The idea of internal labor markets—originally propounded by Clark Kerr in 1954 and John Dunlop in 1966—has proved durable and fruitful. It is by now apparent to even the most market-oriented economist that many of the rules that determine economic outcomes and social welfare originate within the firm and are in a nontrivial sense chosen by the firm. Because many workers spend long stretches of their careers within the shelter of enterprises, understanding these rules is very important.

The central idea of internal labor markets (ILMs) was set forth by Kerr in his description of “institutional labor markets.” Kerr argued that these labor markets created noncompeting groups and that one of the central boundaries was between the firm and the external labor market. Kerr identified “ports of entry” as the link between the inside and outside, and described the implications for labor mobility of the boundaries and rules. Dunlop coined the term “internal labor markets” and provided a description of one group of central rules, those concerning job ladders. He applied his analysis to an important policy problem, the interpretation of job vacancy data, and by doing so showed the practical utility of the concept.

In the early 1970s, Doeringer and Piore (1971) provided a full description of the rules of blue-collar ILMs as well as the trade-offs among the rules (for example between hiring criteria and training procedures). Doeringer and Piore also began the process of linking analysis of ILMs back to mainstream labor economics through their discussion of how specific human capital helps cement employee attachment to firms.

These classic ILM studies set the stage for later work in several
ways. First, while all of the original authors recognized that there are various alternatives for organizing work, each emphasized almost exclusively blue-collar industrial models, and within these, the traditional unionized pattern (which might then have been the central tendency even in the nonunion sector). Much of the recent work on ILMs has focused on variation, both within the blue-collar world and between blue-collar and other types of employment.

Second, none of the classics developed a well-structured explanation of why ILMs arise, and the need to do so has invited a wide range of theoretical efforts. This has led to development of elaborate microeconomic models of long-term employment relationships as well as to efforts by sociologists to explain these institutions in noneconomic terms. To date these efforts have not been integrated, but this essay will attempt to provide a framework that encompasses several approaches.

Third, what drove early research on ILMs was the observation that labor mobility could not be understood as simply the result of unfettered supply and demand forces in the market. As a result these investigations focused on explaining the movement of labor and the rules governing its allocation. In undertaking this task the researchers took as given the external environment of the firm (economic and regulatory) as well as the firm's competitive strategy. Recent work has introduced these considerations more directly into an analysis of ILMs.

As I have already suggested, the study of internal labor markets attracts scholars of divergent backgrounds. For mainstream economists the challenge is to explain the rules within a framework that preserves the core ideas of maximization and efficiency. Institutional economists do not deny the impact of standard economic considerations, but they emphasize the interplay of economic, political, and social forces. This orientation has been reinforced by recent interest in international comparisons. There is also a vibrant body of sociology literature on the subject, albeit one that has not been fully incorporated into the discourse within economics. Since stable work groups lead to the formation of norms, customs, and interpersonal comparisons, ILMs provide sociologists with an opportunity to illustrate and explore the importance of these phenomena. In addition, variation across enterprises in the extent and content of rules suggests that sociological models that focus on the diffusion and adaptation of institutional practices, independently of their efficiency properties (for example, the search for legitimacy via mimicry), can be fruitfully applied to ILMs.

The nature of research on ILMs has also expanded. The initial investigations were largely field-based, and the ideas rested on interviews with firms and unions. The power of this approach is demonstrated by the fact that many of the insights developed in this manner have survived. Confidence in these observations has, however, been strengthened by studies based on representative samples of firms (Baron and Bielby, 1986; Pfeffer and Cohen, 1984; Delaney, Lewin, and Ichniowski, 1989; Osterman, 1984, Osterman, forthcoming) as well as by more thorough examinations of particular practices such as firm-based wage setting (Grosen, 1991), long-term tenure (Abraham and Medoff, 1984), and part-time work (Rebitzer and Taylor, 1991). In the course of this research the original concept, while generally affirmed, has been modified in important ways. For example, sensitivity has been heightened to the fact that a firm is not a unitary employment system but rather consists of a set of ILM sub- systems that may operate on quite different principles (Osterman, 1984, 1987). It also seems apparent that the correlates of ILM practices include a mixture of technical, economic, and social considerations (Bielby and Baron, 1983).

In surveying this rich line of research there appear to be two useful purposes that an essay such as this might serve. The first is to sort ILMs. The second is to understand how ILMs have changed in the past twenty years.

Sorting out theory is important, but if done in isolation the exercise is likely to be both arid and inconclusive. I say arid because, unless grounded in data and specific cases, it would be difficult to keep in mind just what it is that I am trying to explain, and the results would be inconclusive because of the obvious fact that no single model is likely to be completely satisfactory. Also, most models are sufficiently elastic that they can be made (to appear) to cover more than was originally intended.

A better strategy is to begin with the data, and in this case the data are the substantial shifts that seem to have transpired in work organization. These shifts render the traditional image of ILMs at least partially obsolete, and it is important to document them in their own terms. In addition they provide a handle on the various models because, after describing the shifts, one can ask which theories are best able to explain what occurred. Thus, rather than arguing in the abstract about models, and rather than applying the models to a static description, one can treat recent changes as data to be explained and search for the theory with the best “fit.”
Before turning to recent shifts in the organization of work, there is one definitional issue to clear up. The Doeringer and Piore description of ILMs focused on closed job ladders and ports of entry, and this has tended to stick in peoples’ minds as the central defining characteristic of ILMs (see, for example, Althauser and Kalleberg, 1981). I think that a more expansive definition—which includes wage systems, job classifications, rules regarding the deployment of labor, and rules regarding employment security—is more helpful.

These various categories of rules fit together in a logical system, and it does not make sense to isolate one rule and ignore the others. For example, narrow job classifications, wages attached to the job, few restrictions on the ability of the firm to lay off workers, and strict seniority are mutually reinforcing set of practices, while broad classifications, wages attached to individuals rather than jobs, ease of deployment, and high levels of job security constitute another logical cluster. Anyone familiar with the literature will recognize the first cluster as the traditional American model, while the second is a model associated (at least until recently) with leading-edge American firms and with the Japanese model.

It is much more helpful to think in these terms rather than focusing on any particular rule, such as the presence or absence of job ladders. The idea of a system of rules that fit logically together enables one to make sense of broader differences in ILMs. Thus, for example, both Japanese and traditionally organized American automobile firms have closed job ladders, yet there are very substantial differences along other dimensions that add up to quite distinct ILM arrangements. ILMs conceived in these broader terms come to represent the overall human resource management strategy of an enterprise, and by thinking of ILMs in this way one can ask more ambitious questions. However, this more expansive perspective introduces difficulties for theoretical models that purport to explain one rule (for example, wage premiums above market levels) but that appear ignorant of the fact that the said rule is part of a larger system.

The Evolution of Internal Labor Markets

The stylized facts concerning the evolution of internal labor markets in the United States would go as follows. Prior to the Depression and World War II, large industrial firms gyrated between several strategies of organizing work, including the foreman-centered “drive sys-

tem” with few rules and arbitrary management authority, and the “American plan” with its emphasis on paternalism, welfare benefits, and more regulated employment relationships. The great unionizing drives of the Depression, combined with the diffusion of standardized union practices by the War Labor Board, led decisively to the triumph of the standard union model (with strict job classifications, seniority, grievance procedures, and so on) over its alternatives (the most complete history of these alternatives is found in Jacoby, 1985).

From the mid-1940s to the mid-1970s this model—which is essentially what Doeringer and Piore described—dominated both the union sector and the largely imitative nonunion firms. Toward the end of this era a competing model emerged, one which placed much greater emphasis on direct communication with workers and on innovations such as team production and quality circles (Kochan, Katz, and McKersie, 1986). This structure was motivated in part by its superior performance and in part by its ability to keep unions at bay. It emerged in a progressive segment of the American nonunion sector (for example, at IBM), but it also gained momentum from the spread of Japanese transplants, such as the Honda factory in Ohio, which organized work according to the Japanese model. The more traditional sector, union and nonunion, was torn between adoption of the new model (variously termed the “transformed model,” the “salaried model,” the “high commitment model,” the “mutual gains model,” or the “high performance” model) and defense of old structures. The playing out and resolving of this tension is the current ILM “story” of greatest interest and importance.

Adding to the turmoil and uncertainty are broader shifts in the economy that undermine standard assumptions. These shifts include heightened economic volatility, which threatens the job security implicit for high-tenure workers in the traditional system. In addition, the combination of technical change and the increased education levels of the labor force may alter firms’ calculation of the best locus for training and undermine the traditional reliance on job ladders and closed internal markets. Both of these macroeconomic shifts make employment unstable and reduce long-term employment within an enterprise. Indeed, many commentators now assert that workers must expect to change jobs far more frequently than in the past. Implicit in this assertion is the idea that the closed, traditional ILM is of declining importance.

The foregoing represents an amalgam of various views about recent trends, but if there is such a thing as a consensus this would be it. It remains to be seen, of course, just how much evidence there is to support the various assertions.
Recent Changes in Internal Labor Markets

In this section I will address three questions concerning the evolution of ILMs: [1] are ILMs still important, or are they dissolving? [2] is the character of ILMs changing? and [3] how much international variation is there in the structure of ILMs in similar industries? Taken together these seem to be the three questions that emerge naturally from the preceding narrative and that are likely to have the most important implications for theories of ILMs.

Are ILMs still important?

Do people still spend long periods of their working life within the shelter of a single employer? The extreme alternative would be a return to a high-turnover spot market in which at least one side of the market, either employers or employees, sees little advantage in maintaining stable employment.

There are several trends commonly remarked on that suggest that ILMs are of diminishing relevance. These include growing white-collar and managerial layoffs, which erode stability in what has heretofore been the most secure segment of the labor market; the rise of contingent or temporary employment arrangements; an alleged growing reliance on educational institutions rather than firms for training; and the emergence of regional networks as the locus of careers, rather than single organizations.

Any of these developments, if important, would reduce the amount of time a person works with a single employer, and a relatively straightforward test for this would be to ask whether the distribution of worker tenure has changed over time. If ILMs are becoming less important, then this should be picked up in surveys that ask employees how long they have worked for their current employer.

The May 1979 and May 1988 Current Population Surveys asked respondents how long they had worked for their current employer. The top half of Table 12.1 shows the job tenure distribution for all employed workers in those two years, and it is apparent that there was no change in the distribution. The bottom half breaks the sample out by sex, and the conclusion of stable tenure distributions remains. However, these findings may be deceptive, since the age distribution of the labor force changed between the two periods (the labor force in 1988 was slightly older). Furthermore, one would ex-

pect that the impact of ILMs on tenure would show up most strongly in middle-aged workers, who have passed the period of high turnover and exploration that characterizes younger employees.

Table 12.2 is limited to employees in two age categories — 35 to 44 and 45 to 60 — and here there is some reduction of job tenure between 1979 and 1988 that is limited entirely to males. For men in both age groups there is a lower share of employees in the two high-tenure groups in 1988, with the drop being as large as 5.6 percentage points for the oldest group of men. By contrast, for women in the 35- to 44-year-old group there is an increased share in the high-tenure categories in 1988, and the proportions remain constant for the older group of women. These patterns remain unchanged when the data are broken down by educational group, which suggests that the findings are not limited to any single occupational subgroup.

Taken as a whole, these data show that long-term employment relationships retain their centrality for men and, indeed, are of increasing importance for women. If one had to draw only one conclusion from these data, it would be that long-term relationships have an ongoing importance. The more extreme statements about the demise of ILMs and the substantial restructuring of career patterns are not true. However, for men there is a deterioration, with a clear and nontrivial drop in the fraction of middle-aged workers in stable employment relationships. Furthermore, this decline occurred in the 1980s, a period of sustained growth in jobs and declining unemploy-

Table 12.1. Job tenure 1979 and 1988, all age groups

<table>
<thead>
<tr>
<th>Years with current employer</th>
<th>1979</th>
<th>1988</th>
</tr>
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<tbody>
<tr>
<td>0-2</td>
<td>46.6%</td>
<td>44.4%</td>
</tr>
<tr>
<td>3-5</td>
<td>18.1</td>
<td>19.2</td>
</tr>
<tr>
<td>6-10</td>
<td>15.2</td>
<td>15.9</td>
</tr>
<tr>
<td>11-15</td>
<td>8.1</td>
<td>8.3</td>
</tr>
<tr>
<td>16+</td>
<td>12.0</td>
<td>12.0</td>
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<tbody>
<tr>
<td>0-2</td>
<td>41.9%</td>
<td>40.4%</td>
<td>52.4%</td>
<td>48.9%</td>
</tr>
<tr>
<td>3-5</td>
<td>17.0</td>
<td>19.0</td>
<td>19.5</td>
<td>19.4</td>
</tr>
<tr>
<td>6-10</td>
<td>15.8</td>
<td>15.9</td>
<td>14.3</td>
<td>15.9</td>
</tr>
<tr>
<td>11-15</td>
<td>9.3</td>
<td>8.8</td>
<td>6.4</td>
<td>7.1</td>
</tr>
<tr>
<td>16+</td>
<td>15.7</td>
<td>15.7</td>
<td>7.2</td>
<td>7.8</td>
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</table>

Table 12.2. Job tenure 1979 and 1988, ages 35 to 60

<table>
<thead>
<tr>
<th>Years with current employer</th>
<th>Men age 35–44</th>
<th>Men age 45–60</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–2</td>
<td>27.7% 28.2%</td>
<td>17.4% 21.7%</td>
</tr>
<tr>
<td>3–5</td>
<td>15.9 18.0</td>
<td>10.9 12.7</td>
</tr>
<tr>
<td>6–10</td>
<td>20.4 19.4</td>
<td>13.9 13.3</td>
</tr>
<tr>
<td>11–15</td>
<td>20.5 15.1</td>
<td>12.9 10.3</td>
</tr>
<tr>
<td>16+</td>
<td>15.3 18.6</td>
<td>44.7 41.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years with current employer</th>
<th>Women age 35–44</th>
<th>Women age 45–60</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–2</td>
<td>44.8% 39.3%</td>
<td>26.7% 28.5%</td>
</tr>
<tr>
<td>3–5</td>
<td>22.1 20.6</td>
<td>18.2 17.4</td>
</tr>
<tr>
<td>6–10</td>
<td>17.2 20.1</td>
<td>21.0 19.9</td>
</tr>
<tr>
<td>11–15</td>
<td>9.6 11.2</td>
<td>13.2 13.3</td>
</tr>
<tr>
<td>16+</td>
<td>6.1 8.7</td>
<td>20.6 20.7</td>
</tr>
</tbody>
</table>


It is apparent, then, that a portion of my discussion of ILMs must seek to explain this fraying around the edges of the standard employment pattern for men.

Contingent Employment One commonly noted pattern, which might underlie some of these developments, is the increased use of contingent workers. This is a complicated issue to sort out, because several forces are at play. In part, growing use of contingent employees may reflect the disassembling of ILMs as firms seek to reduce job security and implied commitments to incumbent employees. On the other hand, the transformed model requires increased employment security, and one way firms may attempt to provide this is by surrounding a core labor force, which receives the security, with a buffer of peripheral employees. For example, the Saturn automobile manufacturing contract (an exemplar of the transformed model) permits General Motors to staff 20 percent of the labor positions with workers who are not covered by security pledges.

Interviews with large white-collar employers show them to be increasingly employing temporary-help staff, outside consultants, contract workers, and the like. These employees work at all skill levels; the use of such temporaries is not limited to clerical workers but includes occupations such as engineers, computer programmers, and draftspersons (Applebaum, 1989; Magurn et. al, 1985; Oster-


The use of formal temporary-help agencies is, in fact, an understatement of the extent of this practice. It is common for companies to establish in-house temporary pools, internalizing the advantages and avoiding fees. The best available survey (a national probability sample of 1,200 firms in six industries: health, business service, finance and insurance, retail, transportation, and manufacturing) found that between 25 percent and 35 percent of firms with more than 250 employees had established such internal pools (Magurn et al., 1985).

It does not necessarily follow that the growing use of contingent employees shifts the job tenure distribution toward the lower end. One alternative possibility is that when firms externalize functions by shifting employment to outside contractors, workers at the same time develop stable employment relationships with those contractors. An example of this would be an increase in the amount of legal work corporations delegate to law firms where the partners and associates have long-term (or at least not shorter term) employment. One might also speculate that employees in temporary-help firms tend to be new labor market entrants who in different circumstances would have exhibited other forms of unstable work attachment.

While there is certainly some truth to these arguments, they do not seem fully convincing. First, in the example of the law firms it must also be true that the corporate lawyers who used to do legal work in-house and whose business has been externalized have therefore lost their jobs. This should show up in the data. Second, the spirit of much of the discussion of contingent employment, and the observations of temporary-help firms, suggest that these jobs are inherently less stable than the work they replace.

Another paradox lies in the associated gender patterns. Many employees of temporary-help firms are women, yet I have just shown that women's job tenure is increasing. One explanation, therefore, is that women who work in temporary-help firms are substituting for men in previously long-term jobs. The other possibility is that the decline of men's tenure is due to the spread of contracts (explicit or implicit) like the Saturn contract. This agreement creates a buffer or contingent group of workers whose occupation or industry assign-
ment remains with the original firm, not with a temporary-help employer, yet whose employment security is more tenuous than that of regular employees.

In the end, one is left with a substantial dollop of speculation. There is a slight deterioration in the extent of long-term employment relationships among middle-aged men, and there is an increase in various forms of contingent employment relationships. However, only guesswork connects these two developments. Furthermore, there is no systematic evidence on other explanations for the dip in men's tenure. Clearly more work is necessary to understand shifting tenure patterns.

Has the Character of ILMs Changed?
The foregoing evidence suggests that ILMs remain important albeit with some deterioration. There remains the important question of whether their character is changing in other respects. Is the transformed model capturing the field?

There are two kinds of evidence on this question: anecdotal and survey-based. The former is widely available and suggestive but is, of course, subject to numerous caveats. The latter is extremely uneven. In this section, I will present data of both kinds, but in the end the portrait will be fuzzy and incomplete. Data simply are not adequate to reach a definitive judgment about the distribution of ILM practices or the trend.

Three of the most widely cited examples of transformed ILMs are General Motors [the Saturn program], Corning, and Xerox.

Corning, with its headquarters in upstate New York, had closed nearly 35 plants in the 1970s and 1980s, with no end in sight. In 1986, however, the firm decided to reverse its decline in manufacturing by dramatically altering work systems and ILM rules. The firm built two greenfield factories, one in West Virginia and one in New York, which were organized around “high-performance work systems.” These proved successful enough that Corning began retrofitting other, existing plants.

The retrofitting process typically involves establishing a joint union-management team that visits other companies, attends workshops, and develops a common vision of what the new work systems might look like. This is followed by an “awareness program” in which all employees in the plant attend workshops. Subsequently joint design teams, working with consultants, reorganize work flows, change job descriptions, organize and attend training, and establish training programs for the work force. Typical results are a reduced number of job classifications and team production. These shifts in work rules and work flow are also usually linked to a new compensation system that puts substantial emphasis on performance pay. The performance targets are established by a joint union-management committee. Employees are promised that no layoffs will be implemented as a result of the reorganizations, but the firm retains the right to implement layoffs due to product market developments.

At Xerox Corporation, early experiments with quality of work life [QWL] programs evolved into far-reaching changes in work organization [Cutcher-Gershenfeld, 1989]. This process, which began in 1980 in the company's Webster, New York manufacturing facility, had as its initial impetus the loss of low-end market share to the Japanese. The initial and halting QWL experiments eventually led to employee involvement in a wide range of previously managerial decisions [such as outsourcing], problem-solving teams aimed at specific issues, the creation of work teams for normal production, management's agreement to no-layoff pledges, much broadened job assignments with new classifications, and experiments with gain-sharing pay systems. The ILM of the manufacturing system at Xerox clearly came very close to the ideal of the transformed or salaried model.

Recent events in some U.S. automobile industry plants are by now widely known. The most far-reaching changes have taken place at the General Motors Saturn plant, in which the union and management jointly designed the production system and the product, and in which job classifications have nearly been eliminated and job security is essentially guaranteed. Similar initiatives have occurred in many other auto plants, albeit in less dramatic circumstances [Katz, 1985].

Such shifts in ILM systems are not limited to the union sector in heavy industry. Kochan, Katz, and McKersie [1986] report numerous examples of nonunion firms that have opened new plants along the lines of the transformed model or altered the ILM of existing plants. They also describe partially unionized firms whose nonunion plants are consciously intended to provide a transformed counterweight to the more traditional union work settings. Typical is the electronic cable plant of TRW that employs an all-salaried work force, a pay-for-knowledge compensation system, only nine job classifications, and team production [Kochan, Katz, McKersie, 1986, p. 96]. Anil Verma, whose research provided the details on the TRW case, provides data on a multiplant firm that includes new nonunion, old nonunion, and old union plants. The new nonunion plants have an average of six job classifications, compared with an average of 65 in the old nonunion and 96 in the old union plants [Verma, 1983]. In a twist on this theme,
Cappelli and Sherer (1989) describe a very interesting experiment at Cummins Engine in which ILMs were redesigned to permit employees to remain within the union bargaining unit but to work according to the ILM rules that applied to nonunion supervisors.

In these examples the ILM rules have changed substantially and in a reasonably similar direction — a direction that might be taken to represent the path along which American firms are moving as they restructure their internal labor markets. It is apparent that the underlying ideas or inspiration come from the experience of observing Japanese firms and from ideas taken from leading American nonunion firms, such as IBM. Is it correct to believe that this transformed model is winning out?

The recent experiences of two leading nonunion “transformed” firms, IBM and Digital Equipment Corporation (DEC), raise warning flags. Both IBM and DEC are companies that most observers believed to be the closest American equivalents to the Japanese model of commitment, lifetime employment, extensive training, and so forth. Yet recently both companies retreated from this model. Digital laid off, for the first time in its history, several thousand employees. IBM implemented a number of financial incentives that, when combined with increasingly strict performance standards, are designed to force employees to leave. Indeed, the firm recently enacted a strict new performance review system under which the bottom 10 percent of workers will come under pressure to resign. By all accounts the atmosphere in both companies has changed dramatically.

Observers in a wide range of other companies report that efforts to reorganize or transform ILMs — via introduction of work teams, expansion of training, or provision of job protections — are surprisingly slow. In recent contracts, Boeing included a number of provisions aimed at involving employees more fully in decisions about work organization and technology, but these have not been implemented, and the company and union have not been able to agree on how to organize a joint training fund they established. In the nonunion sector, Eastman Kodak has repeatedly swung back and forth between a strategy of building commitment and employee participation and widespread layoffs, which undermined the other efforts.

The war of the anecdotes leads to an inconclusive result, but at the minimum, anecdotal data do cast doubt on the view that the transformed model is triumphing. Unfortunately there are no survey data that shed a brighter light. An ideal data set would measure a wide range of ILM rules for a panel of firms over time. With such data one could classify the firms into types and see how the distribution of those types was changing.

The closest such data, although not longitudinal, was collected by Osterman (see Osterman, forthcoming). These data are a survey of 875 establishments, hence avoiding the risks of questions directed to corporate headquarters about the entire organization. The sample was drawn from the Dun and Bradstreet file and is representative of private sector establishments with fifty or more employees. The survey asked about a wide range of internal labor market rules including the role of seniority in hiring and promotion, compensation systems, employment security, and the use of contingent employees.

One section of the survey examined the use of self-directed work teams, quality circles, total quality management, and job rotation. In addition to asking whether the practice was in place, data was also collected on the percentage of “core” employees involved. “Core” employees were defined as the nonmanagement workers most directly involved in producing the good or service, and they could be both blue and white collar.

Among the key results was that thirty-five percent of establishments had at least two of these practices in place, involving fifty percent or more of “core” employees. Additional analysis tested explanations for which establishments did and did not adopt these practices. Among the central findings were that establishments most likely to adopt these practices were those that competed in international markets, that were part of larger organizations, that used high skill technology, that followed a market strategy based on quality and variety rather than price competition, and that espoused values that emphasized employee wellbeing. The size of an establishment, the presence or absence of unions, and the time horizons of management did not prove important.

In addition to attempting to identify what might be thought of as the exogenous determinants of the use of flexible work practices, Osterman also sought to understand what set of human resource practices supported the use of these systems. He found that high levels of training, use of contingent compensation plans, and a strong voice for the human resources department were important. Surprisingly, it did not appear that employment security commitments played an important role.

There are a number of other studies that have sought to examine the distribution of specific practices, although the survey by Delaney, Lewin, and Ichniowski is the only other effort that sought to capture the full range of ILM practices. For example, a sense of how widespread new compensation systems are can be gained from a 1987 survey conducted by the American Productivity Center. The center found that 32 percent of responding firms reported having profi-
sharing arrangements, 28 percent reported having individual incentives, 14 percent had small group incentives, and 13 percent had gain sharing [Mitchell, Lewin, Lawler, 1990, p. 23].

Turning to teams and quality of work life, the Work in America Institute estimates that about 25 percent of U.S. workers are covered by some type of employee involvement program, although the depth and quality of these programs vary considerably [Gershenfeld, 1987, p. 131]. However, this estimate is very much on the high side compared with those in the literature. A 1982 survey of firms with over 500 employees, conducted by the New York Stock Exchange, estimated that 14 percent of all firms and 52 percent of manufacturing firms used quality circles and that 20 percent of all firms and 59 percent of manufacturing firms had implemented either teams or other forms of work redesign. However, only a relatively small fraction (perhaps one-fourth) of employees at firms that had such programs in fact participated in them [Russell, 1988, p. 380]. Finally, in a survey of Fortune 1000 firm headquarters, Lawler, Mohrman, and Ledford (1992) found that 56% reported having quality circles in their organization, and 4,795 had self-managed work teams. However, less than 20% of employees were involved.

An additional, and very provocative, source of data about trends in ILM systems comes from examining the practices of Japanese transplants in the United States. These transplants are important because they provide American firms with examples or illustrations of alternative practices, and I will discuss this role later in the chapter. For now I can simply ask whether we know what these firms are doing. The best publicized of the transplants are the large automobile assembly factories — Honda, Mazda, New United Motor Manufacturing, Inc. [NUMMI], and so on — and all reports suggest that these firms are organized along the lines of the transformed model [see Brown, Reich, and Stern, 1991; Shimada and MacDuffie, 1987; Adler, 1991]. However, these enterprises may not be typical of the much larger number of Japanese-owned companies that have emerged in recent years. The evidence that is available on these firms suggests considerable diversity.

One striking study, by Ruth Milkman, surveyed 50 Japanese-owned electronic assembly plants in California with more than 100 employees. She collected data on ILM rules and found that “the Japanese owned plants in California bear little resemblance to the Japanese management model. Relatively few have quality circles or the equivalent; flexible teams are even more exceptional; and most of the managers we interviewed laughed outright when asked about just-in-time delivery or the like. One ‘Japanese practice’ is more typical of these plants, however, most are committed, in principle, to avoiding layoffs. However, even this is tempered by the fact that these plants typically have high turnover rates.” [Milkman, 1991, pp. 79–80].

These findings are provocative because one surely cannot argue that the owners of these firms were not aware of, and not accustomed to, alternative models and their presumed productivity advantages. There is, however, counterevidence. Florida and Kenny (1991) surveyed Japanese transplants that supply parts to the large Japanese automobile assemblers. They found a very high rate of adoption of transformed practices: for example, 76 percent of the suppliers use work teams and 79 percent have workers maintain their own machines. They also found substantial union avoidance [Milkman also observed this] and considerable use of contingent or temporary workers. This pattern of supply firms adopting transformed practices at the behest of their customers is informally confirmed by anecdotal evidence I collected about midwestern supplier networks that implemented a range of transformed practices in response to their customers’ demands for innovations such as statistical process control.

In short, just as American firms seem torn between alternative ILM systems, so do Japanese-owned firms that are located in America. There is obviously movement away from the traditional model as it was developed in the 1940s through the 1960s, but it is not clear how far this shift has gone.

International variation
The final element of “data” with implications for the evolution of ILMs is the very substantial variation across nations in how ILMs are organized to produce similar products. While some years ago this point might have been controversial, by now it is almost commonplace in the discussion of international competitiveness, although it has yet to be fully incorporated in the ILM literature. At least since Ronald Dore’s British Factory, Japanese Factory (1973), we have known that Japanese ILMs differ in many important respects from comparable American ones on dimensions such as wage ratios [Japanese pay their managers many fewer multiples of worker wages than do Americans], job security [the core of workers at large Japanese firms are protected from layoffs], job rotation and training [there is much more of both in Japan], and career paths [movements from blue- to white-collar ranks are more common in Japan].

While the Japanese comparison is by now well known, it is often not understood that other nations also differ from U.S. patterns. In German firms, for example, job security is also stronger, employees
are involved in personnel decisions via their participation in works councils, there appear to be lower ratios of supervisors to frontline employees, and there is a much greater emphasis on formal skill-based training systems as a gateway to promotions.

These international comparisons create problems for arguments that make technology and product markets the central determinants of ILM structure. It may still be the case that product markets and technology are important in the sense that they restrict the range of alternatives or alter the relative costs and benefits of various ILM systems. However, the international evidence makes clear that there must be more to the story.

In summary, these are my conclusions from the review of recent developments in ILMs:
1. As judged by data on job tenure, long-term employment in ILMs remains important. In fact, it is of growing relevance for women. Among middle-aged men there is a noticeable decline in the percentage in extended employment relationships, but the dominant pattern remains lengthy spells in ILMs.
2. Although the central tendency in employment is clearly stability, the evidence on the growth of contingent employment relationships also suggests there is some slippage around the edges. Some firms are seeking to establish looser relationships with a portion of their labor force. It will take further research to reveal whether this development can explain the tenure patterns noted above.
3. Many firms are seeking to implement significant shifts in the organization of their ILMs. These shifts typically involve more flexible job boundaries, greater attention to training, more communication with the labor force, movement toward performance-based pay systems, and—at least in some cases—enhanced job security. At the same time, these transformations are not diffusing as rapidly as might have been predicted some years ago, and there appear to be important obstacles. While it is hard to know which way the balance will tilt, it does seem fair to conclude that the rules regarding ILMs are much more open to question than in the past. Both the changes and the barriers are important "facts" that can be brought to bear on theory.
4. There is considerable international variation in the organization of ILMs in firms that operate in similar product markets using similar technology.

Understanding How Internal Labor Markets Evolve

The foregoing material can be thought of as the data against which I will try to develop a credible theory of the development of ILMs. In making this effort I of course have a great deal of prior research and theorizing from which to draw, but this does not necessarily make the task easier. A nice way to illustrate the problem is to consider the following two quotations, which describe the same ILM phenomena—the determinants of the careers of senior executives in large corporations. The first passage is from Robert Jackall's ethnographic study of three large firms, and the second is from Sherwin Rosen's review of the economic literature concerning the market for executives.

... more frequent is the case where those with the power to do so foist or allow blame to fall on the unwary or inexperienced underlings...the most feared situation is to end up inadvertently in the wrong place at the wrong time. Yet this is exactly what happens in a structure that systematically diffuses responsibility...big corporations implicitly encourage scapegoating by their complete lack of any tracking system to trace responsibility...managers see [what happens] as completely capricious but completely understandable...what does matter when things go wrong is agility and political connections...most important they can "outrun their mistakes" so that when blame time arrives the burden will fall on someone else. At the institutional level, the absence of tracking responsibility becomes crucial. [Robert Jackall, 1988, pp. 85-90]

How a career develops depends upon the quality of the person's previous work, what talents were demonstrated at lower positions, and the talent of other people available to be selected...this process can be modeled as a tournament. Competitors with the highest score on some performance criteria are declared winners and get promoted to a better job...within firm competition can sometimes be structured to approximate socially optimum incentives by adjusting the wage structure across ranks...competition generated by these kinds of relative performance evaluation can lead to moral hazard problems. [Rosen, 1990, pp. 33-39]

In Jackall's world (and the generalizations are supported by numerous anecdotes in the three firms) moral hazard is everything and
efficiency is an afterthought, if that. In Rosen's world (which is supported by data on wage structures derived from several firm surveys) efficiency is at the core of firm structure, and moral hazard is a troublesome side issue, but not one that undermines the basic model or that suggests that the models are on the wrong track. Both purport to be representations of the rules governing careers in large private enterprises.

It is perhaps discouraging that two scholars can have such radically different views of the same question, if the question were actually this constrained, however, it would not be too difficult to make progress. Choosing between two such views is difficult, but is perhaps easier — given their sharp differences — than answering the broader and fuzzier question of why National Steel has transformed its ILM while U.S. Steel has remained traditional. What combination of economic, political, and social factors explains these divergent outcomes? When national differences are added, the problem becomes even more difficult.

To make progress, I will first identify the core ideas of the competing models and then try to show how they can fit together to provide a coherent explanation of the patterns.

**Performance** One set of ideas suggests that ILM structure is determined by performance considerations. Employment rules are determined by the firm's calculation of which configuration will produce the most output given the environment (chiefly product markets, technology, and labor force characteristics). This is a view traditionally associated with economic models, although I will add additional elements to it.

The most long-standing explanation of why ILMs improve performance is that they reduce the costs for firms of training the work force and retaining skilled labor. By creating incentives for people to remain with the employer (for example, compensation schemes that are "back-loaded") and disincentives for them to move (other firms force movers to start at the bottom of a job ladder), ILMs help resolve the bargaining problems inherent in the provision of specific human capital. The evidence on this general point has always been the wage returns on job tenure, and although there have been several recent papers that argue this is not as high as sometimes assumed (Abraham and Farber, 1987), the evidence is still strong that these returns are substantial (Topel, 1990).

More recently, economic theorists have emphasized new explanations of why long-term employment relationships enhance efficiency and hence performance. These explanations include the minimizing of transaction costs, the resolution of agent-principle problems, and job stability flowing from above-market-clearing efficiency wages (Wachter and Wright, 1990; Williamson, Wachter, and Harris, 1975; Akerlof, 1984). Although models based on each of these ideas have been developed independently, I think it is best to think of them as part of a more general class of explanations that emphasize the issue of control. The firm is seen as having to solve the problem of how best to elicit effort from its labor force while minimizing the ability of employees to act in their personal interest rather than in the firm's interest.9 These problems are especially serious when complexity or size render direct supervision of employees difficult. ILMs help resolve the problem by providing long-term opportunities to observe employee behavior (the transaction costs argument), by creating employee investment in the firm and hence raising the costs of cheating or poor effort (the bonding and implicit contract models), and by establishing an employment framework that permits development of wage systems that harmonize agent and principal interests (agent-principal and efficiency wage explanations).

The two foregoing groups of performance-based explanations for ILMs flow largely from the economics literature. There is, however, a third class of performance-centered explanations whose origin lies more in the industrial relations, human resource management, and organizational sociology fields. Particular ILM configurations may induce greater employee commitment, not because of fear of unemployment or loss of wage premiums, as posited by the economic models, but because of increased identification with the goals of the organization. This heightened commitment may in turn lead to more effort, more attention to quality, lower turnover rates, and other behaviors that enhance productivity.

The most commonly cited example of the relationship between ILM structure and commitment is Japan. Most casual observers believe that Japanese employees are more committed to their employer and that this does in fact lead to the performance-enhancing behaviors I have listed. In a recent important study Lincoln and Kalleberg (1990) analyzed a sample of workers drawn from manufacturing firms in Japan and America. Surprisingly they did not find higher average levels of commitment in Japan than in the United States.10 However, they did find that in both Japan and the United States some aspects of ILMs, particularly employee welfare programs and employee participation in quality circles and other forms of joint decision making, were associated with heightened commitment.11 Assuming that this commitment improves performance — an assumption I will examine later — this line of thought suggests a different performance-based rationale for some types of ILM systems.
It is important to understand that the salience of each variant of a performance-based explanation is conditioned on external conditions or constraints. One obvious example is technology. The nature of the technology has a significant impact on the relative importance of specific skills in the production process. Technology also plays a role in determining the ease or difficulty of directly monitoring employee performance. Other external constraints include the skills that the labor force brings to the firm (and hence the nature of the education system) and the characteristics of product markets (high volatility and consequent frequent shifts in product characteristics affect optimal supervision practices).  

Custom, Norms, and Political Contests: An alternative perspective, quite different in spirit from performance-based explanations, interprets ILMs as work rules that represent the outcome of social processes within organizations. These social processes may be the relatively invisible inertial impact of norms and custom enforced through employee pressure or they may be the result of active power struggles.

Custom and norms emerge naturally out of the fact that when groups exist for extended periods they develop a history and a sense of what is appropriate and inappropriate. These norms include rules regarding output (Roethlisberger and Dickson, 1939, Roy, 1954) and also job demarcations, promotion procedures, and the like.

More active contests among factions within an organization can also shape the ILM rules. In the course of such struggles the kinds of performance considerations discussed earlier may underlie management motives, but even this is not necessarily true. Management itself may be driven by self-interest or ideology to retain certain powers or structures that bear little direct relationship to productivity.

The literature is replete with illustrations of these points. Jacoby (1984) describes the struggles of personnel staff against foremen, with the personnel department seeking to establish a legitimate role for itself. Various ILM rules such as job posting resulted from this conflict. The phenomena continues: Baron, Davis-Blake, and Bielby (1986) show that job titles tend to proliferate in organizations that employ relatively large proportions of personnel specialists. Elbaum (1984), in his discussion of wages in the steel industry, documents how the modern wage structure reflects long-ago political struggles among different factions of the steel union. Indeed, the persistence of customary wage differentials in the face of shifting market conditions has long been observed by industrial relations scholars. Middle managers and foremen have resisted shifts in ILMs that transfer power to employees, and the resulting structures represent a compromise (Klein, 1989).

The external environment: Constraints and guidance
Along some dimensions the impact of the external environment on ILM structure is so obvious as to not require much comment. Government regulations regarding wages or equal employment opportunity are clearly reflected in organizational rules regarding such matters. During World War II, for example, the War Labor Board, in an effort to maintain labor peace, implanted personnel practices within firms, and these practices remained in place long after the war ended. The government was also influential in establishing ILM rules in the railroad and airline industries.

There are, however, more subtle channels of external influence. Maurice, Sellier, and Silvestre (1986) show how the differing educational systems of France and Germany are reflected in organizational rules within firms. Because German schools impart both more skill and more respect for authority flowing from formal credentials than does France, the ratio of supervisors to workers is much lower in German workplaces, and promotion paths between high-level blue-collar jobs and low-level supervisors are more open. The extensive debate about the role of Japanese culture in supporting the supposedly distinctive characteristics of the Japanese ILM is another illustration of the impact of an external environment (Dore, 1973, Lincoln and Kalleberg, 1990). There are also international differences in norms governing appropriate pay differentials across levels within an organization, and these differences do not appear to be related to corresponding variation in labor supply or demand.

The external environment also acts on firm decisions through the coercive channels of imitation. The sociology literature on institutionalism or isomorphism (for example, DiMaggio and Powell, 1983) argues that institutions seek legitimacy by imitating powerful actors in their environment. Hence Pfeffer and Cohen (1984) find that organizations regulated by government agencies are more likely to adopt particular formalized internal employment rules than are other organizations. Baron, Jennings, and Dobbin (1986) describe how professional personnel organizations diffused particular practices after World War II in an effort to maintain and expand their status within firms. One can surely speculate that there is a substantial element of mimicry in the spread of "transformed" ILM models today.
Explaining the Data

How well do the alternative perspectives I have described explain the ILM patterns in the 1980s? As a first step, consider the following analogous question: what leads to a change in relative wages across occupations? It is helpful to think of the process as a set of three rings.

Within the first ring the impetus for such a wage shift comes from supply and demand developments, for example a technological shift that might increase the demand for a particular skill. This impetus is similar to the performance considerations I have already cited and sets off a series of reactions. In a frictionless universe the outward shift in the demand curve would yield a temporarily higher wage, which over time would be gradually offset by appropriate supply responses. In the short run, at least, the wage structure would shift.15

If, in the inner ring, performance considerations start the process in motion, how it actually plays out is modified in the second and third rings. Internal firm customs, norms, and politics modify the thrust of market forces. Historical differentials, the problems of dramatically increasing the wages of one group within an organization, fears of compression if the wages of entry-level employees rise sharply relative to incumbents, the competing demands of managers elsewhere for resources, and fears of wage inflation as other groups seek to maintain their customary relative standing, all taken together, influence the outcome. None of this is to say that the relative wages of the affected group do not rise; the performance considerations are indeed powerful. However it is easy to imagine a vice president for human resources limiting the size and timing of the wage increase for the reasons just cited.16 Hence the impact of performance concerns is refracted and modified to an important extent by the considerations in the second ring.

In the United States, the third ring — the external environment — is less important to understanding wage changes. At the bottom of the labor market, the minimum wage and the “social wage” (welfare and other benefits) influence the wage structure, but these are much less important further up. Wage and hours legislation — the requirement that time and a half be paid for overtime — may be important, and so may equal employment opportunity considerations. Even mimicry can be important if, for example, a portion of the wage increase takes the form of performance pay, an innovation which has been spread via the business press. All in all, however, this third ring probably would exert a much weaker effect than the other two.

It should be apparent that explaining the evolution of the wage structure is complicated and that all three rings play some role.17 Yet wages are a single measurable variable. Understanding the evolution of work organization, with its many dimensions and trade-offs among these dimensions, must be even more difficult. This said, how can one apply the models to recent ILM shifts?

It is evident that transformations, and attempted transformations, in ILM structure were initiated by performance considerations. In some industries American firms appeared to be less productive than their foreign competitors, and the organization of work was apparently the culprit.18 It is clear that performance concerns drove the adoption of innovations such as team production, quality circles, cross-training, and so on. These ideas had been around for a long time and received considerable academic discussion, and even press attention, as part of the movements to humanize work. The federal government’s 1972 report Work in America exemplified these interests. However, the innovations did not penetrate until they were perceived to be tied to performance, and this came about when the workplace innovations were incorporated into the overall production system and when competitors showed there were payoffs to such efforts.

In thinking about the nature of the performance considerations behind ILM shifts, economic explanations centering on control do not, at first blush, seem adequate. It is certainly plausible that efforts to improve quality, for example, may lead employers to improve control of the labor force. However, most observers of foreign ILM models tend to emphasize employee cooperation and commitment more than control, at least as control is normally understood. That is, the control models in the economics literature, with their emphasis on monitoring, wage profiles, and optimal incentive structures, do not seem to capture what underlies the gains made in transformed ILMs.

But even if control as it is typically described is not what explains recent changes, it may nonetheless be true that commitment is simply a more subtle form of control, one that is grounded in social psychology rather than economic principles. Put differently, do these new production systems succeed simply because they are a cleverer way of controlling the work force and eliciting effort, for example by using work teams to monitor the performance of peers? Japanese firms refer to their employees as “members.” Does this capture a distinctive reality, or is it a mask for control?
The best available American evidence on this question comes from the experience of automobile firms that have adopted transformed ILM systems (these provide the best evidence simply because they have been studied most closely), and my reading of this research is that while control considerations remain important — and may be accomplished more effectively in transformed systems — the dimension of commitment is in fact real and distinctive.

Paul Adler conducted a series of intensive interviews in the General Motors–Toyota NUMMI plant in California [Adler, 1991]. This plant implemented the Toyota system of team work, just-in-time inventories, continuous improvement, and employee responsibility for quality along the line. Taken together, these constitute a new production system. The production changes alone do not necessarily buy commitment, as Mazda learned in Flat Rock, Michigan. At NUMMI, however, the new system was combined with management behavior shifts. For example, one of Adler's interviewees says, "NUMMI's managers are generally pretty good at considering suggestions when workers make them. They respect workers' ideas. NUMMI's managers always get back with: 'It's a great idea' or 'It's a good idea but . . . This is what we like to see. At GM, you were lucky if they wrote the idea down; as soon as you left the room you knew the idea was headed for the garbage can." [Adler, 1991].

NUMMI was also explicit about offering strong job security pledges and respecting worker power along the assembly line (in terms of workers' ability to stop the line to correct quality problems). The consequences of all of these policies is that NUMMI is judged to have made tremendous gains on productivity and quality [MacDuffie and Krafcsik, 1992], but my point here is that these gains are not ones that can be easily attributed to control, at least not as it is traditionally understood.

Adler provides numerous examples of workers making small suggestions that accumulate into substantial savings (such as the color coding of circuit breakers or replacing chrome water fountains with metal), as well as improved worker behavior, such as voluntarily picking up cigarette butts off the floor in the work area. Control models focus on shirking, cheating, misreporting, absenteeism, and the like; they do not satisfactorily explain positive voluntary behaviors such as these. Nor do they explain what Adler's quotes reveal is the explicit reciprocal nature of these actions: they are in response to management demonstrations of commitment to the labor force (which take the form of job security, concern with health and safety, respect for suggestions, and the like). Shimada and MacDuffie [1987] use the phrase "giving knowledge to the machine" to characterize employee contributions in transformed systems.

There are elements of control in transformed systems: as Adler points out, the absence of buffers makes errors and problems along the line much more visible to supervisors, and teams do put pressure on peers with respect to absenteeism. Most dramatically, at least at NUMMI, is the heavy use of time and motion studies to decrease cycle time and hence to reduce employee discretion over their behavior along the assembly line.

In short, however, it does appear that commitment is a genuinely distinctive dimension of performance, separate from control. At the core of the difference is the idea of reciprocity. Management in fact gives up something significant: it transfers power to gain commitment. This suggests that there is a trade-off between control and commitment. Delineating the nature of that trade-off is an important theme for future work.

At the same time, the line between control and commitment is not always clear, and transformed ILM systems may achieve higher performance via gains in both dimensions. This explains the dilemma facing unions in such settings, as they seek to protect employees from intensified control and yet avoid challenging the gains from commitment.

Traditional economic considerations can more successfully explain the development of core-periphery employment patterns. Moving to high-commitment ILMs is costly because of the heightened job security implicit in such arrangements. To reduce costs, management excludes as many employees as possible from the core. How far one can go along these lines is determined by how deeply into an organization contingent employment can penetrate before it has adverse performance impacts, and by the supply of willing contingent employees. For firms that adopt contingent employment relationships without ILM transformations, cost considerations alone seem to dominate.

If performance explains the emergence of new forms of ILMs in the United States, what can explain their halting progress? In part the answer is again performance. It would appear that there are many circumstances in which the traditional mode of organizing work is superior (or at least as good) and probably cheaper. One important clue here is found in the transplanted Japanese electronic assemblers cited earlier. There is no obstacle to transformed ILMs that one can plausibly cite other than that the firms believe the traditional work organization is the most profitable, given their market and technology.
The impetus given to transforming ILM systems by performance considerations has also been refracted by the customs, norms, and politics of organizations. In the union sector, for example, it has taken some time for many unions to believe, or at least grudgingly accept, that work-rule changes are the price of remaining in business. The time this has taken, and the compromises that have been reached, are reflected in ILM outcomes.

Performance pressures are also filtered through managerial politics and custom. As I have already noted, transformed work systems are often a direct threat to first-line supervisors, and these concerns can be an obstacle to change. Considerable anecdotal evidence also suggests that middle managers find the devolution of authority inherent in transformed systems to be a threat, or a violation of norms, and often resist. It is easy to understand why a traditionally trained manager would find it difficult to pay close attention to employee suggestions. There are also barriers at the more senior management level. Full implementation of the transformed system requires expenditures of resources on large commitments (employment continuity) as well as small ones (consistent responses to employee suggestions for improvements related to comfort and safety). Where a union is present, senior management may find it difficult to accept the degree of cooperation that is typically necessary. In the absence of a union, management is likely to fear that empowering the labor force is the first step toward unionization. Taken together these concerns are often enough to block adoption of the transformed ILM system.22

The best evidence of the importance of the third ring — the external environment — comes from international comparisons. One example is skill: the United States lacks the deep vocational training programs of Germany, and such training can ease the introduction of new work systems.23 In addition United States managerial culture is hostile to the transformed model because of its restriction of legitimate goals to maximize stockholder interests. This stands in contrast to the broader stakeholder perspective of both Japan and Germany. In addition to the bias inherent in a stockholder versus stakeholder perspective, the problem of transforming ILMs is exacerbated by an emphasis in the United States on short-term gains. This emphasis is not a logical part of stockholder systems, but it does appear to be characteristic of the American managerial system, and it makes it more difficult to justify long-term investments in training and enhanced employment security. In both Germany and Japan, legal restrictions and the national culture lead firms to be much more reluctant both to follow a hire-fire strategy and to adopt the ILM associated with such a policy.24

To summarize, what do recent events reveal about the merits of alternative ILM theories? In some sense I have ducked the question by arguing, via the analogy of the three rings, that no single model is adequate and that many of the contenders have a role in the story. This may not seem clean, but it fairly reflects a complex world. However, some additional progress has been made. I have argued that performance-based models are central to explaining the recent drive for change in ILMs and that the norms, customs, politics, and mimiracy models shape the actual outcome, which results from the initial performance impulse. These performance models are contingent on a variety of considerations, such as technology and product markets, and also on the external environment in which the firm finds itself.

I have also argued that we need to work with a broader view of performance models than is typically permitted in the economics literature. Economics stresses control, but recent events seem equally driven, if not more, by efforts to obtain commitment. Central to commitment is reciprocity, that is, managers giving up control. When reciprocity is added, commitment becomes more than a new and sly way of obtaining control. Nonetheless the line between commitment and control is not always clear.

Finally, the reader may be troubled by the ring analogy, because it implies a series of sequential, not simultaneous, steps and because it appears to give primacy to performance. The sequential structure is simply a conceit intended to indicate which factor is most important and to permit clear exposition. In reality all factors may be in play at once. Giving primacy to performance is, I think, historically contingent but accurate for the current period. By contrast, when the War Labor Board essentially imposed ILM patterns in a variety of industries, or when personnel staff diffused them through professional associations, other rings may have claimed center stage. Furthermore, although the impetus for change comes from performance researchers, may be more strung, and more interested, in why transformations occur so haltingly. In that case the other rings should occupy their attention.

There has been a great deal of useful and important research on ILMs and our understanding of these institutions has progressed a great deal. However, an obvious research task to be undertaken is the collection of nationally representative data on the distribution of ILM types and on the change in that distribution over time. As the reader no doubt noticed, much of the evidence deployed here is anecdotal and impressionistic, and there is no good reason to permit that to continue.
There are, in addition, several themes that have been insufficiently addressed in the literature. The first is white-collar or managerial ILMs, and the second concerns placing ILMs in a broader context.

Any casual reader of the ILM literature will immediately observe that most of the material is drawn from the blue-collar manufacturing world. Whether the central models and descriptions are equally valid for managerial ILMs or in the service sector more generally is an open question. On the one hand the core constructs (control or commitment) must be important in other settings. However, the contexts in which these ideas are set may be quite different.²⁵

In addition there is a great deal of talk in the business press about the flattening of organizational hierarchies, white-collar job insecurity, and the impact of technical change on white-collar skills and tasks. Other work suggests that new work forms, such as ad hoc teams for product development, are increasingly important (Ancona and Caldwell, 1987). Some observers speak of the "Taylor-ization" of service work while others emphasize that quality is key in the service sector and thus high-commitment systems are important there also. All of these developments, or alleged developments, can be systematically examined in the context of ILMs.

Some of the economics literature on agent-principal issues, compensation models, and tournament mobility have managers as their focus, but the empirical evidence is slim relative to the theories. There is also a large "careers" literature that is most closely associated with human resource management as it is taught in business schools. Much of this literature is very prescriptive and managerial, and when it is more academic it tends to be grounded in the psychology or ethnography literatures. It rarely asks about explanations for variation across organizations, nor does it seek general explanatory models. Finally, there is very little work of any kind concerning employment patterns in the service sector. Clearly, expanding the ambit of ILM research beyond blue-collar employment represents a major challenge.

An additional challenge to future ILM research is to embed ILMs in a framework that is broader than the terms in which they have been typically conceived. As I noted in the introduction to this essay, the early ILM researchers took public policy and the firm's competitive strategy as given and focused on the labor market implications of ILM institutions. However, ILMs are important because they have substantial impacts on the welfare of individuals [along the dimensions of pay, job security, skill acquisition, and so on] and on the competitiveness of firms and the economy. This suggests that it is important to place ILMs firmly in both a public policy and a business strategy perspective.

We currently have a very poor understanding of how to deploy policy levers to influence ILMs. If, for example, we wished as a matter of policy to encourage the diffusion of the transformed ILM model, we would not know where to start. As I have already indicated, the simple prescription of more training is not convincing. Some experience suggests that interventions in firms around a particular issue (for example, the introduction of statistical process control) can lead to broader changes as the firm trains its labor force and reorganizes work (Batt and Osterman, 1993). There has been very little systematic research along these lines, however, and almost none on the broader question of the how (or whether) to attempt transformations in the external environment that would in turn induce firms to shift ILM patterns.

In a similar vein, only recently has research begun to place ILMs in the context of competitive strategy. The productivity consequences of alternative ILM patterns are poorly understood. How work organization fits with market strategy (such as variety or quality) is not well developed. In these and other ways, the firm's employment system should be more systematically linked to other aspects of its strategy and structure.

These limitations aside, it is apparent that ILMs provide a fruitful research arena for a variety of disciplines and intellectual perspectives. This will doubtless continue to be true. Whether ILMs will also be an arena in which the disciplines and perspectives can reach a mutually rewarding accommodation remains to be seen.

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Notes

1. It is important to remember that many individuals in the lower tenure categories in the tables are in the early stages of a long-term employment relationship, and hence the fraction of the labor force that is ever in a long-term employment relationship is larger than the proportion in such a relationship at any cross section. See Hall (1982) for a discussion of this.

2. I have in mind the commonly heard assertions that the average worker will have to change his or her employer many more times than in the past.

3. Hartman and Lapidus (1989, p. 1567) report that 45 percent of workers employed by temporary-help services are clerical, 20 percent are in blue-collar manufacturing jobs, and 15 percent in technical/professional specialties. Mangum et al. (1985) report that their survey showed that 62 percent of respondents used temporary workers in clerical jobs, 43 percent for production jobs, 46 percent as professional workers, and 41 percent as service workers.

4. The increase in women's tenure is influenced by supply developments as well as by the demand-side factors emphasized here.

5. The material on Corning is taken from interviews I conducted in the company. Similar information has been widely reported in the business press.

6. A great deal of effort and imagination went into the collection of these data. Unfortunately, the response rate was only 6.5 percent and thus it is not entirely clear what one should make of any findings.

7. The classic example is that the dispersed character of construction, particularly home construction, discourages formation of firm-based ILMs.

8. ILMs also make it safe for senior workers to pass on skills, since they are protected, by virtue of job ladders, from competition from their “students.”

9. The more power workers have, the more serious is the firm's control problem. This power can take various forms, including knowledge that workers have but managers do not, and the ability to affect production at key “choke points.”

10. When they manipulated the data by estimating commitment levels via a two-stage instruments procedure Lincoln and Kalleberg did find higher levels of commitment in Japan.

11. This supports the argument developed in Cappelli and Sherer (1991), that ILMs represent an important link in the organizational behavior literature between individual behavior (in this case commitment) and context.

12. For a more extended discussion of the interaction between performance-based objectives of the firm and external constraints in the establishment of ILM patterns, see Osterman, 1987 (this paper does not, however, discuss the theme of commitment).

13. Of course, there is a question about direction of causality. Complex organizations may require personnel specialists.

14. The mimicry models are convincing in a number of respects, and certainly in my own interviews with managers I have been struck by the frequency with which they explain their own policies by reference to practices they have heard of at other firms. However, copying may simply be a cheap form of economic search. The mimicry models also tend to leave open the question of where the initial ideas come from and, more troubling, what role is played by performance in determining which models are ultimately selected and survive.

15. In a textbook world, in the long run the former structure would reemerge as the supply responses reached completion.

16. In response to the objection that “market discipline” (such as quit rates or difficulty in recruitment) would thwart such administrative action, one can point to the substantial variation within a geographical area of wages for comparable jobs (Goshen, 1991; Dunlop, 1957). Doeringer and Piore (1971) discuss a number of adjustment mechanisms that firms can use in lieu of wage increases to adjust the size and quality of their labor force.

17. In a recent article Erica Goshen (1991) reviews various theories for why wages for comparable skills and occupations vary by firm. She rejects most standard neoclassical models and instead places greatest emphasis on efficiency wage and rent sharing explanations. However, she notes that the direct evidence on these models is very weak, and one is left with the view that even after many years of research on wages, we still cannot develop a convincing explanation for variation across enterprises.

18. In other industries, American firms seem to more than hold their own in international competition. The relationship of this success to ILM structure is less well understood, since much research has [unfortunately, in my view] been concentrated on declining industries.

19. At the Mazda plant in Flat Rock, Michigan, a production system and ILM that initially appeared to have the same characteristics as at NUMMI broke down under employee complaints about work pace and health and safety. A difficult industrial relations climate emerged, culminating in the election of a dissident union group and challenges to company policy (see Fucini and Fucini, 1990).

20. Rebitter (1991) shows that in the petroleum refining industry, heavy use of contingent employees is associated with increased risk of accidents.

21. The contingency of the performance gains probably helps explain the mixed findings in the literature that seeks to establish a link between work organization and outcomes such as productivity. There are investigations that suggest such links (MacDuffie, 1991, Cutcher-Gershenfeld,
1991], but there is also quality research with findings much more on the neutral or negative side [for example, Wall et al., 1986]. If one had to make a bet, the safer one, given the research and given the international evidence, would be that transformed systems do provide a performance boost. However, the mixed findings in the research give one pause, as do the serious methodological problems that characterize this line of work. The greatest methodological problem is that much of the research consists of studies of "best practice" — settings in which the researcher knows in advance that there was some success. It is not at all clear from this style of research what would happen were the "treatment" administered to a random firm. Given the possible costs of making the transition, it is evident why caution is a reasonable strategy.

22. The survival rate of QWL plans is low. According to Paul Goodman [1980], of the plans established in the 1970s, only 25 percent managed to last for five years. It is not clear whether programs in the 1980s had better prospects.

23. Skill alone is not the explanation, however, since Japan provides relatively little school-based vocational training, firms instead train intensely in the context of ILMs. American firms could choose to follow a similar strategy.

24. Levine and Tyson [1990] point to another external environment issue. When only a few firms implement transformed systems, their heightened commitment to employment security may have an adverse selection effect, as employees who would be fired in other environments gravitate to the transformed firms. It is hard to assess how important this is, although it may help explain some of the extensive investment in selection and hiring that characterizes some of the start-up transformed firms.

25. Rosabeth Kanter wrote of a group of managers, "People in the same position disagreed among themselves about its place in the organizational career map. Twenty distribution managers identified seven routes to their jobs. . . . and they imagined that there were three likely and seven rare moves from their job." [Kanter, 1978, p. 132]. A description of a traditional blue-collar job ladder would be quite different.

References


