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THE SOCIOLOGY OF LABOR MARKETS ❖ 10582

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INTRODUCTION

The aim of this essay is to provide a synthesis of empirical and theoretical research in an area that is a point of convergence for much of the literature on social stratification, occupational sociology, industrial sociology, the sociology of organizations, and labor economics. The analysis of labor markets is an important concern for sociological inquiry; it permits an understanding of the way macro forces associated with the economy of a society and elements of social structure impinge on the microrelations between employers and workers in determining various forms of inequality. Since the majority of people in industrial society obtain income and other rewards in exchange for work, labor market processes form the central mechanisms of social distribution in industrial society (Caplow, 1954).

The concept of "labor markets" has many connotations. It has been used to denote geographical areas or occupational and industrial groups, as well as groups of workers defined by ethnicity, race, sex, and levels of education and skill. We define labor markets abstractly, as the arenas in which workers exchange their labor power in return for wages, status, and other job rewards. The concept, therefore, refers broadly to the institutions and practices that govern the purchase, sale, and pricing of labor services. These structures include the means by which workers are distributed among jobs and the rules that govern employment, mobility, the acquisition of skills and

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training, and the distribution of wages and other rewards obtained contingent upon participation in the economic system.[1]

Two hundred years ago Adam Smith formulated the basic ideas about the forces that determine remuneration for work in competitive labor markets—i.e. the supply of and demand for labor. He also recognized that not all employments were equally desirable. This led him to his famous proposition of compensating wage differentials: that wages should be inversely related to the desirability of the work. The apparent falsity of this proposition has often been used since then to motivate modifications of the classic analysis. John Stuart Mill (1926) argued for the existence of "noncompeting groups;" these, by regulating the supply of labor to desirable occupations, would determine the generally observed positive relation between wages and other job rewards. As Cain (1976) pointed out, this modification of the classic assumption of a single, competitive market is basically the same idea that much later led to the concept of segmented labor markets. A recent extension of the classic analysis, in the form of human capital theory, has attempted to reconcile the proposition of compensating differentials with reality. This theory argues that the assumption of a single competitive market applies within occupations at a given skill level (e.g. Becker 1971a).

Karl Marx believed that the existence of a competitive labor market where labor was bought and sold freely as a commodity was a fundamental characteristic of capitalist society. Marxist analysis, with its emphasis on class conflict and change in social structure, has been applied in much recent research on labor markets, including the literature on segmented labor markets. Marx himself, however, treated labor as an abstract homogeneous category (as in classical economics) and did not provide a systematic analysis of labor market differentiation within the capitalist system of production. In contrast, Weber's (1947) long analysis of the sociological categories of economic action provided numerous concepts relevant for the analysis of labor market structures, particularly in his treatment of the social division of labor.

Sociologists have tended to be concerned with aspects of Weber's work other than his analysis of labor markets; until recently, they have generally left labor market analysis to the economist.[2] Within labor economics there are two traditions of labor market analysis (see McNulty, 1966, for an historical review of the evolution of labor market analysis within economics). One, a continuation of the classical analysis, assumes a perfectly competi-

[1]The concept of the labor market may also be useful for analyzing the economy of societies in which the development and distribution of the labor force are managed by planning rather than by the sale and purchase of labor power. See, for example, the discussion of the Soviet labor market in Brown (1970).

[2]An early exception to this trend is the functional analysis of the institutional structure of labor markets by Parsons & Smelser (1956).

tive market. In the last 20 years this tradition has developed powerful analytic tools: Marginal productivity theory describes the demand side, and human capital theory and the theory of the labor-leisure choice describe the supply side. The second tradition, institutional economics, has emphasized empirical analysis over abstract theorizing and has infused psychological, sociological, historical, and legal notions into research on labor markets. Particularly important have been the contributions of the "neo-institutionalists," who dominated labor economics in the 1940s and 1950s. Like the sociologist, the institutional economist analyzes the structures and processes that differentiate labor markets.

The recent resurgence of interest in labor market analysis may be attributed to (*a*) the recognition that orthodox economic labor market theory has not explained persistent poverty, discrimination, and income inequality; (*b*) a revival of interest in both Marxist political economy and the application of Marxist methodology in the analysis of labor market phenomena; (*c*) the increasing interest among sociologists in incorporating institutional and structural variables in the model for the socioeconomic achievement process that originated in Blau & Duncan (1967). These developments have created a need to synthesize research and theory. This review attempts to fill the need. We emphasize the most recent contributions to the field.

IDENTIFYING THE SOCIOLOGY OF LABOR MARKETS

This review includes contributions to the study of labor market structures originating in both sociology and economics, particularly in institutional and neo-institutional economics. Further, we incorporate literature on labor market institutions from various subdisciplines of sociology—social stratification and mobility, organizations, and the sociology of occupations and professions.

Parnes (1968) identified five principal actors involved in labor market processes: the individual worker, the individual employer, workers' organizations, associations of employers, and the government. Rather than use such a list of actors and institutions, we have organized this review around a set of research questions representative of recent developments in the area. Our discussion of the literature follows this topical outline.

1. *Conceptions of Labor Markets*. Neoclassical economics developed a powerful analytic theory that relies on the assumption of a perfectly competitive labor market. This assumption has been challenged repeatedly as too unrealistic for an adequate understanding of empirical processes and for policy formulation. Alternative conceptions of labor markets have been developed; Kerr (1950) provides an early example of such a typology. Attempts to identify what differentiates or segments labor markets have recently generated an extensive literature. The different conceptions determine how

specific research questions are addressed, which variables are examined, and how observed relationships are interpreted.

2. *Labor Market Outcomes*. Much of the literature on labor market structures and processes has developed around three main topics:

(a) The distribution of job rewards. Conceptual and empirical analyses of labor markets are often justified by their relevance to our understanding of the processes that generate inequality in society. Most attention here has focused on earnings inequality in different structural settings; there has also been considerable interest in inequalities of prestige, job security, and various psychological benefits.

(b) Mobility and careers. Study of job mobility bears on changes in the supply and demand for labor. Reynolds (1951) argues that the most important problem in labor market analysis is to determine the factors that attach workers to a firm and that condition their movement among firms. In sociological research, mobility is important in the analysis of achievement processes and careers. Mobility patterns, accompanied by changes in job rewards, reveal how structural factors associated with labor markets facilitate or hinder the socioeconomic achievement of individuals.

(c) Labor market segmentation of population groups. A recent theme of the literature on labor market processes has been the distribution of population groups (defined by race, sex, and ethnicity) among segments of the labor market, and the consequent differences in job rewards and/or career trajectories. A considerable body of literature has focused on the role of discrimination and segregation of minorities in explaining these differential outcomes.

3. *Social Change in Labor Market Structures*. Finally, we discuss changes in labor market structures produced by changes in technology and by the interactions and conflicts among the main actors in the labor market. Included in this section are studies dealing with class conflict in the labor market, the forces that change job structures, and the relation of change in labor markets to change in the social and economic structure of society.

CONCEPTIONS OF LABOR MARKETS

In the "orthodox" classical economic conception the market is assumed to be perfectly competitive: The actors, workers and firms, have perfect information, maximize utilities in particular earnings, and are unable individually to influence the prices given by the market. Further, wages respond to changes in supply and demand, and workers can move freely in response to changes in supply and demand in different parts of the market. The labor market resembles a market for other goods. A well-developed price theory can then be applied to the analysis of labor market phenomena, in particular to the earnings-determination process.

With this conception of the labor market, neoclassical economics has developed a powerful deductive apparatus that explains (*a*) the observed association between the characteristics of workers (e.g. their education and ability) and the earnings they obtain; (*b*) the basic shape—concave to the time axis—of observed career lines or age–earnings profiles; (*c*) voluntary unemployment in terms of the labor-leisure choice. These and other explanations for labor market processes provided by the marginal-productivity/human-capital theory are discussed more fully in later sections.

Neoclassical economic theory permits the formulation of predictions relevant for policy–in particular that training and educational programs will reduce poverty and inequality and thereby remove minorities from poverty status. The theory predicts that discrimination will be a transient phenomenon in competitive labor markets and that the removal of minimum wage laws will be of major importance for the reduction of unemployment, especially among the young and the disadvantaged. Such policy implications have been a major inspiration for the alternative conceptions of the labor market that we present below.

The issue here is not whether perfectly competitive markets actually exist. [Few will deny that competition in empirical labor markets is at best imperfect. Labor markets that closely resemble the neoclassical model are scarce. Fisher (1953) argues that only special markets, such as the migrant labor market in California, have the required properties. Scoville (1974) reports that the labor market in Afghanistan fits the competitive model reasonably well: Wages are relatively uniform, mobility is not restricted, and institutional forces have a relatively small influence.] Those who maintain and those who reject the assumption of a perfectly competitive market in theoretical analysis disagree, in effect, about the usefulness of the classic conception. Neoclassical economists claim that the imperfections and institutions that interfere with the free operation of the market do not systematically invalidate predictions from the theory in the long run. Further, there is a tendency to use positive theory to support particular value positions when dealing with labor market institutions that interfere with the free operation of the market. Opponents of this position argue that the imperfections are of major empirical importance both for research and policy and that the resulting departures from the perfect model of competition systematically invalidate the predictions of the neoclassical theory. Further, they argue that the normative use of the theory in policy formulation has serious social costs.

The basic assumptions of the neoclassical framework have undergone modifications, particularly the assumption of perfect information (Arrow 1973a; Spence 1974; Wickens 1974). These developments are not emphasized here. Instead we concentrate on those conceptions of labor markets that do not see deviations as "imperfections" that are nuisance factors for analysis, but that emphasize these labor market structures and their consequences for empirically observed labor market processes.

There are several approaches to developing labor-market typologies. Most of the literature suggests partitioning labor markets into segments or sectors. There are two traditions: One emphasizes the segmentation of the national labor market into two or three distinct markets, with barriers to mobility between segments. The other emphasizes the specific institutional setting for labor market processes and makes a fundamental distinction between external and internal markets.

A less used approach is to propose a list of the observed characteristics of labor markets. The relevance of these dimensions to labor market processes may then be analyzed. Thus Stinchcombe (1965) suggests characterizing labor markets according to the organization of licensing practices and agencies, the nature and quality of preparation for work roles outside employing organizations, the nature of the organized groups that determine the employment contract, job ladders and careers, and the structure of competition for labor or the opportunity structure for individuals. Such an approach would not necessarily result in an exhaustive typology of labor markets, since the extent to which these dimensions intercorrelate is an empirical question. A number of researchers in this tradition differentiate labor markets according to the social or power relations between labor market actors, particularly employers and workers. Thus, a single characteristic of labor markets is specified as especially important for labor market processes.

Dual and Other Segmented Labor Market Conceptions

In this section we discuss the "dual labor market" theory and related work on labor market segmentation in the "radical/Marxist" tradition. Overviews of some central elements of this literature are provided in Gordon (1972a) and Montagna (1977, ch. 4). Critical reviews of this literature are provided by Wachter (1974) and Cain (1976).

The "dual labor market" theory has been empirical or descriptive in nature, and has been directed primarily towards the specific policy problems of poverty and underemployment. Developed by economists in the late 1960s, initially from a series of qualitative studies of ghetto and local labor markets (e.g. Harrison 1972), its chief spokesman has been Piore (1969, 1970, 1975). The basic hypothesis is that the labor market is divided into two distinct sectors with little mobility between them.

> The former (i.e. primary sector) offers jobs with relatively high wages, good working conditions, chances of advancement, equity and due process in the administration of work rules, and above all, employment stability. Jobs in the secondary sector, by contrast, tend to be low-paying, with poorer working conditions and little chance of advancement; to

> have a highly personalized relationship between workers and supervisors which leaves wide latitude for favoritism and is conducive to harsh and capricious work discipline; and to be characterized by considerable instability in jobs and a high turnover among the labor force. (Piore 1975, p. 126)

Piore (1975) has further distinguished upper-tier and lower-tier primary jobs, which are identified by such characteristics as status, pay, opportunities for promotion, and autonomy.

The theory thus argues that the important distinction for analyzing the economy is that between good and bad jobs rather than between skilled and unskilled workers. It argues that the secondary sector operates according to processes very different from those postulated by neoclassical economics (Vietorisz & Harrison 1973) and that workers are barred from leaving this sector primarily because of institutional constraints and by a lack of good jobs. Therefore, workers in the secondary sector experience underemployment, and attempts to alleviate this problem must focus on the creation of jobs rather than on giving workers more skills and training.

Evidence supporting this theory has been presented by Gordon (1971), Andrisani (1973), and Rosenberg (1975). Gordon (1971) used factor analysis to assess market duality and found a factor that appeared to differentiate jobs along the lines suggested by the theory. Bosanquet & Doeringer (1973), in an extension of the argument to Great Britain, found that the primary sector was characterized by relatively high measures of job stability, earnings, and opportunities for advancement and for on-the-job training; the secondary sector exhibited lower measures of these characteristics.

The dual labor market theory is related to a more general set of concerns—the analysis of economic structures in terms of dualism and/or tripartism. One use of the dualistic concept is found in the literature on developing countries. Singer (1970), for example, discussed the tendencies toward dualism that characterize both the world economy and the internal differentiation within developing societies. He attributed this internal dualism to factors associated with the cleavage between the limited sector, where modern regular-wage employment obtains, and the sector where unemployment or various forms of underemployment persist. He further argued that the differences are not merely transitional; they show no signs of diminishing rapidly. Bluestone (1970) identified core, peripheral, and irregular economies; these produce segmentation of the structure of industries and are thus assumed to affect labor market structures. His argument paralleled that of "dual labor market" reasoning in some respects, and was motivated by similar concerns about poverty, but did not explicitly deal with job characteristics. Similarly, O'Connor (1973) suggested a distinction among the monopoly, competitive, and state sectors of production. These economic sectors are assumed to affect both the structures of the labor markets within them and the processes associated with those labor markets. Unfortunately, these authors did not develop well this link between labor markets and industrial sectors.

Certain "radical" political economists have analyzed the links between industrial and labor-market sectors from a Marxist perspective. A sampling of this literature may be found in Edwards, Reich & Gordon (1975), who considered questions of labor market "segmentation" to include both the analyses of labor market institutions and explanations for how and why the activity of production is organized the way it is. Reich, Gordon & Edwards (1973) adopted the "dual labor market" theory's classification of job structures into upper- and lower-tier, primary and secondary sectors, but also placed great emphasis on race and sex as factors generating labor market segmentation. Their historical analysis attempted to explain the origins of these divisions of the labor market in terms of the dynamics of monopoly capitalism; they argued that these divisions persist because they facilitate the operation of capitalist institutions. Their approach provided an alternative to the assumption that labor markets are governed by freely acting forces of supply and demand. They attempted to link a consideration of labor markets with the development of large corporations and noncompetitive industrial structures.

Because of its descriptive nature and its claim that it is not "neoclassical," the dual labor market theory has been the subject of considerable debate. Rosen (1974) emphasized its roots in the basic postulates of economic theory, and Wachter (1974) argued that many of its findings could be fitted into a neoclassical framework. He stressed that a high-wage and low-wage sector dichotomy should be used only as a simplifying device: Considerable mobility exists between primary and secondary sectors. Further, even though different parameters characterize the populations occupying them, it has not been established that different processes occur in the various sectors. A well-developed critique was also provided by Cain (1975, 1976), who saw fewer disagreements between noeclassical economics and the segmented labor market approach than the latter's proponents had suggested. Dualistic theories, Cain argued, have too often been sketchy, vague, and weakened by internal conflict; they have failed to provide an analytic theory as powerful as the orthodox theory.

Evans (1973) argued that although the concept of a dual labor market has proved useful for the analysis of labor markets in developing countries and in such countries as Japan, it oversimplifies the complexity of the US economy. He stressed that the proponents of the theory had failed to explain satisfactorily the origins and maintenance of the two sectors. He suggested that a more useful construct for analyzing the economy was the "internal labor market," a concept proposed by Kerr (1954).

Internal Labor Markets

The concept of internal labor markets was developed by institutional economists in the 1950s in an attempt to account for the varieties of market structure imposed by such groups as firms, the government, unions, and other organizations of workers. The internal labor market refers to "the complex of rules which determines the movement of workers among job classifications within administrative units, such as enterprises, companies, or hiring halls" (Dunlop 1966, p. 32). These markets are to be distinguished from the "external labor market" where pricing, allocating, and training decisions are controlled directly by market forces. Certain job classifications interconnect these two types of markets.

The concept of the internal labor market has been related to the "dual labor market" theory by Doeringer & Piore (1971), who argue that the primary sector consists of a series of internal markets. In contrast, most secondary-sector jobs do not belong to internal labor markets: They lie in markets with many entry ports, short mobility clusters, and low-paid or unpleasant work. Some confusion exists in the literature because differences between primary and secondary sectors are frequently explained on the basis of characteristics associated with the presence or absence of internal labor markets.

Internal labor markets are generally understood to be of two major types (Kerr 1954; Doeringer & Piore 1971). In the first, the internal market is usually equated with a particular firm. Entry is controlled by the firm, and workers tend to be promoted from the entry job classifications to higher-level jobs in the firm along orderly lines of progression. In the second the internal market comprises a particular occupational group, usually a craft occupation. Here entry is generally controlled by members of the occupational group and mobility occurs among employers within the occupational group. In these markets the worker gets his security not from the individual employer but from his skill, the competitive supply of which is controlled by the occupational group.

Elaborations of the internal labor market concept have focused on the structures of such markets. Doeringer (1967), for example, argues that administrative units such as firms are often divided into internal submarkets for different occupational groups, each governed by its own set of rules. Internal labor markets of the first type described above should thus be equated not with the entire firm but with subsets of the firm. One frequently stressed element of internal labor market structure is the job ladder, derived from Doeringer & Piore's (1971) broad definition of "line of progression," where "work on one job develops the skills required for the more complex tasks on the job above it, and those at one point in the line constitute the natural source of supply for the next job along the line'' (p. 58). Another structural characteristic is seniority entitlements. According to Spilerman (1977, p. 583), for example, ''if we identify an internal labor market with a situation in which seniority entitlements bind a firm to its workers and workers to the firm, internal labor markets will exist even where the potential for earnings growth and promotion is no better than in the secondary sector.'' The literature on these structural characteristics is analyzed by Althauser & Kalleberg (1977), who propose a typology of five labor markets that overcomes many of the problems evident in previous work.

In contrast to research in the dual-market tradition, the empirical literature on internal labor markets has not sought to classify the economy as a whole into sectors; it has taken a more disaggregated approach and has examined specific internal markets. Studies in the institutional tradition have focused on manufacturing plants, union hiring halls, craft markets, scientific institutions, etc. No general model of how internal labor markets relate to the operation of the economy as a whole has yet been constructed. When combined with a number of other elements of labor market structure, however, the internal labor market concept is an important unit in such a general explanation.

Labor Markets in Terms of Social Relations

The classical economic theory conceives of labor market processes as outcomes of free exchange in the market. It is often pointed out that the theory ignores the social and political variables that interfere with the free exchange. Several conceptions of labor market differentiation have been proposed in which the social and power relations between labor market actors are crucial for the nature of the market. Some of these conceptions focus on the employment relationship, specifically the bargaining power of employers vs employees; others focus on the power of occupational groups; finally, class relations have been emphasized.

Phelps (1957) early emphasized the significance of the employment relationship. He delineated different types of labor markets in the United States on the basis of their formal employment rules and employee rights. This led to a classification of labor markets into those where employers have unilateral rules, those that are primarily regulated by the government, and those characterized by various union-management agreements.

Thurow (1975) emphasized the relative bargaining power of employers vs employees over the employment contract. This led to a distinction between a ''wage-competition'' sector where access to jobs is determined by competition among workers over wages, and a job-competition sector where workers in jobs are insulated from competition and where access to vacant jobs and training opportunities are determined by the relative position of job candidates in the labor queue. This conception was further elaborated by Sørensen & Kalleberg (1977), who argued for sources of employee bargaining power other than training requirements.

A conception originating in the occupational sociology literature views occupations as having differing levels of control over labor markets. Occupations represent groups of individuals who perform similar activities and therefore have similar skills and training, as well as similar amounts of social power deriving from these positions in the social division of labor. Differences among occupations thus represent differences in the degree to which workers are able to determine the terms of the employment relationship. Form & Huber (1976), for example, define a number of sectors on the basis of this criterion: Markets may be self-controlled (owners, managers, directors of large firms), traditional (professional, craft), administered (white-collar workers in government and military bureaucracies), and contested (occupations that engage in formal collective bargaining). Differences in power among these groups reflect differences in the ability of the occupation to defend itself against the incursions of others and to maintain or obtain advantages with respect to a variety of labor market outcomes.

Finally, from a Marxist perspective, Wright (1976) emphasized class position as a source of differentiation of labor markets. He noted "contradictory" class positions: managers, who do not own means of production but direct the work of others; semi-autonomous employees, who have autonomy over their own work; petit bourgeois, who own their own means of production but do not employ labor. From survey data he obtained estimates of the sizes of these various class positions and of the pure working class in order to provide a picture of the class structure of the United States. Further research by Wright & Perrone (1977) investigated the income determination process in the various class positions.

LABOR MARKET OUTCOMES

The Distribution of Job Rewards

Annual earnings and wage rates are the most easily quantified job rewards; they are thus perhaps the most frequently studied in the literature on labor market processes. A comprehensive assessment of the benefits obtained in return for work in the labor market should, however, also consider a range of nonmonetary rewards that provide individuals with status and psychological benefits. The literature on the variables that determine such rewards is enormous; we concentrate here on attempts to examine the differences in job rewards among firms, occupations, industries, and other labor market structures. We focus mainly on the earnings determination process and exclude from consideration the large literature on psychic rewards, i.e. job satisfaction. (See Kalleberg 1977 for a discussion.)

In the dominant perspective, the neoclassical theory, wages are seen as jointly determined by supply and demand. Firms will be in competitive equilibrium when they pay workers the marginal products that are determined by their productivity, the prices for the firm's output, and the costs of other factors of production. While the latter will vary from firm to firm, the economic literature on the earnings determination process has tended to treat demand fluctuations as short-run disturbances and to emphasize stable differences in worker productivity as sources of differences in earnings. In other words, the supply side described by the human capital theory and the theory of the labor-leisure choice have been emphasized. Further, in human capital theory, differences in the kind rather than the amount of work supplied are usually considered more important in determining rewards. The differences in the kind of work supplied that are relevant to individual productivity (and hence to earnings differences) are described in terms of the individual's education, ability, experience, and training received on the job. Education and training, it is argued, represent investments made by individuals. The earnings differences accounted for by these variables hence represent compensations for the cost of obtaining the skills that form a person's human capital. Earnings forgone comprise a major component of these costs.

A comprehensive statement of human capital theory may be found in Becker (1971a), a revision of his pioneering statement of 1964. A major empirical study using the theory is presented in Mincer (1974). A review of the literature is given by Blaug (1976); surveys of achievements are presented by Mincer (1970) and by Welch (1975). A critique of the theory from a Marxian perspective is provided by Bowles & Gintis (1975).

Sociological research on the distribution of job rewards has been dominated by the causal modeling approach pioneered by Blau & Duncan (1967). The literature has tended to focus on occupational status as the crucial job reward and to stress the role of education in the transmission of parental status to the next generation. A direct extension of the model views income as determined by occupational status and thus by the education and backgrounds of individuals (e.g. Sewell & Hauser 1975). In contrast to economics, however, sociology has not formulated a deductive theoretical framework to explain the observed association between individual characteristics and job rewards.

Human capital theory successfully explains the basic features of the earnings determination process. The theory may be extended to include rewards other than earnings. Juster & Duncan (1975) argue that fringe benefits, the quality of working conditions, stability of employment, and control of over-time should be included for an adequate test of the theory; and Duncan (1976) finds that the explanatory power of the simple human capital earnings model increases as nonmonetary benefits are added to the earnings measure.

Alternatives to the human capital theory's interpretation of the relationship between education and job rewards argue that schooling does not necessarily confer productive skills but may serve as a screening device (Arrow 1973a) or a signal (Spence 1974) that reveals (or is believed to reveal) differences in ability. Education may also be a ranking or credentialing criterion in allocating persons to jobs (Berg 1970; Thurow 1972; Boudon 1974).

In apparent disagreement with the human capital approach, several studies have attempted to show that there are sources of differences in earnings other than individual characteristics. Bibb & Form (1977), for example, examined the linear and additive effects of industrial, occupational, and organizational characteristics on the earnings of a national sample of blue-collar workers. They provided evidence for a "structural" theory of income by demonstrating that their "social structural" variables had greater effects on income than their "human capital" variables. A similar approach was taken by Wachtel & Betsey (1972), who represented the effects of both personal characteristics and a variety of occupational-industrial factors in a linear and additive regression model estimated for a national sample. They found substantial variation in wages among these structural characteristics and regarded them as evidence for a model of the labor market that integrates both supply and demand characteristics. Spaeth (1976) examined the linear and additive effects of a variety of job characteristics on income for a national sample of men and found that these had significant effects on income. A similar analysis was presented by Thurow & Lucas (1972). Finally, Dalton & Ford (1977), in a recent study that adhered to the traditions established by economists interested in wage differences arising from industrial characteristics, found a significant relationship between market concentration and wages after adjusting for the human capital of workers.

This last line of research is not necessarily inconsistent with human capital interpretations. Kalachek & Raines (1976), for example, found similar effects on wages produced by occupational and industrial characteristics but interpreted these as the result of "market imperfections" due to persisting disequilibriums in the market. They further argued that since such human capital variables as education affect an individual's placement in various occupational-industrial structures, the total effect (direct effect and indirect effect via the structural variables) should be interpreted as the "returns" to human capital. Consistent with neoclassical economic reasoning, these "structural" factors should be interpreted as ways in which human capital gets translated into rewards. In any event, the fact that there are differences in earnings due to demand differences does not invalidate human capital theory, although applications of the theory may have tended to ignore the demand side. The results of two studies illustrate the utility of a human capital explanation despite the inclusion of nonindividual variables. In a study in Japan, Stoikov (1973) found that wage differences among Japanese manufacturing firms were explained almost entirely by differences in the skills and knowledge possessed by workers. Similarly, Mueller (1974) found that the processes by which occupational status and income are achieved are relatively homogeneous across large American communities, though the levels of attainment varied among communities.

Most empirical findings about the distribution of job rewards can be accommodated by the neoclassical theory, but a considerable and growing body of literature argues that the "imperfections" of the competitive market are too important to ignore. This literature analyzes differences among labor market segments in the processes by which job rewards are distributed to individuals. There have been two general approaches in the research on the attainment process in different labor markets. One attempts to identify labor market segments on the basis of, for example, occupations and industries. The other approach focuses on specific local or internal labor markets because of their intrinsic interest or theoretical relevance.

SECTOR APPROACH All researchers generally define labor markets on the basis of *job* rather than worker characteristics. Sectors may be defined by occupations, industries, organizational characteristics, and classes.

Stolzenberg (1975b) argues that such variables as specificity of skills and training create barriers to mobility among occupational labor markets and that processes of wage attainment (e.g. age–earnings profiles) differ among occupational groups.

Occupations furthermore form the basis for a number of attempts to operationalize the sectors postulated by the dual labor market theory. Osterman (1975) divides the occupational structure into upper and lower primary tiers and the secondary sector on the basis of his judgment concerning the levels of stability, autonomy, and economic rewards associated with various occupational groups. [This is consistent with Gordon's (1972b) discussion of the rewards available to workers in different occupational sectors.] He finds that human capital variables have greater effects on earnings in the primary than in the secondary sector, and interprets this as due to differences in the wage-setting processes associated with these sectors (e.g. Piore 1973).[3] An alternative explanation for this finding, however, is that the differences are

[3]The dual labor market theory has been particularly useful in explaining differences in unemployment among occupational groups. The processes affecting unemployment are also argued to differ among sectors, with unemployment in the secondary sector arising from the high turnover associated with worker-job instability; different policies are therefore necessary to deal with this problem in the different sectors (Doeringer & Piore 1975; Klitgaard 1971).

due to different levels of earnings and different personal characteristics among the occupational sectors [see the exchange between Kruse (1977) and Osterman (1977) and also the methodological critique of such analyses presented by Cain (1976)].

An alternative way of defining sectors is to focus on characteristics of firms and their relationships to product markets, and to use industries as the sectoral units. Wendt (1978) used detailed Census industrial categories as the units of analysis and assessed differences in the income returns to education across industries. He then explained these interactions in terms of differences in the needs of particular organizations with respect to recruiting and maintaining a supply of workers. Others have used various groupings of these detailed industry classifications. Smith (1976) compared wage determination processes among federal and private-sector workers; she found that federal workers are paid more than comparable private-sector workers and that this difference is not attributable to differences in productivity or stability of employment. Beck, Horan & Tolbert (1978) aggregated industry groups into "core" and "peripheral" industrial sectors and found that sectors differ in the factors that are strongly related to earnings. Similarly, Hodson (1979) aggregated detailed industries into "monopoly," "competitive," and "state" sectors of production and found differences among sectors with respect to labor force composition and labor market outcomes that are explicable in terms of a Marxist analysis. The approaches of Wendt, of Beck et al, and of Hodson are examples of two general ways of looking at differences among wage determination processes in industrial groups. They originate in different traditions (organizational vs Marxist) that lead the authors to favor either a continuous or a discrete view of the industrial structure. Empirically, Wendt's approach is more general, as it leaves open the question of whether a discrete grouping of industries succeeds in capturing the variation among these categories that is important for understanding labor market phenomena.

Others have used occupation and industry simultaneously to define sectors. Freedman (1976) used a statistical procedure (AID) to combine 270 occupation-by-industry cells into fewer discrete groups. Andrisani (1973) used this sort of matrix to define sectors of the job structure in his empirical assessment of dual labor market theory. (Like Freedman, he also used annual earnings as the criterion for differentiating groups of occupation-industry cells.) Hodson (1979) looked at differences between primary and secondary occupations within his three industrial sectors. And Bluestone, Murphy & Stevenson (1973, p. 80), who argued that "the wage of an individual worker can probably be best described in terms of occupation and industry," found a number of differences in the effects of personal characteristics on wages among occupation and industry groups.

An important variable that stratifies industries is organization size. Stolzenberg (1978) examined this directly by stratifying a national sample of white males into five categories determined by the size of the establishment for which they worked. He found that the effects of education on income increased with the logarithm of establishment size.

Finally, Wright & Peronne (1977) examined differences in the processes of income attainment within various class positions. They found that employers, managers, and workers differ both in their levels of income and in the degree to which such variables as education are related to income.

INTERNAL AND LOCAL LABOR MARKETS A major advantage of the disaggregated approach is that it permits the researcher to control for sources of heterogeneity in order to examine particular relationships more precisely. Rees & Shultz (1970), for example, restricted their sample to six counties near Chicago in order to examine the determinants of wages. They further stratified their analysis by occupation in order to assess the relative influences of personal characteristics and organizational variables. Bridges & Berk (1974) also sampled companies in Chicago, focusing on white-collar employees. The disaggregated nature of their sample allowed them to assess the impact of contextual and compositional effects of various personal and job characteristics. They found that while the type of work performed by an individual is important in determining earnings, such factors as sex and marital status also explain considerable variance.

Talbert & Bose (1977) restricted their sample to a single occupation (retail clerks) in a single Standard Metropolitan Statistical Area (SMSA) in order to assess the effects of organizational variables on wage determination processes. Their analysis showed that work routinization and organization dependence on environmental segments influence wages independently of individual characteristics and of labor market factors. Pfeffer (1977) also examined organizational effects using a disaggregated sample. From a survey of graduates from one school of business, he found differences, both in levels of earnings and in the effects of ascriptive characteristics on earnings, for organizations with different characteristics. Finally, Fogel & Lewin (1974) found that wages in the public sector are higher than in the private sector for most blue-collar and lower-level white-collar occupations, but that they are lower for managerial and professional occupations. Like Smith, they interpreted these findings as resulting from factors unique to public employment, such as the political forces that affect government wage decisions.

Mobility and Careers

Studies of mobility and of careers have originated in a variety of subdisciplines. Spilerman (1977) attempted to integrate many of these concerns via the notion of the career as a strategic link between the structural features of the labor market and the socioeconomic attainments of individuals. He defined "career line" or "job trajectory" as a work history that is common to a portion of the labor force. He then considered the principal task of career-line analysis to be elucidating the properties of these job sequences—their entry portals, the number of constituent positions, the availability of transfer options to alternative career lines, and their returns in earnings, status, and work satisfaction as a function of age. He illustrated these features of career-line analysis by an examination of mobility patterns among cells in an occupation-industry matrix. Finally, he attempted to explain observed patterns in terms of the labor market structures assumed to underlie these career-lines.

Past research in the human capital tradition has focused on one aspect of careers, the analysis of age variation in earnings. Differentials in these earnings curves by age or time in the labor force have received considerable attention, in terms of both their shape and their relationship to educational attainments (e.g. David 1969; Mincer 1974). This emphasis is consistent with the explanation for the income attainment process derived from human capital theory: that the attainment of income reflects a person's productivity as determined by his/her ability and skills; these skills, it is argued, are augmented with time in the labor force as a result of training on the job. The structure of labor markets is not viewed as fundamental to an explanation of the distribution of rewards to individuals over the course of their working lives. Nor are these structures explicitly considered in the status attainment approach to the analysis of careers. While some studies in this tradition have attempted to examine the relationships between a person's levels of job rewards at different times (e.g. Featherman 1971; Kelley 1973), little attention has been paid to the linkages among these jobs and the variability in career lines in the American economy.

The dual labor market theory, on the other hand, posits an important relationship between career mobility and the sectoral divisions within the labor force. The empirical evidence on this question, however, does not lend strong support to the theory's prediction of little intersectoral mobility. Rosenberg (1975), for example, divided his sample of low-income workers in four cities into "primary" and "secondary" occupations and found considerable between-sector mobility. Leigh (1976a, 1976b) indirectly tested the hypothesis of racial differentials in mobility and career advancement implied by the dual theory. He found little evidence for the presence of such systematic racial differences. Equating racial differences with different labor market sectors may be problematic, but it is nevertheless apparent that support for the dual labor market theory is still lacking.

The vast majority of studies of the relationship of mobility and careers to labor market structure rely on variants of the "internal labor market" concept. Alexander (1974) classified internal labor market structure in terms of mobility: Industries are grouped into "manorial" (low interfirm mobility), "unstructured" (high probability of firm and industry mobility), and "guild" types (large positive difference between the probability of leaving the firm and the probability of leaving the industry). He then estimated income equations within these three structures in order to assess differences among types of internal markets; he found that differences among structures are due primarily to differences in composition rather than in the relative importance of experience. Steinberg (1975) defined internal labor markets in terms of whether the worker remained with the same employer in the same industry over a five-year period. He found that there was greater attachment to the internal labor market for women than men, even though men experienced greater upward mobility than women. Finally, Kalleberg & Hudis (1979) investigated four types of mobility patterns defined by cross-classifying patterns of occupational and employer change and stability over a five-year interval. The authors found that the determinants of career advancement (i.e. wage change) differ among these groups, that differences between black and white men exist only in certain contexts (among those changing occupations but not employers and those changing both occupations and employers), and that workers (especially blacks) who change both occupations and employers exhibit many features of "disorderly" career lines (e.g. small wage increases).

A number of studies have examined mobility and career processes within specific organizations. In a unique study, Gitelman (1966) examined mobility over a 30-year period (1860–90) within the Waltham Watch Company. He found that intrafirm mobility is influenced by such factors as the technology employed, external labor market conditions, and changes in the composition of output. Beattie & Spencer (1971) examined several hypotheses concerning the influence of age, seniority, education and informal factors on the salary attainment of men in bureaucratic careers in the Canadian federal administration. They argued that career discrimination is the primary factor accounting for salary differentials between Francophones and Anglophones in a Canadian context. In a study of British managers and technical specialists, Sofer (1970) examined the sources of mobility blockage in organizations.

Studies of careers and mobility in Japan provide further insights into the workings of internal labor markets. Cole (1972) found that ports of entry and exit are more limited in Japan than in the United States; he interprets this as reflecting the decisions made by Japanese employers to maximize the benefits obtained from employees' commitments to an internal labor market, as opposed to the benefits they would obtain from a more flexible labor supply. Marsh & Mannari (1971) found that Japanese employees are less likely than American employees to change firms. They explained this difference in terms of the enhancement of one's status obtained from participation in an internal labor market, rather than in terms of such values as loyalty to the company.

Data on internal labor markets have further been used to test a variety of mathematical models of system mobility. White (1970) reconceptualized the mobility process as a vacancy chain and applied the theory to the clergy. Stewman (1975) developed several Markov models of occupational mobility and applied them to data for a 43-year period in a state police system. He found that his stochastic model had a high utility in the internal labor market analyzed. Internal markets like these make feasible the collection of data on mobility for a continuous period. The authority and stratification systems of these markets are relatively clearly defined, and there exists a high degree of endogenous determination of the mobility process.

How the structure of a system of stratification affects the career process has been studied by Sørensen, who presented (1974) a model for age variations in earnings and occupational prestige that was based on the outcomes of job shifts. In this model, the career profile is governed by the degree to which the occupational structure provides opportunities for gains in achievement, assuming unchanged resources for the individual. Sørensen (1975) integrated the model for the attainment process with the intragenerational mobility processes and (1977) further integrated these various processes in a model for attainment where changes in achievement are generated by the creation of vacant positions in the society. This approach may be contrasted to the human capital approach where gain in job rewards is seen as governed by changes in personal resources (i.e. skills and ability), not by the utilization of opportunities for gains with unchanged resources.

Segmentation of Population Groups

A complete explanation for the way job rewards are distributed should, of course, include the reasons that certain groups are relatively disadvantaged. We discuss race and sex differences in labor market processes separately, but we restrict our scope here mainly to studies of race and sex differences with respect to aspects of labor market segmentation.

Discrimination exists when workers of equal productivity do not receive equal job rewards. Several studies have found income differences between groups after such productivity-relevant characteristics as age, education, and occupation have been controlled (for a recent analysis of differences between black and white men, see Johnson & Sell 1976). [This analysis can be extended to include noneconomic rewards: Lucas (1974) found that blacks, for example, have lower "psychic wages" than whites.] An explanation for these residual differences generally concerns discrimination, though this variable is usually not measured directly.

Attempts have been made to incorporate a theory of discrimination into neoclassical economics (e.g. Arrow 1973b; Becker 1971b). The problem is to reconcile the neoclassical concept of competitive labor markets with persistent group differences in rewards that are not explicable on the basis of productivity. Explanations within this framework often posit the importance of employer "tastes for discrimination" (e.g. Becker 1971b), though a variety of other assumptions regarding the decision-making behavior of employers have been used (e.g. Phelps 1972). A review of economic theories of discrimination was provided by Marshall (1974) and by Aigner & Cain (1977). Hodge's (1973) sociological analysis of black-white unemployment rates used a framework derived from notions of labor queues. Blacks and whites are assumed to be ranked in queues according to their desirability; assumptions concerning the behavior of employers in selecting workers from these queues may be used to explain differentials in unemployment.

The segmented labor market approach argues that blacks and women are disproportionately distributed into secondary jobs at the beginnings of their careers; once placed in these sectors, they find it difficult to leave. The hypothesis is that this is due not to a lack of demand for labor and not to deficiencies in skills or motivation but to such institutional forces as systemic discrimination by white employers and labor unions; discrimination may thus operate by assigning individuals to "bad" contexts rather than by overt means. For example, secondary market workers may not have access to specific on-the-job training (Flanagan, 1973). Differences in the unemployment rates for blacks and whites may be explained by differences in the job turnover experienced by members of these groups (Barrett & Morgenstern, 1974).

Marxists have studied the historical factors that segment groups in the labor market. Bonacich (1972) defined a "split labor market" as one in which there is a large differential in the price of labor for the same occupation. The differential price of labor is not seen as a response to the race or ethnicity of those entering the market but results from differences in resources and motives that are correlated with ethnicity, such as the attempts of employers to displace higher paid by cheaper labor. Bonacich (1976) attempted to explain the relatively high unemployment and underemployment faced by blacks in contemporary American society on the basis of a split labor market. She argued that while blacks initially had advantages over whites, historical developments led employers to seek cheaper labor elsewhere and left pockets of ghetto blacks with high unemployment rates. To explain the system of racial domination as it operates within the United States today, Baron (1975) argued that a new, mutually reinforcing relationship has developed between racial oppression and the segmentation characteristic of labor markets under advanced capitalism. Burawoy (1976) examined the role of migrant labor in the capitalist economy; he focused on the nature of labor market institutions and their mode of organization rather than on individual actors. He argued that racism is a way of supplying needed labor power and that the powerlessness of migrant groups is a necessary condition for racism. Szymanski (1976) argued that the capitalist system needs an oppressed group of laborers to perform its menial, low-paying tasks and that this could be achieved by either sexism or racism. His analysis suggested that racial and sexual discrimination (measured at the state level) do not vary together but are inversely related.

Several analyses have studied various group differences among aggregated units that are viewed as representing different labor markets.

Hill (1974) examined the relationship between unionization and income differences between blacks and whites, in a sample of large metropolitan areas in the United States in 1960. He found evidence consistent with a neo-Marxist class interpretation: Industrial unionization is inversely related to black-white income inequality in urban labor markets. Others have used occupations as the unit of analysis, in line with the assumption that labor markets are segmented along occupational lines. Stolzenberg (1975a) found no substantial differences in the income returns to education between blacks and whites within detailed occupational categories. Snyder & Hudis (1976) examined the negative relationship between white male occupational income and the presence of minority (female and black male) workers, using longitudinal data on detailed occupations: Competition and segregation are sex- and race-specific processes, respectively. Females appear to compete with white males, but there is no evidence for wage segregation of women; these data show segregation but not competition in the case of black men. Snyder, Hayward & Hudis (1978) examined changes in the gender composition of occupations. They found that primary-sector occupations generally maintain stable, and heavily male, sex composition (due to the structural controls over entry ports that maintain stability); secondary-sector occupations are more likely to experience increases in the proportion of workers of a particular sex. Finally, several studies have examined trends in labor market outcomes for blacks and whites: Farley & Hermalin (1972) found that inequalities in earnings and occupational opportunities between blacks and whites have decreased during the 1960s, particularly among younger workers; Farley (1977) showed that these inequalities have continued to decrease in the 1970s.

A number of studies have examined group differences within specific internal labor markets. The disparate nature of these studies makes it difficult to integrate them to arrive at general conclusions, but they do not unambiguously support arguments for the existence of discrimination.

Butler (1976) analyzed black-white differences in promotion rates in the military; he argued that universalistic criteria are not sufficient to explain racial differences in promotion time. In a critique of Butler, Hauser (1978) argued that the military does not constitute a closed population, with respect either to movement out of the military into the civilian population, or to movement between ranks. His argument suggested that we must consider different opportunities available to group members outside internal labor markets in order to assess differences in processes occurring within them. Cassell, Director & Doctors (1975) examined three types of discrimination within three companies: entry level discrimination, discrimination in the rate of wage increases once hired, and discrimination in the rate of advance up the organizational hierarchy. They found some racial and considerable sex discrimination but admitted this could be due to unmeasured productivity characteristics—a general problem for studies that interpret a residual in terms of such phenomena as "discrimination." Finally, Malkiel & Malkiel (1973) analyzed sex differences in salary for scientific and technical employees of a large corporation. They concluded that the source of discrimination against women was in job assignments rather than in pay differences: Women with the same training and experience as men tended to be assigned to lower job levels but earned as much as men in the same job levels.

SOCIAL CHANGE IN LABOR MARKET STRUCTURES

In contrast to the common assumption among economists that job design is determined by technology, Scoville (1972) argued that technology only defines the broad parameters of the form work will take. A variety of options exist within any technology. High specialization is not always desirable; it may lead to higher supervisory costs, lowered work quality, and decreased worker stability. Scoville's model of the determination of job breadth assumed that employers attempt to optimize the costs associated with job designs of varying types, while workers attempt to maximize their preferences. That neoclassical forces alone do not determine job design is a view supported by Piore (1968), who found that while the procedures used to select productive techniques within the manufacturing plant were consistent with the assumption of cost minimization, the relative scarcities of different types of labor in the external market did not have much influence on job design. Thus, plants "mold men to jobs, not jobs to men."

Recent studies in the Marxist tradition have stressed the importance of the social relations of production in determining job structures. Braverman (1974) noted the "degradation" associated with the detailed division of labor and argued that jobs are structured to maximize the control employers may exert over the workforce. Edwards (1975) claimed that the system of control relations in the firm is central to an explanation of labor market structure and reflects the position of the firm in the larger economy. Stone (1974) argued that the creation of job structures within the steel industry was a response to the needs of employers for greater control over the definition of jobs. Greenbaum (1976) presented a similar argument for the development of the computer field. Marglin's analysis (1974) suggested that the detailed division of labor and the centralized organization of the factory system did not occur mainly for reasons of technical efficiency but because of the needs of capitalists to increase surplus. Gordon (1976) distinguished between quantitative efficiency (the degree to which a production process produces the greatest possible useful physical output for a given physical input) and qualitative efficiency (the degree to which a production process recreates the class relations of a type of production). Capitalist production processes thus seek to maximize both of these, subject to various constraints. (For a consideration of the product market characteristics relevant to these issues, see Scherer 1970).

The relative roles of the control exercised by labor market actors and "technological" features of the production process in determining (and changing) labor market structure constitute an important question for sociological analysis—a question that is difficult to answer abstractly. Chandler (1977) provided numerous examples of the changing processes of production and distribution in the United States and how they have been managed; he suggested the complexity of the relations among groups of workers, groups of employers, and the state. In this vein, Averitt (1968) distinguished "center" from "periphery" firms and provided a basis for differentiating the economy with respect to the relative power of employers. The relationship of these economic sectors to the state was developed more fully by O'Connor (1973), who analyzed the role of the state in perpetuating these differences. In a study of changes in worker power, Kahn (1976) demonstrated how the coastwide longshoreman's union movement transformed longshoring in San Francisco from a secondary to a primary job market.

The organizational literature is relevant here, insofar as it relates the analysis of organizations and their properties to the economic structure. Williamson (1975), an institutional economist, discussed in detail the organization of economic activity within and between markets and hierarchies. Van de Ven, Delbecq & Koenig (1976) examined how the mechanisms for coordinating work activities within organizations vary by task uncertainty, interdependence, and unit size: Each determining factor exerts a different degree and kind of influence on the mix of coordination mechanisms used within organizational units. Tracy & Azumi (1976) examined these questions for a sample of Japanese manufacturing plants, where they found that many links among organizational size, work variability, and structure are quite similar to those in British and American organizations, despite the historical and cultural factors unique to Japanese firms. Finally, Cole (1973) contrasted the Japanese system of permanent employment with the American system of relatively high interfirm mobility as a response to changing business conditions. He argued that these are functional alternatives insofar as the choices made in both nations successfully remove labor constraints on the utilization of technology.

FUTURE DIRECTIONS FOR THE SOCIOLOGY OF LABOR MARKETS

While there is agreement that neoclassical conceptions of competitive labor markets and structures may be empirically inadequate, an alternative general theory has yet to emerge. The conceptions of labor market structures that are likely to be developed in the near future may deal with specific problems and issues associated with the analysis of these markets. The labor market processes discussed in this review appear to be the likely foci of such work in the future. Here we briefly suggest several immediate concerns:

1. A pressing concern is the identification of the many labor markets and associated structures currently existing in the American economy. The markets must be defined on the basis of their essential characteristics; their hypothesized consequences for mobility and wage determination processes should be assessed. In seeking to represent the economy as a whole, one may partition the cells of a matrix defined by Census occupation and industry categories into more aggregated and internally homogeneous "sectors." One difficulty is the fact that current Census codes do not necessarily group occupations and industries on the basis of characteristics relevant to an understanding of labor market structures. Nevertheless, the approach has the advantage of generality, and existing data sets could be used to assess the psychological, social, and economic consequences of labor markets constructed on this basis. This would also facilitate the incorporation of organizational and macroeconomic explanations into theories of labor market structures.

2. A fruitful approach to the development of theories of labor markets may be the study of the actual workings of specific markets between and within particular organizations, occupations, and industries. If such specific studies are to advance our general knowledge, however, they must be based upon an overall conception of the variability among markets and upon at least a theoretical sampling of markets that differ significantly. Researchers should justify the selection of labor markets in particular cities or organizations in terms of their theoretical relevance to the study of labor markets in general.

3. Finally, we must use longitudinal data. The dangers associated with making dynamic inferences from cross-sectional data (e.g. in assuming that the process is in equilibrium) are becoming well known. Differences in the distribution of job rewards should be examined for various and specified structural locations and at numerous specified points in the individuals' careers.

The resurgent interest in the sociology of labor markets in recent years reflects our eagerness to understand the relationship between economy and society. Such basic elements of economic theory as rationality and competition have merged with structural analyses of the locations within a society that are relevant to economic analysis to provide a fruitful point of convergence for theories of social structures. At the same time, the study of labor markets relates theories of competition and social structure to the psychology of the individuals who participate in the labor force. In the next decades the scope of the sociology of labor markets will broaden.

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