produced for a Labor Notes Conference on "New Directions for Labor" that was held in Detroit, Michigan in spring 1989.

corporatist calls for wage concessions and other forms of nonadversarial labor relations that are now supposedly required to "beat the new competition."[4] Indeed, when union dissidents call for a return to militant adversarial unionism, they are frequently criticized for their unwillingness to confront the harsh new realities of global competition.[5]

Within the classical Marxian framework, the long-term solution to labor's problems clearly resides in the development of a *democratic* socialist system of production that can finally put an end to capital's relentless drive to maximize private profits regardless of the immense social costs. Within the confines of ongoing capitalist competition and accumulation, however, this book clearly suggests that there are a number of things that workers and their unions can collectively do to minimize the devastation of working people's lives that repeatedly results from the unbridled forces of the capitalist system. Indeed, this volume suggests that the most effective way to address all of the above problems within the U.S. labor movement is ever wider levels of militant and democratic union organization that can effectively take wages and working conditions *out of capitalist competition*. Perhaps most important, this revitalized labor movement must become an integral part of a truly international labor movement that is ready and willing to organize regulating capitals wherever they happen to locate their production facilities. In other words, contrary to many labor relations experts, this book suggests that an accurate understanding of the real dynamics of competitive wage determination actually lends strong support to many of the adversarial positions of the new directions movement.

Organizing within Industries

In chapter 6, we argued that the effective union organization of any industry requires that all of the regulating capitals must be organized. Clearly, if unions only manage to organize some of these capitals, those firms that are organized will not be able to incorporate higher wage costs within their industry's price of production. Thus, when faced with continued union pressure to raise wages above average levels within the industry, these capitals will lose their position as regulating capitals and may face serious competitive consequences.

Recent examples of this problem unfortunately abound within the

[4] This problem is further compounded by left economists who have argued that one of the primary causes of the U.S. economic crisis was a wage-profit-squeeze that was initiated in the late 1960s by workers who not only pushed for rapidly rising wage rates, but simultaneously resisted management attempts to increase labor productivity. See Bowles, Gordon, and Weisskopf 1983, and Bluestone and Harrison, 1990a.

[5] For an example of this type of criticism of adversarial unionism, see Bluestone 1989.

United States as growing numbers of nonunion regulating capitals have been allowed to develop within the airlines, construction, mining, meatpacking, auto, tire, and steel industries. As a result, unions within these industries are no longer able to establish industrywide wage standards to which all key firms are forced to conform. The key point here is that the new element in many of these industries is not so much the presence of capitalist competition but the growing weakness of the labor movement that has allowed capital to break the process of pattern bargaining and draw wages and working conditions back into the competitive gauntlet. Moreover, although the increasing global mobility of capital and intensifying international competition have certainly played an important negative role in industries like auto and steel, this does not explain why unionization rates in largely domestic industries like meat-packing have also experienced dramatic declines. Indeed, with respect to the meatpacking industry, our argument suggests that Jim Guyette was right on target when he pointed out that Hormel's newest Austin plant was precisely the place where the international union should have been taking a strong stand against concessions. When Guyette stated that concessions were "going to have to stop at the most profitable company with the newest plant," he clearly understood what it meant to be working in one of the industry's key regulating capitals. Of course, he also understood that the longer term project was to mount a massive organizing campaign to lock in all of the other key firms in the industry.

In addition to organizing all of the key firms, our analysis also suggests that the only way that unions can ultimately convince their employers to concede to significant improvements in wages and working conditions is to have the potential ability to impose serious "costs of obstruction" on their employers. Thus, as UAW dissidents have repeatedly argued, and striking workers at Pittston and NYNEX have recently demonstrated, rank-and-file activism and militancy is imperative, and adversarial labor relations are unavoidable.

Organizing across the U.S. Economy

Contrary to many labor market segmentationists, we have repeatedly argued that the wages and working conditions within many of the growing low-wage sectors of the U.S. economy can be substantially improved through union organization—regardless of whether these industries are concentrated or unconcentrated. Although industries with a large number of firms may sometimes be more difficult to organize, low levels of market concentration do not present an inviolable barrier to higher wage rates.

In fact, once we pay less attention to the issue of monopoly power and focus more attention on various structural factors that may help to facilitate union organization, there are a number of positive reasons to believe that much of the service sector is highly organizable. Indeed, within the world of international capital mobility, many unorganized workers in the service and retail sectors may actually be easier to organize relative to workers in some of the more traditional union sectors. Within service industries like health care, hotels and restaurants, and retail trade, capital mobility is either very unlikely or extremely difficult. Thus, just as in the case of steel and auto in the 1930s, these sectors are essentially captive audiences for union organization.

As Kim Moody has interestingly pointed out, some of these nontraditional sectors like insurance, and wholesale and retail trade are also becoming fairly concentrated. Hence, a relatively small number of regulating capitals now represent a significant portion of the industry. In 1986, for example, almost one million out of 1.8 million workers in department stores were employed by Sears, J.C. Penney, and K-Mart. Furthermore, Moody also notes that the average number of employees working in a hospital is now significantly larger than in the average factory (Moody 1988, 216–19).

As labor begins to strategize about the organization of wider sectors of the economy, however, it is once again important to remember that these organizing drives will only be effective in the long run if unions develop *massive coordinated campaigns that are designed to take on all of the regulating capitals in the industry*. Thus, our analysis of competitive wage determination also suggests that the growing tendency toward "general unionism" within the United States whereby many unions are haphazardly reaching out to any potentially organizable work force with little regard to developing systematic industrywide strategies will not be terribly effective.

On the brighter side, the SEIU's national "Justice for Janitors" campaign, and in particular their 1990 organizing victory over International Service Systems (ISS) in Los Angeles, represents a brilliant example of how secondary workers can be effectively organized with a comprehensive strategy that is designed to take on the regulating capitals of an industry. Indeed, as a result of militant rank-and-file involvement and extensive community support, some of the most vulnerable workers within the U.S. labor force successfully took on the world's largest employer of contract services. Boston's 5,000-member Hotel Employees and Restaurant Employees Union (HERE) represents another inspiring example of the potential for highly effective union organization within the service sector.[6]

[6] For a brief discussion of both of these important union struggles as well as many other innovative organizing activities within the United States, see La Botz 1991. See also Moody 1988 and Brecher and Costello 1990. In a recent survey of more than 189 union elections between 1986 and 1987, Kate Bronfenbrenner (1992) points out that unions have done

In addition to mounting aggressive organizing campaigns across many of these industries, however, the ultimate success of the labor movement in raising the poverty level wages of so many workers throughout the United States will also require the development of a classwide political strategy that can effectively fight to rebuild the public sector and bridge the glaring gaps that continue to grow between the employed and unemployed, men and women, and white workers and people of color. Indeed, in the wake of a decade of systematic attempts by the Reagan and Bush administrations to pit various groups of working people against one another through welfare bashing and repeated attacks on affirmative action programs, the need for a progressive working class perspective in American politics is paramount.

Thus, as in the 1930s, the labor movement most be very careful to avoid the pursuit of narrow short-run strategies that can seriously harm workers who have not been traditionally included within the folds of organized labor. In order to counteract a decade of welfare bashing, unions must lead the fight for decent jobs programs, a higher minimum wage, affordable quality day care, mandatory parental leave, and substantial increases in desperately needed social services for the poor. As an integral part of the fight for decent jobs for all, they must also reaffirm the importance of affirmative action programs that have attempted to address chronic discrimination against women and people of color.

Another component of the struggle to reduce inequalities within the labor market involves the extension of protective legislation that currently regulates hours and working conditions within manufacturing to all sectors of the economy. Although the corporate representatives of low-wage industries that are not currently covered under existing legislation will undoubtedly claim that these substandard wages and conditions are necessary in order to allow them to "survive," our analysis suggests that most of these industries have the ability to incorporate higher cost structures if these conditions are forced upon all capitals.[7]

Finally, as unions fight to raise the wages of all low-wage workers, we should learn from the Swedish example and simultaneously push for extensive government retraining programs that will allow displaced workers in backward firms and industries to find alternative employment. It is also high time for the U.S. labor movement to join other industrialized nations by pushing for a comprehensive national health care system that will finally take working people's right to quality health care out of the downward spiral of capitalist competition. Of course, the other critical lesson from both the Canadian and European experiences is that the most effective way for working people to fight for all of these programs is to form their own political party.

"much better in service sector industries such as health care (52% win rate) than in more traditional blue collar industries such as transportation (20%) and manufacturing (40%)." She goes on to suggest, however, that "unions are winning more elections in the service sector because the unions doing most of the organizing in the service sector are doing a better job of organizing and because the low-wage women and minority workers who dominate service sector employment are much more likely to vote for unions than their white male counterparts in manufacturing or transportation industries" (1992, 9).

[7] As Marx pointed out when the first factory acts were introduced in England despite similar protests from many sectors of the capitalist class, "A simple compulsory law is sufficient to enact away all of the so-called impediments opposed by the nature of the (labor) process, to the restriction and regulation of the working day" (Marx 1867, 477).

Organizing across the Globe

Moving on to the international arena, there is no question that two of the most difficult problems facing the labor movement are the growing intensity of international competition and the growing international mobility of capital. As our general discussion of competitive wage determination has clearly anticipated, the development of prolonged periods of growing inter- and intraindustry wage differentials does not negate the presence of long-term competitive forces that will eventually place very powerful limits on these widening wage gaps. As wage differentials continue to grow and fixed capital continues to depreciate, even capitals within the "core" sectors of the U.S. economy have finally begun to act to reduce these differentials. And as U.S. workers are now painfully aware, this equalization process is increasingly taking place across national borders.

A striking example of these competitive limits that are now bearing down on U.S. workers was recently discussed in the business section of the *New York Times* (March 13, 1988). Within the electric motors division at General Electric, it was reported that American workers were being paid $16.16 per hour in wages and benefits as compared to $2.20 an hour in a similar GE factory in Singapore and $1.23 in Mexico. Thus, GE told its U.S. employees that they had to make a choice. Either they accept a cut in their hourly wage rates from $11.00 down to $9.80, which would give the company the incentive to invest $200 million into its domestic plants, or workers would be facing the very serious prospect of losing their jobs. Given this trade-off, U.S. workers voted 2 to 1 to take the wage cut.[8]

While the workers at GE may not have had any other real choice within the short run, there is a long-run choice for the U.S. labor movement as a

[8] In other cases, U.S. workers are facing similar choices not because of their higher hourly wage rates but because of higher unit costs that are due to the inefficiency of the capitals that are employing them. Unfortunately, the forces of capitalist competition do not discriminate concerning the ultimate causes of intraindustry cost differentials. In either case, it is generally the workers who are forced to suffer.

whole. Given these increasing pressures to equalize wage rates, U.S. workers can either stand by as their wage rates are ground down to more competitive standards within the international labor market, or they can become involved in an international labor movement that can attempt to improve wages and working conditions within other countries. Moreover, as an intermediate step they can also attempt to pressure the state to impose substantial relocation costs on capitals that are shutting down their operations within the United States. However, if the U.S. labor movement is seriously going to become part of an international labor movement, unions must resist the temptation to rely on "Buy American" campaigns and other protectionist measures that scapegoat foreign workers and make the goal of international solidarity ever more elusive.

Although Emmanuel (1972) and other Marxist economists have sometimes argued that the interests of U.S. workers are opposed to the interests of third world workers because of "unequal exchange" and other forms of indirect exploitation, this book suggests that this claim has been extremely short-sighted at the very best. Even when the regulating conditions of production are primarily located within the United States, our analysis of the competitive limits to wage differentiation suggests that wage increases in these regulating capitals will tend to be limited by the unit costs of subdominant capitals. Thus, if these subdominant capitals are located in extremely low-wage sectors of the international economy, the low-wage rates of these less developed sectors will clearly tend to constrain the ability of U.S. workers to raise their own wage rates. Of course, as the GE example clearly indicates, once U.S. capitals begin to exercise their options to build their newest plants in these lower wage regions, the limits to rising wage rates become far more constrained. Indeed, as the *regulating* techniques of production are increasingly located in these low-wage nations, the continued failure to organize these regulating capitals will eventually prove disastrous to U.S. workers. Thus, on the eve of the North American Free Trade Agreement, Marx's time-worn slogan "Workers of the world unite" takes on even greater significance within the modern period when both capital and labor markets are truly becoming internationalized.

The remaining critical problem facing the labor movement is the deepening world capitalist crisis. As noted in chapter 4, when the capitalist economy enters a period of prolonged crisis and stagnation due to serious declines in overall levels of capitalist profitability, the constraints on wage rates that are imposed by the general laws of capitalist accumulation become far more severe. Indeed, as the crisis continues to express itself, the deceleration in the rate of growth of productive investment has made it more and more difficult to increase the productivity of labor. Moreover, slower rates of growth of employment will also exert an increasing downward pressure on wage rates as a result of the rising reserve army of labor.

Finally, as capitalist competition becomes more and more intensified due to the pressures of declining rates of growth within the marketplace, individual capitals will face increasing pressures to protect their declining profit rates and market shares by intensifying the labor process and forcing workers to accept wage cuts.

Although there is strong evidence suggesting that the current general crisis is rooted in the long-run decline of the general rate of profit throughout the world capitalist economy (Shaikh 1987 and Hill 1979), U.S. corporations have continually attempted to suggest that the U.S. crisis is primarily due to the declining competitive position of American firms within the international economy. And, of course, the chief villain from the corporate perspective is the high wage rates of labor and not the presence of outdated capitalist equipment. By making this argument, corporations have been attempting to convince the U.S. labor movement that it is time to resolve the old antagonisms so that both capital and labor can finally pull together in order to improve the competitive position of U.S. firms.

Once again, however, the analysis within this book suggests that increasing militancy and wider levels of worker organization will be the only way for workers to prevent even more serious setbacks in their wages and working conditions within the next decade. Despite calls for "equal sacrifice," if the labor movement continues to remain weak and disorganized, it will be workers who will continue to bear the main burden of the deepening economic crisis. Indeed, as capital knows quite well, one of the key ways to create the basis for the next wave of accumulation is to raise the rate of profit by utilizing the crisis to brutally intensify the labor process and dramatically lower wage rates. Moreover, if capitalists can convince workers to begin to identify with the interests of their employers through profit-sharing, quality of life circles, team concepts, and other so-called forms of "job enrichment," the chances for building a strong unified labor movement that can organize the unorganized will be even further reduced. Equally serious, unions will increasingly lose their ability to keep wages and working conditions out of the competition of capitals. Thus, pattern bargaining will continue to deteriorate as the wage concessions of one group of workers are utilized by other capitals to exact even more concessions in wages and working conditions from other workers.[9]

At first glance, periods of general crisis appear to be desperate economic situations where the working class has very little option to defend itself short of revolution. But, it is precisely during these times that we must once more look back to the historical lessons of the Great Depression in the 1930s. Despite far greater levels of unemployment, the labor movement was able to achieve its greatest successes during this very pe-

[9] For excellent arguments against continuing wage concessions, see Slaughter 1983 and Moody 1988.

riod. Moreover, workers did not achieve these successes by accepting wage concessions in order to make their employers more competitive. Quite the contrary, they raised the costs of obstruction by sitting down in the factories, physically preventing housing evictions, and conducting mass demonstrations for the rights of the unemployed.

In conclusion, it is important to point out that Marx's famous argument concerning capitalism's long-run tendency to homogenize the working class in terms of skill levels never implied that the development of a cohesive and unified working class movement would develop spontaneously. Indeed, Marx was very well aware of the fact that the ongoing forces of capitalist competition and accumulation would repeatedly tend to generate serious divisions within the working class. He also understood that capital would continually attempt to find other political and social devices to intensify these divisions among workers.

Thus, although Marx spent most of his evenings working on his analysis of the laws of motion of the capitalist mode of production, he spent many of his days working tirelessly for the First International. He knew that workers would have to develop very powerful political and economic organizations in order to counter these ongoing divisive pressures, and ultimately protect their standards of living. In fact, Marx argued that one of the most critical roles of the trade union movement was to struggle to improve the social conditions of workers *wherever they happened to be employed*. Thus, in his instructions to the delegates of the Geneva Congress of the First International, he charged the trade union movement with the following responsibilities:

> Apart from their original purposes they must now learn to act deliberately as organizing centers of the working class in the broad interest of its *complete emancipation*. They must aid every social and political movement tending in that direction. Considering themselves and acting as the champions and representatives of the whole working class, they cannot fail to enlist the non-society men into their ranks. They must look carefully after the interests of the worst paid trades, such as the agricultural labourers, rendered powerless by exceptional circumstances. They must convince the world at large that their efforts, far from being narrow and selfish, aim at the emancipation of the downtrodden millions.[10] (Marx 1866)

As I have attempted to argue throughout this book, many of Marx's original arguments continue to ring just as true today as they did over one hundred years ago. This is unfortunately because the laws of capitalist competition and accumulation are still very much with us.

[10] Cited in *Karl Marx: The First International and After*. Edited by David Fernbach. New York: Vintage Books, 1974, 92.

References [incomplet]

Adams, Walter, and Hans Mueller. 1986. "The Automobile Industry." In Walter Adams, ed., *The Structure of American Industry*. New York: Macmillan.

Akerlof, George A. 1982. "Labor Contracts as Partial Gift Exchange." *Quarterly Journal of Economics* 97 (November): 543–69.

Akerlof, George A., and Janet L. Yellen. 1986. *Efficiency Wage Models of the Labor Market*. New York: Cambridge University Press.

Albelda, Randy. 1985. "Nice Work if You Can Get It: Segmentation of White and Black Women Workers in the Post-War Period." *Review of Radical Political Economics* Vol. 17, no. 3 (Fall).

Alchian, Armen, and Harold Demsetz. 1972. "Production, Information Costs and Economic Organization." *American Economic Review* 52 (December): 777–95.

Amin, Samir. 1974. *Accumulation on a World Scale: A Critique of the Theory of Underdevelopment*. New York: Monthly Review Press.

Amott, Teresa L. 1988. "Welfare Reform: A Workhouse without Walls." In Robert Cherry, et al., eds., *The Imperiled Economy: Book II*. New York: Union for Radical Political Economics.

Amott, Teresa L., and Julie A. Matthaei. 1991. *Race, Gender, and Work*. Boston: South End Press.

Armstrong, J., and A. Glyn. 1979. "The Law of the Falling Rate of Profit and Oligopoly: A Comment on Shaikh." *Cambridge Journal of Economics* 3.

Arrow, Kenneth. 1959. "Toward a Theory of Price Adjustment." In M. Abramovitz, et al., eds., *The Allocation of Economic Resources*. Stanford, Calif.: Stanford University Press.

———. 1973. "The Theory of Discrimination." In O. Ashenfelter and A. Rees, eds., *Discrimination in Labor Markets*, pp. 3–33. Princeton, N.J.: Princeton University Press.

Ashenfelter, O., and G. E. Johnson. 1972. "Unionism, Relative Wages, and Labor Quality in U.S. Manufacturing Industries." *International Economic Review* (October).

Auerbach, Paul. 1988. *Competition: The Economics of Industrial Change*. Oxford: Basil Blackwell.

Averitt, Robert T. 1968. *The Dual Economy*. New York: W. W. Norton.

Bain, J. S. 1951. "Relation of Profit Rate to Industry Concentration: American Manufacturing 1936–40." *Quarterly Journal of Economics* (August).

Baran, Paul, and Paul Sweezy. 1966. *Monopoly Capital*. New York: Monthly Review Press.

Baron, Harold M., and Bennet Hymer. 1968. "The Negro Worker in the Chicago Labor Market." In Julius Jacobson, ed., *The Negro and the American Labor Market*. New York: Doubleday.

Baron, James N., and William T. Bielby. 1980. "Bringing the Firms Back In: Strat-