Determinants of Internal Labor Markets in Organizations

Jeffrey Pfeffer, Yinon Cohen

Administrative Science Quarterly, Volume 29, Issue 4 (Dec., 1984), 550-572.

Stable URL:
http://links.jstor.org/sici?sici=0001-8392%28198412%2929%3A4%3C550%3ADOILMI%3E2.0.CO%3B2-4

Determinants of Internal Labor Markets in Organizations

Jeffrey Pfeffer and Yinon Cohen

Data from a sample of about 300 large establishments in the San Francisco Bay area were used to study internal labor markets. The extent to which internal labor market arrangements were present was positively related to the provision of training, to being in the industrial core, to having a personnel department, and to being a branch unit. Internal labor market arrangements were negatively related to the percentage of the work force covered by collective bargaining. Once other factors were controlled, there was no effect of change in size on internal labor market practices. A similar pattern of results was observed when manufacturing and nonmanufacturing establishments were analyzed separately, although the effects of size, training, and having a personnel department were stronger in nonmanufacturing organizations. The evidence suggests that organizational variables as well as economic considerations should be incorporated in explanations of the presence of internal labor markets.•

There is a growing connection between the study of organizations and the study of social stratification (Pfeffer, 1977; Stolzenberg, 1978; Baron and Bielby, 1980; Baron, 1984). Baron (1984: 38) has noted:

> Organizations impinge on career outcomes in two important ways. First, the division of labor among jobs and organizations generates a distribution of opportunities and rewards that often antedates, both logically and temporally, the hiring of people to fill those jobs. Second, organizational procedures for matching workers to jobs affect the distribution of rewards and opportunities within and across firms and thus influence the likelihood of career success (Granovetter, 1981).

At the same time, stratification and prospects for mobility affect organizations. Mobility has been argued to be an important determinant of motivation and commitment (e.g., Kanter, 1977). The effect of hierarchy and inequality on alienation in the work place has been debated vigorously (Baron, 1984). Indeed, whether employment relationships are organized on the basis of long-term or short-term employment has been seen as a fundamental defining dimension of organizational types (Ouchi, 1980).

The research has, thus far, focused more on analyzing the organizational effects on an individual's career processes than on exploring the reasons for using different arrangements in organizing the employment relationship. Thus, there has been some attention given to how organizational size (Stolzenberg, 1978), demography (Stewman and Konda, 1983), unionization (Masters, 1969; Beck, 1980), technology (Vardi and Hammer, 1977; Jacobs, 1981), and location in a particular industrial sector (Osterman, 1975; Bibb and Form, 1977; Beck, Horan, and Tolbert, 1978) affect returns to individual characteristics and the structure of opportunity, inequality, and mobility within organizations.

One characteristic of the employment relationship that has had a great deal of theoretical work has been whether or not an organization has an internal labor market (ILM), i.e., "an administrative unit such as a manufacturing plant. . . where pricing, allocation, and training decisions are governed by a set of administrative rules and procedures," and not merely by the economic forces of the external labor market (Doeringer and Piore, 1971: 1–2). Of these three dimensions of ILM, pricing,

0001-8392/84/2904-0550/$1.00.

The work for this paper was supported in part by a National Institute of Mental Health postdoctoral research grant on organizations at Stanford University.

We thank James Baron and Mark Granovetter for helpful comments on an earlier draft of this paper. An earlier version of this paper was presented at the annual meeting of the American Sociological Association, San Antonio, 1984.

training, and the allocation of labor, the latter has received the most attention from students of the employment relationship. Althauser and Kalleberg (1981: 130) specified that

> The concept of an ILM should include any cluster of jobs. . . that have three basic structural features: (a) a job ladder, with (b) entry only at the bottom and (c) movement up this ladder, which is associated with a progressive development of knowledge or skill.

They distinguished firm internal labor markets (FILM), which are confined to a single employer, and occupational internal labor markets, which exist for one or two occupations but are not confined to a single firm. For the purposes of this study, we adopted Althauser and Kalleberg's emphasis on allocation of labor as the primary defining characteristic of the FILM and focused primarily on hiring and promotion. Some other elements of the allocative structure such as job classifications, rules for layoffs and compensation, and features affecting job security and job rights are not treated.

The development of FILM's is central to several theories of the employment relationship. Doeringer and Piore (1971) distinguished primary from secondary jobs, in part, on the basis of whether or not the job was embedded in a firm that had an ILM. Williamson (1975) considered the FILM as a critical component of the governance structure associated with the development of long-term employment relations. Edwards (1979) traced the rise of the FILM to the emergence of a new strategy — bureaucratic control — by which firms elicit compliance from their workers. Central to bureaucratic control is the development of job ladders, which differentiate the work force and provide incentives for compliance with organizational requirements as well as inducements to remain in the organization. The literature on the organization of employment in Japan (Cole, 1979; Clark, 1979) and on the relevance of these practices for the U.S. (Ouchi, 1980) has as a central theme the extent to which employment is long-term within a single firm, so that mobility is intraorganizational rather than interorganizational.

Prevailing theoretical approaches for understanding conditions fostering FILM's have proceeded from the questionable premise that such arrangements solve some organizational problems (Granovetter, 1983). In neoclassical and transaction cost economics, the problem to be solved is the efficient organization of the employment relationship under conditions of idiosyncratic or firm-specific knowledge. According to radical economists, the problem is how to obtain control over a recalcitrant work force. It is also possible, however, that such arrangements emerge from the features of organizations and, in particular, the relative power of various actors and what their interests might be in having an FILM. Consequently, one of the objectives of this paper is to develop such organizational explanations and to examine the extent to which they can help in understanding ILM's.

First the various economic and organizational explanations for ILM's are compared and hypotheses from the various perspectives are derived. These are then examined with data from a sample of 309 organizations, and the implications of the findings are discussed in theories of the employment relationship and organizations.

ECONOMIC EXPLANATIONS OF INTERNAL LABOR MARKETS

Although standard microeconomic analysis ignores the employment relationship (Goldberg, 1980), the early twentieth-century institutional economists recognized the existence of ILM's and commented on their advantages. Thus, Slichter (1919) recommended that job vacancies be filled through internal promotion, because such a practice motivates workers through the hope of promotion, reduces the likelihood that workers will leave for better opportunities elsewhere, and provides promotion opportunities as an aid in recruiting better employees. Slichter (1919: 290) argued:

> By promoting men who have made good on simple operations to more difficult ones and by hiring outsiders for the simple jobs the risk of a misfit is largely eliminated. . . where misfits are costly, and transferred to the simple jobs where they are less costly.

Subsequently, writers adopting a more neoclassical approach were both puzzled and concerned by the appearance and persistence of ILM's, because such arrangements potentially interfered with a sorting or matching process in which workers with particular skills and tastes moved among employers with particular jobs and employment practices until they found a reasonable fit. Arrangements that bound workers to the organization interfered with this matching process as well as with the operation of frictionless labor markets through which workers' attributes were matched with job requirements (Granovetter, 1983). Most recently, considerations of information and contracting have been introduced by the "new institutionalists" (Alchian and Demsetz, 1972; Williamson, 1975) to explain organizational arrangements such as internal labor markets. There are also discussions of ILM's by radical economists (Edwards, 1979; Gordon, Edwards, and Reich, 1982).

It is important to recognize, however, that common to all economic explanations of ILM's is the view that this arrangement is an optimal or at least adaptive solution to some economic problem. Moreover, everyone agrees on the specific form of the solution — cooperative relations between employers and employees extending over time. The disagreement arises over the problem that is being solved. Neoclassical and institutionalist economists believe that this is the problem of the efficient organization of work, while the radicals argue that it is the problem of capitalist control over workers. Granovetter (1983) has criticized both lines of argument, maintaining that stating that a given practice may serve some function is not the same as demonstrating that the need was the basis for the origin of the practice.

Human Capital and Transaction Cost Approaches

Goldberg (1980: 249) noted that idiosyncratic skills are central to all nonradical economic theories of ILM's. Although there are differences between the human capital approach of Becker (1962), the institutional approach of Doeringer and Piore (1971), and the transaction cost approach of Williamson (1975), these differences concern the mechanisms by which ILM's arise rather than the conditions under which they are likely to be found. Becker (1962) made a distinction between specific and general training and argued that employees with firm-specific training were valuable to the organization. He argued

that turnover of such employees was costly, because a new employee would have to receive comparable training before he or she could perform at the same level. Therefore, the firm has an incentive to try to retain workers with firm-specific skills. Researchers using the transaction cost approach accept this reasoning. Williamson (1981: 563) stated that "skills acquired in a learning-by-doing fashion and imperfectly transferable across employers need to be embedded in a protective governance structure, lest productive values be sacrificed if the employment relation is unwittingly severed."

In principle, of course, one could employ either wage premiums or long-term employment contracts to retain workers with specific skills. Neoclassical economists, such as Becker (1962), argued that long-term contracts are rare because such contracts are viewed as involuntary servitude by the legal system. Those using the transaction cost approach emphasize, however, that long-term contracts are not used because "the costs of writing, negotiating, and enforcing such contracts are prohibitive" (Williamson, Wachter, and Harris, 1975: 254). Williamson (1975: 60) noted that idiosyncratic skills give rise to exchange relations among small numbers of actors, with attendant contracting problems, which is, in turn, "the leading reason why internal labor markets supplant spot contracting."

The neoclassical explanation, together with transaction cost reasoning, makes clear that specific training raises the value of the worker to the employer but not the wage that the workers could command in the external labor market. If the employment relationship is severed, organizations are faced with increased training costs, and workers are left with skills not as readily usable in other organizations. In order to minimize production and transaction costs, employers and employees make efforts to design exchange relations that have good continuity properties. As Wachter and Williamson (1978: 556) pointed out:

> Where workers acquire imperfectly transferable skills, the firm and the worker have an interest in devising a governance structure to assure a continuing, cooperative relation between them. Such a relation is much less important (indeed, is unimportant) where fungible skills are involved. While there is a positive correlation between the degree of job skill and the degree of idiosyncracy involved in an assignment, the correlation is not perfect.

Thus, from both neoclassical and transaction cost approaches, the following hypothesis is derived:

Hypothesis 1: ILM's are likely to be found in organizations to the extent that firm-specific skills, knowledge, or training is required.

Williamson (1981: 556) and Ouchi (1980) subsequently argued that the two critical determinants of the organization of the employment relation were the specificity of the human assets and the ease or difficulty of monitoring performance. Ouchi (1980) argued that in cases of interdependent tasks and technological complexity, there is a failure of bureaucratic control mechanisms, so that clan-like practices would emerge for efficiency reasons. For purposes of this analysis, this distinction is not as important, because both bureaucratic and clan control depend on ILM's.

Doeringer (1967) and Doeringer and Piore (1971) also built on Becker's analysis. They accepted the importance of specific

skills and training as one of three forces generating ILM arrangements, the other two being on-the-job training and "custom." Doeringer and Piore (1971: 16–17) argued that idiosyncratic technologies are likely to give rise to specific skills and that technologies tend to become more idiosyncratic over time, because pressures to minimize costs result in modification of equipment and operating procedures on an ongoing basis. If technological change does increase technological specificity, which, in turn, increases skill specificity and the need for an ILM, then the following hypothesis should hold:

Hypothesis 2: ILM's are likely to be found in organizations that experience higher levels of technological change.

The institutionalists, such as Doeringer and Piore, however, view an ILM not only as a governance structure that protects or preserves specific skills, but also as a structure that facilitates the necessary training for specific skills. Their argument is that most skills are acquired in on-the-job training conducted informally by fellow workers. Workers whose positions are protected from competition with newer recruits or from outside persons should be more willing to provide this training to their newer coworkers (Doeringer and Piore, 1971; Thurow, 1975: 81–85). The implication of this position is that organizations relying heavily on on-the-job training should be more likely to have ILM's than organizations that don't rely on it. However, on-the-job training and skill specificity are very highly correlated, and the effect occurs in both directions (Doeringer and Piore, 1971: 22). Thus, this argument is empirically indistinguishable from that leading to the first hypothesis.

The Radical Critique

Radical economists (Braverman, 1974; Edwards, 1979; Gordon, Edwards, and Reich, 1982) do not disagree that firm-specific skills are associated with ILM's, but they differ in their interpretation. These theorists see ILM's and, to a lesser extent, idiosyncratic jobs as components of a strategy used by employers to obtain worker compliance. All employers have the problem of ensuring that the labor power they hire (workers) will actually engage in work as desired. Labeling the strategy by which employers "obtain desired work behavior from workers" (Edwards, 1979: 17) as control, Edwards has argued that control has evolved over time from simple, hierarchical control to technological control and, finally, to bureaucratic control. Edwards (1979: 21) defined bureaucratic control as follows:

> The defining feature of bureaucratic control is the institutionalization of hierarchical power. "Rule of the law" — the firm's law — replaced "rule by supervisor command" in the direction of work, the procedures for evaluating workers' performance, and the exercise of the firm's sanctions and rewards. . . . Work becomes highly stratified; each job is given its distinct title and description; and impersonal rules govern promotion. "Stick with the corporation," the worker is told, "and you can ascend up the ladder." The company promises the worker a *career*.

Edwards and others see ILM's as part of a strategy of control that emerged "out of the core firm's attempts to turn the tide of conflict on the shop and office floor decisively in its favor" (Edwards, 1979: 180). Thus, the explanation for the existence of ILM's becomes the explanation for the particular form of

control employed. For Edwards (1979) and other radical economists (Gordon, Edwards, and Reich, 1982), the main determinant of the form of control employed is the organization's location in the dual economy, particularly whether it is in the industrial core or at the periphery (Averitt, 1968; Bluestone, Murphy, and Stevenson, 1973). Thus, Edwards (1975: 5) maintained:

> The position of a firm in the monopoly capitalist system (i.e., whether the firm is small and competitive or large and monopolistic) largely determines the nature of control within the firm, since with few exceptions, only large and monopolistic firms have the stability and resources to institute bureaucratic control.

The radical explanation of ILM's centers around control and the conditions favoring different control strategies. Although the connection between economic sector and labor market practices has been questioned (Althauser and Kalleberg, 1981), most writers in this tradition see an association between economic sector and the employment relationship. Thus, the radicals argue that the nature of the worker's relation to the organization emerges from the structure of the dual economy; therefore, one can derive the following hypothesis:

Hypothesis 3: ILM's are more likely to be found in firms in the core sector of the economy than at the periphery.

ORGANIZATIONAL PERSPECTIVES

The organization of the employment relationship has been much less a focus of attention in organizational sociology; nevertheless, some theoretical perspectives can be used to derive predictions about the conditions under which ILM's are likely to be found.

One approach to understanding ILM's is to view them as institutionalized employment practices. "Institutionalization refers to the process through which components of formal structure become widely accepted, as both appropriate and necessary, and serve to legitimate organizations" (Tolbert and Zucker, 1983: 25). Institutionalized practices or structures come to be taken for granted and seen as appropriate, normatively sanctioned, reasonable, and rational, and hence as legitimate. Organizations that adopt such practices or structures thereby "increase their legitimacy and survival prospects, independent of the immediate efficacy of the acquired practices and procedures" (Meyer and Rowan, 1977: 340–341). Tolbert and Zucker (1983), in their study of the diffusion of civil service reform, maintained that, initially, practices such as the adoption of civil service personnel procedures could be predicted by some characteristics of the cities that indexed either their need for or receptivity to civil service. Once a practice becomes institutionalized, however, prediction of adoption versus nonadoption depends much less on efficiency criteria than on the unit's position in the interorganizational information network, its need for legitimacy, and the normative sanctions it would confront if it failed to conform to generalized expectations. Institutionalization may lead to the adoption of practices that are, therefore, quite uncorrelated with efficiency.

Meyer and Rowan (1977) illustrated their arguments about institutionalized practices with reference to the development of personnel services:

The discipline of psychology creates a rationalized theory of personnel selection and certifies personnel professionals. Personnel departments and functionaries appear in all sorts of extant organizations, and new specialized personnel agencies also appear.

Employers, applicants, managers, trustees and governmental agencies are predisposed to trust the hiring practices of organizations that follow legitimate procedures — such as equal employment opportunity programs or personality testing — and they are more willing to participate in or to fund such organizations. (Meyer and Rowan, 1977: 344, 349)

Although Meyer and Rowan considered hiring rather than promotion practices, their reasoning can be extended to other aspects of the employment relationship, such as having an ILM. It is reasonable to argue that ILM's have already achieved the status of an institutionalized practice or, as Doeringer and Piore (1971) called it, "custom." Many visible, large, and successful companies were early adopters of ILM's, and this may have influenced other, less prominent firms to adopt this practice.

If ILM's are an institutionalized practice, then we would expect them to be found in those contexts in which institutionalization is particularly likely to be prevalent. Since the adoption of a socially legitimated structure such as an ILM helps to assure the organization's legitimacy in its environment, it should be found more often in organizations that seek or need social legitimation. Meyer and Rowan (1977: 354) and DiMaggio and Powell (1983: 156) maintained that the more difficult it is to appraise an organization's product, the more difficult it is to gain legitimacy through task-related activity, and thus, the more likely it is that the organization will adopt institutionalized practices to obtain legitimacy. Since services provided by governmental bureaucracies are said to be more difficult to evaluate than those provided by many other types of organizations (Meyer and Rowan, 1977), institutionalization theory would lead to the prediction:

Hypothesis 4: ILM's are more likely to be found in governmental organizations than in other types of organizations.

Indeed, the very concept of civil service that Tolbert and Zucker (1983) analyzed as an example of institutionalization carries with it the features of graded positions and movement through such positions based on criteria such as seniority or performance (Maniha, 1975).

A personnel department is an organizational arrangement that is hypothesized to be positively associated with having an FILM. First, the department may signal that the organization places some emphasis on legitimate, normatively valued human resource management activities. Thus, such departments might be expected to be accompanied by ILM arrangements, since such an institutionalized practice would at least covary with the existence of an institutionalized personnel function. Second, personnel departments and ILM's are, to some extent, functionally interrelated, because such departments are useful, if not necessary, in managing career ladders. Third, one might expect that a personnel department would ensure that other, normatively sanctioned, institutionalized practices are implemented in the organization. Thus, such a department provides an internal constituency that would be interested in having an ILM as a professionally sanctioned practice, because

it would expand the scope of the personnel department's involvement in the organization. Therefore, the following hypothesis can be proposed:

Hypothesis 5: The presence of a personnel department in an organization should increase the likelihood of finding an ILM, all other factors being equal.

Another organizational constituency affecting ILM's is the presence and strength of a union. Writers in the dual labor market and dual economy tradition have repeatedly associated unionization with primary employment in the core sector of the economy (Bluestone, Murphy, and Stevenson, 1973; Beck, Horan, and Tolbert, 1978; Gordon, Edwards, and Reich, 1982). Since one of the features of firms in the core is presumably primary employment practices, including having ILM's and other aspects of technical and bureaucratic control, this literature suggests a positive association between unionization and ILM's. Edwards (1979: 180) has made this argument explicitly:

> In effect, the agreement that was worked out between unions and core firms amounted to the establishment of an internal labor market. . . . Unions, as at U.S. Steel, for example, won for their members the rights to fill vacancies based on seniority and to have outside hiring done only at the lower paying, entry jobs.

Therefore, a relation between the two can be predicted, as follows:

Hypothesis 6: ILM's will be positively related to the extent of unionization of the workers of an organization.

Scarcity of labor can also affect the development of an ILM, because organizations are likely to take action to manage critical resources when they are difficult to obtain (Pfeffer and Salancik, 1978). For an organization having problems securing an adequate supply of labor, one way of responding, predicted by standard microeconomic analysis, is to raise the wage rate to attract the necessary employees. However, the organization may also act to increase its control over its labor force. In particular, introducing an ILM can induce workers to stay in the organization and can confine training to those skills that are more idiosyncratic to the firm, thus further providing a way of binding workers to the organization.

Both human capital and transaction cost economists maintain that idiosyncratic skills bring about ILM's, while Goldberg (1980) has argued that an ILM tends to foster the development of idiosyncratic or firm-specific skills. The argument developed here is that both the ILM and the type of training may arise in response to some third factor, in this case, labor shortage; consequently, it is hypothesized that:

Hypothesis 7: ILM's will be more likely to be found in organizations facing greater labor scarcity.

Two other organizational factors that are likely to affect the development of ILM's are its size (and whether the size is increasing or decreasing) and whether the facility is a branch or single-site location.

Since size is positively correlated with characteristics that are thought to bring about ILM's (e.g., training, having a personnel department), it is not surprising that ILM's are likely to be found in larger organizations. Indeed, Granovetter (1984) has argued that examining the size distribution of organizations and

establishments is important because ILM's are likely to be found only in larger organizations. It is unclear, however, whether it is size, in itself, or its correlates that bring about ILM's. There are, however, several reasons to expect that among establishments that are similar in all else,

Hypothesis 8: ILM's are more likely to be found in larger establishments than in smaller ones.

First, there are more promotion opportunities in larger establishments since both the number of vacancies and the number of hierarchical levels are greater (White, 1970). At the limit, one cannot be promoted in a place with one employee. From an employer's point of view, having a larger labor pool increases the chances that well-qualified persons will be found within the establishment to fill vacancies. Indeed, the larger the establishment, the less chance there is that qualified people will be found outside. At the limit, if one organization employs the entire labor force, all mobility is necessarily intrafirm (Granovetter, 1984).

Hypothesis 8 is also consistent with the argument of Edwards and others about the emergence of bureaucratic control. Only larger organizations need to introduce technical and bureaucratic control, of which an ILM is an integral part, because it is only in larger organizations that the owner or manager does not know individual employees well enough personally that he or she has to use impersonal mechanisms of control (Edwards, 1979).

Finally, this hypothesis is also consistent with institutionalization theory. Large organizations, more visible and more subject to public scrutiny, should be more likely to adopt legitimated practices. Pfeffer (1972: 223), examining the size and composition of corporate boards, argued that "large organizations have a greater impact on society and the economy. . . and there is. . . a greater need to have more members who can relate and legitimate the organization to its external environment." Salancik (1979), examining corporate responses to affirmative action pressure, argued that such pressure would fall more heavily on large, visible corporations in the consumer products business.

Growth, because it increases promotion opportunities (Rosenbaum, 1979; Bielby and Baron, 1983; Stewman and Konda, 1983), also makes an ILM more likely. Goldberg (1980: 266–267) argued that employers experiencing or expecting high growth have an incentive to institutionalize ILM's as a form of deferred compensation, since, "because of the reliance on deferred payments, current compensation for new workers is 'too low' and for old workers 'too high.' With rapid growth, the addition of new workers keeps overall costs down."

Goldberg went on to note that organizations had underestimated the problem of operating ILM's under conditions of low or declining growth. If Goldberg is correct, then, one can hypothesize as follows:

Hypothesis 9: ILM's should be more prevalent in establishments that are growing and less prevalent in those that are declining in size.

Finally, the type of establishment may affect an ILM. Some establishments are branch sites, while others are single sites or headquarters. Even with establishment size controlled,

being a branch may make promotional opportunities more available. Multiple production sites may mean that it is more critical to establish worker loyalty to the organization, so that workers can be moved as production shifts or as vacancies arise in different sites. Being one of several sites may also be a proxy for total firm size, which is likely to affect having ILM arrangements for the same reasons as specified for organization size; therefore, the following hypothesis can be formulated:

Hypothesis 10: ILM's are more likely to be found in a branch establishment.

DATA AND MEASURES

The hypotheses were examined with data on 309 establishments collected by Gordon and Thal-Larsen (1969) in the San Francisco Bay Area in 1966–1968. These 309 establishments were a random sample of approximately one-fifth of the area establishments with over 100 employees. Manufacturing establishments were somewhat overrepresented in the sample, while trade and service establishments were somewhat underrepresented. Issues of sampling and representativeness were addressed in Gordon and Thal-Larsen (1969), which also gives descriptive statistics. The data were collected by interviewing officials in each establishment about its policies and practices with respect to recruitment, promotion, hiring, wages, turnover, and other related topics. It is important to remember that the unit of analysis is the establishment, not the organization as a whole.

Internal Labor Markets

The essential features of the dependent variable, the allocative dimension of the ILM, are promotion from within and only a limited number of ports of entry into the organization. Although the literature for the most part has considered the ILM as a dichotomous variable (either the organization had one or it did not), several questions from the interview form were used to develop a scale measuring the degree to which the establishment had an ILM. An establishment scored a 1 on the following items if it: (1) followed an established promotion-from-within policy, (2) had promoted most employees with at least five years of service at least once, (3) filled all or almost all jobs from within, (4) offered entry-level jobs with at least some promotion potential and requiring no prior work experience and no more than high school graduation, (5) offered entry-level jobs with some promotion potential and requiring no prior work experience except such educational qualifications as graduation from junior college or a college degree, (6) frequently promoted unskilled laborers to semiskilled jobs (in manufacturing establishments only), and (7) frequently promoted semiskilled laborers to skilled jobs (for manufacturing establishments only). The ILM score of the establishment was the number of items on which it scored 1 divided by the number of items on which it had nonmissing values. Establishments having missing values on more than three items were excluded from the analysis. Cronbach's alpha for this variable was .67.

Skill Specificity

There was no direct information on the extent to which the establishment employed workers who developed firm-specific

or idiosyncratic skills; however, there was information on the training provided. One can therefore reasonably argue that the provision of various types of training indexes, as well as helps to create, various degrees of skill specificity (Doeringer and Piore, 1971). Three variables were included to assess the extent of firm-specific skills in the establishment: (1) whether or not it offered vestibule training (a dummy variable referring to training given before the worker assumed the full duties of the position), (2) the degree to which it offered formal employer-supported on-the-job training, and (3) the degree to which it offered or required any training outside the establishment (out-service training). Because it is likely that on-the-job training and, to a lesser extent, vestibule training produce more firm-specific human capital than out-service training, the effects of these two variables should be larger. Out-service and on-the-job training variables have a range of 0–3, where 0 means that no training is provided.

Technological Change

The index of technological change was an additive scale comprising seven dichotomous items. An establishment scored a 1 on the following items if, during 1960–1966, it (1) built a new plant, (2) remodeled an old plant, (3) installed new equipment, (4) modernized equipment, (5) significantly changed internal operating procedures, (6) eliminated inefficient working arrangements (i.e., work rules and loose production standards), or (7) changed materials used in the production process. Although items 5, 6, and 7 do not exactly index technological change in the strict sense of the term, they do refer to changes in work arrangements, which Doeringer and Piore (1971) hypothesized as likely to make the technology and hence the workers' skills more idiosyncratic. The technology score of an establishment was the number of items on which it scored 1 divided by the number of items for which it had nonmissing values. Establishments having missing values on any of the seven questions were excluded from the analysis. Cronbach's alpha for this index was .72.

Other Independent Variables

The other independent variables were coded in a straightforward fashion. Size of establishment was measured by the natural logarithm of the number of employees in 1967. Industrial sector was coded as 1 if the establishment operated in one of the industries classified as "core" by Tolbert, Horan, and Beck (1980). Thus, a 1 means the establishment operated in the core, a 0 means it was at the periphery. Growth and decline were also coded as dummy variables. Growth was coded as 1 if the establishment reported a significant increase in the number of employees since 1960, and decline was coded 1 if the firm reported a significant decrease. Dummy variables were also included to indicate whether or not the establishment reported having a personnel department and if the establishment was part of the government.

Unionization was measured by the percentage of employees covered by a collective bargaining agreement. The indicator of whether or not the organization faced a shortage of labor was the question, "Have you ever found it difficult to recruit within

a reasonable length of time the number of workers you wanted to hire?" Organizations answering "yes" scored 1 for having recruitment difficulties. The type of establishment was also coded using a dummy variable; "branch" was coded as 1 if the establishment was part of a larger organization (but not a headquarters unit).

Manufacturing and Nonmanufacturing

The analyses were repeated separately for the 109 manufacturing establishments and 173 nonmanufacturing establishments in the sample that had complete data. First, the concept of the FILM was developed initially to explain the employment relationship in manufacturing, and most writers have focused the discussion of FILM on manufacturing and used examples drawn largely from it (Doeringer, 1967; Doeringer and Piore, 1971; Williamson, 1975; Edwards, 1979; Granovetter, 1983, 1984). Thus, it is important to assess the extent to which the concept and the pattern of results observed in this study generalize to nonmanufacturing establishments as well.

Second, the random sample of Bay Area establishments used includes many types of organizations and many occupations within the establishments. One might wonder how much internal differentiation there is in the establishments and whether the results would hold across establishments of different types and across different groups within establishments. The issue of differentiation and the extent to which the FILM is a property of an establishment or of sub-labor markets within establishments cannot be addressed directly with these data. However, it is reasonable to argue that manufacturing establishments are less internally differentiated than nonmanufacturing ones, so that reestimating the models on just the manufacturing establishments should make it possible to address partly the issue of internal differentiation.

Third, manufacturing organizations are more likely to use elements of technical control (Edwards, 1979) or control accomplished through technology and layout of the work process. Because an ILM is a component of a bureaucratic control strategy, it is theoretically important to see what is associated with ILM arrangements in contexts in which technical control is also likely to be prevalent.

RESULTS AND DISCUSSION

Table 1 presents the means and standard deviations for the variables used in the study. The means of dummy variables represent, of course, the proportion of cases having a particular characteristic. The empirical values of many of the characteristics of the 282 organizations for which complete data were available derive from the fact that only establishments of over 100 employees were sampled. Thus, the sample overrepresents large manufacturing establishments operating in the core sector of the economy. However, the primary aim was not to provide population estimates for ILM and other characteristics but rather to test for the relationship between the presence of ILM's and those independent variables theorized to be associated with these employment relationship practices. Generalizations to smaller establishments, however, would not be warranted.

Table 1

Means and Standard Deviations of Variables

Variable	Entire sample ($N = 282$)	Manufacturing ($N = 109$)	Nonmanufacturing ($N = 173$)
ILM	.636 (.263)	.688 (.256)	.603 (.263)
Government	.096 (.295)	.000 (.000)	.156 (.364)
Core sector	.695 (.461)	.936 (.246)	.543 (.500)
Branch	.309 (.463)	.560 (.499)	.150 (.358)
Ln size	6.011 (1.004)	5.919 (.955)	6.069 (1.033)
Growth	.493 (.501)	.404 (.493)	.549 (.499)
Decline	.110 (.313)	.174 (.381)	.069 (.255)
Out-service training	1.440 (1.373)	1.349 (1.308)	1.497 (1.413)
Vestibule training	.195 (.397)	.147 (.356)	.225 (.419)
On-the-job training	.844 (1.066)	.606 (.923)	.994 (1.123)
Technological change	.380 (.269)	.447 (.271)	.338 (.259)
Unionization	51.294 (35.028)	62.385 (25.382)	44.306 (38.379)
Personnel department	.645 (.479)	.697 (.462)	.613 (.489)
Recruiting difficulties	.635 (.482)	.670 (.472)	.613 (.489)

Tables 2 and 3 present zero-order correlations among the variables. Table 4 presents results of four ordinary-least-squares regressions with ILM as the dependent variable. The first equation includes variables related to the establishment's industrial classification, its size, change in size, and whether or not it is a branch unit. These variables of sector, size, and type are presumed to be causally prior to variables associated with training, skill specificity, and technological change, which are included in the second equation. The third equation includes the percentage of employees covered by collective bargaining, and the fourth equation includes the presence of a personnel department and recruitment difficulties. Gordon and Thal-Larsen (1969) argued that personnel departments were an outcome of the establishment's size, sectoral location, unionization, and technology. Unionization is also probably causally subsequent to size, technology, and sectoral type. These equations enable one both to see the increment in explained variance from adding certain categories of variables and, more importantly, to assess the degree to which the effects of causally prior variables (such as size and industry) are direct or are mediated through such variables as the presence of a personnel department and unionization. Although this causal

order is not the only plausible one, the particular order is not ultimately critical since the effects of all the variables are displayed in the fourth equation, which is the one used to evaluate the hypotheses.

Table 2

Zero-order Correlations among Variables for all Establishments ($N = 282$)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. ILM													
2. Government	0.116												
3. Core	0.268	–0.046											
4. Ln size	0.343	0.162	0.071										
5. Growth	0.103	0.017	0.021	0.219									
6. Decline	0.010	–0.114	0.036	–0.066	–0.346								
7. Branch	0.280	–0.061	0.292	0.040	–0.136	0.109							
8. On-the-job training	0.311	0.240	0.091	0.376	0.058	–0.034	–0.010						
9. Technological change	0.238	0.104	0.081	0.269	0.175	–0.009	0.060	0.153					
10. Out-service training	0.272	0.151	0.173	0.242	0.025	0.011	0.015	0.324	0.163				
11. Vestibule training	0.185	0.114	–0.004	0.396	0.088	–0.030	–0.038	0.333	0.237	0.195			
12. Unionization	–0.279	–0.402	–0.028	–0.165	–0.130	0.120	0.108	–0.309	–0.041	–0.223	–0.179		
13. Personnel department	0.426	0.140	0.137	0.466	0.019	0.071	0.238	0.275	0.146	0.238	0.215	–0.286	
14. Recruitment difficulties	0.224	0.097	0.281	0.204	0.026	–0.039	0.108	0.200	0.149	0.265	0.169	–0.096	0.161

Table 3

Zero-order Correlations among Variables for Manufacturing (above diagonal) and Nonmanufacturing Establishments (below diagonal)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. ILM			0.071	0.237	0.145	0.022	0.316	0.174	0.137	0.122	0.207	–0.299	0.301	0.190
2. Government	0.208													
3. Core	0.284	0.074		0.091	–0.013	0.120	0.220	0.132	–0.081	0.070	0.003	–0.138	0.153	0.134
4. Ln size	0.429	0.184	0.123		0.162	0.032	0.042	0.184	0.256	0.185	0.226	–0.243	0.402	0.074
5. Growth	0.118	–0.026	0.126	0.239		–0.378	–0.212	0.028	0.162	–0.019	–0.024	–0.270	0.068	0.061
6. Decline	–0.051	–0.117	–0.115	–0.133	–0.301		0.164	0.066	0.122	0.081	0.014	0.062	0.145	0.014
7. Branch	0.180	0.087	0.126	0.113	0.023	–0.115		0.021	–0.116	–0.004	0.107	0.054	0.300	0.045
8. On-the-job training	0.438	0.244	0.202	0.459	0.037	–0.060	0.118		0.283	0.238	0.291	–0.236	0.173	0.250
9. Technological change	0.262	0.213	0.024	0.311	0.240	–0.206	0.049	0.149		0.198	0.205	–0.133	0.087	0.172
10. Out-service training	0.377	0.176	0.266	0.268	0.039	–0.032	0.081	0.361	0.165		0.247	–0.036	0.054	0.233
11. Vestibule training	0.202	0.111	0.050	0.474	0.127	–0.038	–0.072	0.336	0.297	0.163		–0.142	0.160	0.236
12. Unionization	–0.354	–0.406	–0.155	–0.119	–0.030	0.106	–0.032	–0.293	–0.083	–0.290	–0.169		–0.207	–0.134
13. Personnel	0.488	0.211	0.105	0.516	0.090	–0.016	0.168	0.356	0.160	0.348	0.259	–0.369		0.047
14. Recruitment difficulties	0.235	0.146	0.343	0.285	0.019	–0.110	0.135	0.197	0.121	0.289	0.145	–0.109	0.221	

As predicted in hypotheses 1 and 2, skill specificity affects the degree of ILM arrangements. Technological change and on-the-job training are statistically significant in each of the models in which they are included. The provision of out-service training, which is likely to be associated with more general skills, is significant in the third equation but is reduced and

Table 4

Regression Models for the Determinants of Internal Labor Market Arrangements ($N = 282$, standard errors in parentheses)

Variable	Equations (1)	(2)	(3)	(4)
Branch establishments	.130•••	.134•••	.143•••	.117•••
	(.032)	(.031)	(.030)	(.031)
Ln size	.076•••	.048•••	.049•••	.027
	(.014)	(.016)	(.016)	(.017)
Growth	.041	.037	.026	.031
	(.031)	(.030)	(.029)	(.029)
Decline	.030	.022	.028	.016
	(.048)	(.046)	(.045)	(.045)
Government	.084	.037	−.029	−.028
	(.048)	(.048)	(.050)	(.049)
Core sector	.104•••	.081••	.076••	.069••
	(.032)	(.031)	(.031)	(.031)
Out-service training		.023••	.019•	.015
		(.010)	(.010)	(.011)
Vestibule training		.007	−.003	−.005
		(.038)	(.038)	(.037)
On-the-job training		.040•••	.030••	.028••
		(.015)	(.015)	(.014)
Technological change		.098•	.112••	.109••
		(.054)	(.053)	(.052)
Unionization*			−.164•••	−.130•••
			(.043)	(.044)
Personnel department				.106•••
				(.033)
Recruitment difficulties				.023
				(.029)
R^2 (adjusted)	.21	.26	.30	.32
F–ratio	13.8•••	10.9•••	11.7•••	11.1•••

•$p < .10$; ••$p < .05$; •••$p < .01$.
*Coefficient was multiplied by 100.

becomes insignificant in the final equation. The coefficient for vestibule training, which is also likely to produce firm-specific skills, though perhaps not as much as on-the-job training (Doeringer and Piore, 1971: 20), is not statistically significant in any of the models.

Although these results are consistent with arguments that skill specificity tends to produce ILM arrangements, the data do not enable us to resolve completely some alternative interpretations. Because the data is cross sectional, it is not possible to reject the argument that the presence of ILM practices, binding workers to the organization, increases the tendency of establishments to offer more training, particularly training that is more specifically relevant. However, it is likely that ILM arrangements serve both to facilitate training and to protect specific skills.

Hypothesis 3, which argues that ILM's are affected by the economic sector, is also supported. The coefficient for being in the core is statistically significant in all models. Even when size, unionization, having a personnel department, and training are controlled, sector affects the dependent variable.

Being a government organization is not associated with ILM's in any of the models. As expected from institutionalization theory and other perspectives, however, the presence of a personnel department is positively related to having ILM arrangements. Also, there is a positive effect of size, but the coefficient is reduced when measures of training, technology, and unionization are introduced, and size is no longer significant once the presence of a personnel department is added to the equation in the fourth model. These results suggest that large organizations are more likely to follow ILM arrangements because they are more likely to provide training and to have a personnel department rather than because of the effects of size. However, since very small organizations were excluded from the sample, the variation in size in the sample is not very great (Table 1); therefore, the direct effects of size on ILM's warrant further investigation.

There is no effect of change in size on ILM's, contrary to the argument advanced by Goldberg (1980) and the empirical results reported by Bielby and Baron (1983). Of course, Goldberg (1980) argued that declining size would make coping with ILM consequences more difficult. This is not to say that an organization with an ILM would necessarily easily abandon it with declining size.

As expected, branch establishments were more likely to have ILM arrangements, when all other variables were included. Indeed, whether an organization is a branch unit is a very important determinant of ILM.

There was no support for the hypothesis that recruitment difficulties would affect ILM's. And, perhaps the most interesting result is the significant negative effect of unionization on ILM, which is in a direction opposite to that hypothesized.

Although most of the literature seems to suggest a positive association between unionization and ILM's, a closer examination of the discussions reveals that the relationship is complicated and not always argued to be positive. Both Edwards (1979) and Gordon, Edwards, and Reich (1982) have argued that bureaucratically controlled organizations instituted ILM arrangements in order to fractionate the work force and reduce both its ability to unionize and its interest in unionizing. Thus, ILM's are said to be both the result of unionization and a way to avoid unionization. This apparent inconsistency was to some extent addressed by Edwards (1979: 183), who maintained that there were differences between ILM's in unionized and nonunionized organizations. It is possible, then, that the ILM measure used here, by emphasizing policies of promotion from within and neglecting seniority rules and wage structure, corresponds to what Edwards (1979: 183) called the "employer model" (rather than the compromise version) of the internal labor market. Since Edwards never specified the differences in the two types, the correspondence cannot be examined.

The interpretation of the ILM as a means to forestall unionization is consistent with recent literature indicating that employers have taken a more aggressive attitude toward unions and have used human resource policies as part of their renewed effort to avoid union control over the workers. Commenting on changes in industrial relations practices, Strauss

(1984: 1) noted "increasing management determination to operate with minimal union interference." Strauss maintained that employers have begun to take the initiative in industrial relations rather than merely reacting and that one domain in which they have taken the initiative is the introduction of human resource policies for dealing with their employees. Similarly, Kochan, McKersie, and Cappelli (1984: 19) pointed out that management is more aggressive in resisting unionization and that "management has been taking the initiative in bargaining demands *and* in introducing innovations in personnel practices in nonunion employment." Among the new initiatives taken are new forms of benefits, new work organizations, and a stronger commitment to employment continuity. Certainly, employment continuity is consistent with ILM arrangements, and promotion and mobility can be argued to be an important additional incentive offered to workers. Moreover, ILM arrangements are consistent with the increased emphasis on human resource management that both Strauss (1984) and Kochan, McKersie, and Cappelli (1984) have noted as emerging from the renewed activity to contain union influence.

Other empirical analyses have failed to find any positive effect of unionization on one aspect of ILM's, promotion from within. Bielby and Baron (1983) examined whether industrial or craft union membership enhanced men's and women's promotion with the current employer in the previous five years of employment. Their results suggested that men and women in industrial unions, and men in craft unions, were *less* likely to be promoted than nonmembers, although the effects for industrial unions were not statistically significant (Bielby and Baron, 1983: 100). In the data here, the negative effect of unionization on ILM's remains unchanged when craft and industrial unions are considered separately. Moreover, the correlation between unionization and each of the items included in the ILM scale are all negative (data not shown).

The results of the manufacturing and nonmanufacturing establishments analyses are presented in Tables 5 and 6. The results, particularly for manufacturing establishments, help to refine the analysis of the determinants of the organization of the employment relationship. First, it is scarcely surprising that the industrial sector (core) is no longer significant in the manufacturing subsample, since 94 percent of the establishments in manufacturing are in the core sector, and there is, therefore, essentially no variation in sector. What is surprising is that in the manufacturing subsample, none of the variables assessing training or skill specificity is statistically significant. Indeed, the only two factors affecting the extent of an FILM are whether or not the establishment is a branch and the extent of unionization. In contrast, the nonmanufacturing results are consistent with the overall pattern of results, with significant effects of unionization, on-the-job training, technological change, the presence of a personnel department, and size, though in this case there is no effect of being a branch.

That training and skill specificity affect ILM's in nonmanufacturing establishments but are not significantly related in manufacturing is opposite to what most theorists would expect. Inspection of Table 1 indicates that manufacturing establishments are *less* likely to provide formal on-the-job training ($p < .01$) and less likely to provide vestibule training ($p < .10$). These

Table 5

Regression Models for the Determinants of Internal Labor Market for Manufacturing Organizations (*N* = 109)

Variable	Equations (1)	(2)	(3)	(4)
Branch establishments	.197•••	.179•••	.185•••	.166•••
	(.048)	(.049)	(.048)	(.049)
Ln size	.051••	.035	.026	.015
	(.024)	(.025)	(.025)	(.027)
Growth	.105••	.102•	.074	.077
	(.052)	(.053)	(.052)	(.052)
Decline	.025	.014	.013	.008
	(.065)	(.067)	(.065)	(.065)
Core	–.027	–.030	–.059	–.074
	(.096)	(.097)	(.096)	(.096)
Out-service training		.009	.012	.010
		(.019)	(.018)	(.018)
Vestibule training		.069	.056	.043
		(.070)	(.069)	(.069)
On-the-job training		.023	.012	.006
		(.027)	(.027)	(.027)
Technological change		.051	.050	.041
		(.094)	(.092)	(.092)
Unionization*			–.237••	–.213••
			(.096)	(.097)
Personnel				.073
				(.057)
Recruitment difficulties				.053
				(.050)
R^2	.14	.15	.19	.19
F–ratio	4.6•••	3.0•••	3.4•••	3.2•••

•$p < .10$; ••$p < .05$; •••$p < .01$.
*Coefficient was multiplied by 100.

results are also not consistent with the tenor of the discussion in much of the literature.

Yet, there is a plausible interpretation of these results. The ILM, as Edwards (1979) and others have suggested, is an important element of bureaucratic control. Thus, we would expect to see ILM arrangements to the extent that bureaucratic control is necessary and feasible. In manufacturing organizations, control of the work process and the work force is achieved more by the technology of the production process, what Edwards (1979) has called technical control. ILM arrangements or other features of bureaucratic control are therefore less essential in dealing with issues of skill specificity, because the problems that emerge from specific skills, such as retention of employees in the organization, are solved more easily through the technological arrangements of the work itself. Indeed, even training and skills themselves may be more embedded in the production process than in formal or semiformal training procedures. Thus, the technology of production helps to manage the work force, binds it to a specific organization with specific machines and production technology, and provides the skills and training needed in manufacturing, whereas in nonmanufacturing establishments all of this is

Table 6

Regression Models for the Determinants of Internal Labor Markets in Nonmanufacturing Organizations (*N* = 173)

Variable	Equations (1)	(2)	(3)	(4)
Branch establishments	.078	.064	.067	.049
	(.050)	(.048)	(.047)	(.046)
Ln size	.094•••	.060•••	.067•••	.041•
	(.018)	(.021)	(.020)	(.022)
Growth	.010	.011	.008	.008
	(.038)	(.037)	(.036)	(.035)
Decline	.058	.067	.081	.062
	(.073)	(.070)	(.068)	(.068)
Government	.088•	.035	−.023	−.022
	(.050)	(.049)	(.050)	(.050)
Core	.116•••	.083•••	.076•	.081•••
	(.036)	(.035)	(.034)	(.035)
Out-service training		.031••	.023•	.017
		(.013)	(.013)	(.013)
Vestibule training		−.036	−.052	−.050
		(.047)	(.046)	(.045)
On-the-job training		.051•••	.043••	.042••
		(.018)	(.018)	(.017)
Technological change		.138•	.152••	.154••
		(.072)	(.070)	(.069)
Unionization*			−.158•••	−.114••
			(.049)	(.050)
Personnel				.120•••
				(.042)
Recruitment difficulties				.001
				(.037)
R^2	.24	.31	.35	.37
F–ratio	10.0•••	8.8•••	9.4•••	8.9•••

•$p < .10$; ••$p < .05$; •••$p < .01$.
*Coefficient was multiplied by 100.

accomplished through more formal and more elaborate mechanisms. It is, therefore, in nonmanufacturing establishments that problems of skill specificity are handled through methods of bureaucratic control and that the presence of a personnel department, another component in bureaucratic control, has a larger and statistically significant effect on ILM arrangements.

Similarly, unionization provides both an alternative source of control of the work force and a competing interest that is less likely to be sympathetic to bureaucratic control strategies. Thus, it is not surprising that in both manufacturing and nonmanufacturing establishments, unionization is negatively associated with ILM practices. This is particularly so because our analysis of ILM's has focused on hiring and mobility rather than on job security and compensation.

It is possible to conceive of bureaucratic control as having two elements — one element that proscribes arbitrary disciplinary treatment and another that offers incentives to workers who adopt the values of the organization. Thus, Edwards (1979: 142) noted that sanctions became subject to review and to

grievance machinery under bureaucratic control, "but perhaps even more important was the institutionalizing of *positive* incentives." It is quite possible that unions seek some elements of bureaucratic control such as seniority protection against layoffs and a grievance machinery that provides for due process, while they oppose the mobility system that rewards worker compliance with and acceptance of the organization.

CONCLUSION

The empirical results have indicated that although a reasonable amount of the variation in the dependent variable could be explained, some important issues remain to be examined.

Although the perspectives emphasizing skill specificity received some empirical support, an exclusive emphasis on skill specificity and the idiosyncratic character of jobs does not appear to be warranted. Skill specificity and training did not predict ILM's in manufacturing organizations at all. Moreover, the fact that other variables such as size, type of establishment, and unionization were significant indicates that the organization of the employment relationship cannot be understood solely as a response to the technical requirements of work and the need to organize employment to minimize transaction costs (Williamson, 1975).

A simple theoretical account of the results is not really possible, but one distinct pattern does emerge. Three variables that were consistently significant in affecting ILM's — being a branch unit, the extent of unionization, and the existence of a personnel department — all represent *organizational* arrangements. The relationships of establishments to their employees, as evidenced by the organization of the employment relationship, seem to be most affected by whether there is a competing organizing force (a union), by whether the employment relationship is institutionalized and professionalized (through a personnel department), and by the relationship of the establishment to the organization. These organizational factors can be argued to affect the dependence of the establishment on other organizations (such as unions) and other units in the organization (Mindlin and Aldrich, 1975), as well as on an outside professional constituency of personnel professionals.

This perspective makes it possible to interpret the negative effect of unionization on ILM's, a result not anticipated by conventional theoretical treatments but one expected in the arguments advanced here. ILM's are established to develop long-term employment relationships, to bind workers to the organization, so that the organization can reduce costs of training and turnover and, perhaps, not be forced to pay fully competitive market wages. If this is the case, then unionization can substitute for an ILM because it also reduces turnover. Freeman and Medoff (1979) have indicated that by providing workers with a voice as an option to exit (Hirschman, 1970), by skewing the compensation package toward deferred benefits such as pensions over current wages and bonuses, and by paying a higher proportion of total compensation in the form of fringe benefits valued particularly by more senior workers, unionization reduces turnover significantly. Thus, collective bargaining means the organization's dependence on workers,

solved sometimes by ILM arrangements designed to promote long-term employment, is taken care of by other means.

Bureaucratic control and its concomitant ILM is an attempt to institutionalize and legitimate power in the organization, substituting quasi-legal and objectified mechanisms for the exercise of what is often arbitrary and capricious supervisory authority. Unionization, with its grievance and arbitration procedures, provides a fully legal governance system that provides workers with more control and more formal rights. In the presence of this formal governance system, the ILM and other forms of bureaucratic control can be seen as redundant if not in outright competition with the union mechanisms.

Moreover, it is clear that bureaucratic control, by making the power of the organization less visible and by providing a number of legitimated procedures, represents an attempt to manage worker dissatisfaction and obtain worker compliance. If bureaucratic control is effective, unionization will not be likely to take place, as in the case of Polaroid and IBM. If unionization does take place, the union will not be likely to encourage the development of employment practices that fractionate the work force or do anything to undermine the solidarity of the work force, which is essential for collective action. Thus, power-dependence notions are consistent with an inverse relationship between collective bargaining and the presence of an ILM.

The importance of the empirical results presented here on the effects of institutional and organizational arrangements is that they serve to direct the theoretical focus away from an exclusive emphasis on functional, technological requirements and toward organizational processes such as power and influence, institutionalization, and conflict and contests for control. Now organization theorists can enrich the analysis by focusing on factors other than technical, economic ones, such as skill specificity.

REFERENCES

Alchian, Armen A., and Harold Demsetz
1972 "Production, information costs, and economic organization." American Economic Review, 62: 777–795.

Althauser, Robert P., and Arne L. Kalleberg
1981 "Firms, occupations, and the structure of labor markets: A conceptual analysis." In Ivar Berg (ed.), Sociological Perspectives on Labor Markets: 119–149. New York: Academic Press.

Averitt, Robert T.
1968 The Dual Economy: The Dynamics of American Industry Structure. New York: Norton.

Baron, James N.
1984 "Organizational perspectives on stratification." In Ralph Turner (ed.), Annual Review of Sociology, 10: 37–69. Palo Alto, CA: Annual Reviews.

Baron, James N., and William T. Bielby
1980 "Bringing the firm back in: Stratification, segmentation, and the organization of work." American Sociological Review, 45: 737–765.

Beck, E. M.
1980 "Labor unionism and racial income inequality: A time-series analysis of the post-World War II period." American Journal of Sociology, 85: 791–814.

Beck, E. M., Patrick M. Horan, and Charles M. Tolbert, III
1978 "Stratification in a dual economy: A sectoral model of earnings determination." American Sociological Review, 43: 704–720.

Becker, Gary
1962 "Investment in human capital: A theoretical analysis." Journal of Political Economy, Supplement, 70: 9–44.

Bibb, Robert, and William H. Form
1977 "The effects of industrial, occupational, and sex stratification on wages in blue-collar markets." Social Forces, 55: 974–996.

Bielby, William T., and James N. Baron
1983 "Organizations, technology, and worker attachment to the firm." In D. J. Treiman and R. V. Robinson (eds.), Research in Social Stratification and Mobility, 2: 77–113. Greenwich, CT: JAI Press.

Bluestone, Barry, William M. Murphy, and Mary Stevenson
1973 Low Wages and the Working Poor. Ann Arbor, MI: Institute of Labor and Industrial Relations, University of Michigan.

Braverman, Harry
1974 Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century. New York: Monthly Review.

Clark, Rodney
1979 The Japanese Company. New Haven, CT: Yale University Press.

Cole, Robert E.
1979 Work, Mobility, and Participation: A Comparative Study of American and Japanese Industry. Los Angeles: University of California Press.

DiMaggio, Paul J., and Walter W. Powell
1983 "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields." American Sociological Review, 48: 147–160.

Doeringer, Peter B.
1967 "Determinants of the structure of industrial type internal labor markets." Industrial and Labor Relations Review, 20: 206–220.

Doeringer, Peter B., and Michael J. Piore
1971 Internal Labor Markets and Manpower Analysis. Lexington, MA: Lexington Books.

Edwards, Richard C.
1975 "The social relations of production in the firm and labor market structure." In R. C. Edwards, M. Reich, and D. M. Gordon (eds.), Labor Market Segmentation: 3–26. Lexington, MA: D. C. Heath.
1979 Contested Terrain: The Transformation of the Workplace in the Twentieth Century. New York: Basic Books.

Freeman, Richard B., and James L. Medoff
1979 "The two faces of unionism." The Public Interest, 57: 69–93.

Goldberg, Victor P.
1980 "Bridges over contested terrain: Exploring the radical account of the employment relationship." Journal of Economic Behavior and Organization, 1: 249–274.

Gordon, David M., Richard Edwards, and Michael Reich
1982 Segmented Work, Divided Workers. Cambridge: Cambridge University Press.

Gordon, Margaret S., and Margaret Thal-Larsen
1969 Employer Policies in a Changing Labor Market. Berkeley, CA: Institute of Industrial Relations, University of California.

Granovetter, Mark
1981 "Toward a sociological theory of income differences." In Ivar Berg (ed.), Sociological Perspectives on Labor Markets: 11–47. New York: Academic Press.
1983 "Labor mobility, internal markets and job-matching: A comparison of the sociological and economic approaches." Unpublished manuscript, Department of Sociology, State University of New York at Stony Brook.
1984 "Small is bountiful: Labor markets and establishment size." American Sociological Review, 49: 323–334.

Hirschman, Albert O.
1970 Exit, Voice, and Loyalty. Cambridge, MA: Harvard University Press.

Jacobs, David
1981 "Toward a theory of mobility and behavior in organizations: An inquiry into the consequences of some relationships between individual performance and organizational success." American Journal of Sociology, 87: 684–707.

Kanter, Rosabeth Moss
1977 Men and Women of the Corporation. New York: Basic Books.

Kochan, Thomas A., Robert B. McKersie, and Peter Cappelli
1984 "Strategic choice and industrial relations theory." Industrial Relations, 23: 16–39.

Maniha, John K.
1975 "Universalism and particularism in bureaucratizing organizations." Administrative Science Quarterly, 20: 177–190.

Masters, S. H.
1969 "An interindustry analysis of wages and plant size." Review of Economics and Statistics, 51: 341–345.

Meyer, John W., and Brian Rowan
1977 "Institutionalized organizations: Formal structure as myth and ceremony." American Journal of Sociology, 83: 340–363.

Mindlin, Sergio, and Howard Aldrich
1975 "Interorganizational dependence: A review of the concept and a reexamination of the findings of the Aston Group." Administrative Science Quarterly, 20: 382–392.

Osterman, Paul
1975 "An empirical study of labor market segmentation." Industrial and Labor Relations Review, 28: 508–523.

Ouchi, William G.
1980 "Markets, bureaucracies, and clans." Administrative Science Quarterly, 25: 129–141.

Pfeffer, Jeffrey
1972 "Size and composition of corporate boards of directors: The organization and its environment." Administrative Science Quarterly, 17: 218–228.
1977 "Toward an examination of stratification in organizations." Administrative Science Quarterly, 22: 553–567.

Pfeffer, Jeffrey, and Gerald R. Salancik
1978 The External Control of Organizations: A Resource Dependence Perspective. New York: Harper & Row.

Rosenbaum, James E.
1979 "Tournament mobility: Career patterns in a corporation." Administrative Science Quarterly, 24: 220–241.

Salancik, Gerald R.
1979 "Interorganizational dependence and responsiveness to affirmative action: The case of women and defense contractors." Academy of Management Journal, 22: 375–394.

Slichter, Sumner
1919 The Turnover of Factory Labor. New York: Appleton.

Stewman, Shelby, and Suresh L. Konda
1983 "Careers and organizational labor markets: Demographic models of organizational behavior." American Journal of Sociology, 88: 637–685.

Stolzenberg, Ross M.
1978 "Bringing the boss back in: Employer size, employee schooling, and socioeconomic achievement." American Sociological Review, 43: 813–828.

Strauss, George
1984 "Industrial relations: Time of change." Industrial Relations, 23: 1–15.

Tolbert, Charles, Patrick M. Horan, and E. M. Beck
1980 "The structure of economic segmentation: A dual economy approach." American Journal of Sociology, 85: 1095–1116.

Tolbert, Pamela S., and Lynne G. Zucker
1983 "Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880–1935." Administrative Science Quarterly, 28: 22–39.

Thurow, Lester C.
1975 Generating Inequality. New York: Basic Books.

Vardi, Yoav, and Tove Helland Hammer
1977 "Intraorganizational mobility and career perceptions among rank and file employees in different technologies." Academy of Management Journal, 20: 622–634.

Wachter, M. L., and O. E. Williamson
1978 "Obligational markets and the mechanics of inflation." Bell Journal of Economics, 9: 549–571.

White, Harrison C.
1970 Chains of Opportunity. Cambridge, MA: Harvard University Press.

Williamson, Oliver E.
1975 Markets and Hierarchies: Analysis and Antitrust Implications. New York: Free Press.
1981 "The economics of organization: The transaction cost approach." American Journal of Sociology, 87: 548–577.

Williamson, Oliver E., M. L. Wachter, and J. E. Harris
1975 "Understanding the employment relation: The analysis of idiosyncratic exchange." Bell Journal of Economics, 6: 250–280.