Labor Market Intermediaries in the Modern Labor Market

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In the midst of the postwar expansion, *The Organization Man*, by William H. Whyte, described a world in which managers spent their lives within the same organization, striving to climb the ladder and never thinking about moving to another firm. During this same period automobile workers, unlike managers, faced layoffs during cyclical downturns, but these layoffs were typically followed by recalls. They too could look forward to spending their careers with the same employer.

Hard numbers confirm this story. Job tenure data—which measure the years an employee spends at the same firm—showed that the typical American worker averaged the same number of years at their employer as did the average Japanese employee, who lived under a system that was dubbed “lifetime employment” (Hall, 1982).

*The Organization Man* and the world of the secure blue-collar employee characterized the working careers of many Americans during the long period of prosperity. Of course, not everyone shared in this security. Many, particularly poor people and racial minorities, were confined to insecure jobs in what researchers called the “secondary labor market.” Many women were also denied access to the stable secure jobs at the core of the economy. And so, what emerged during this period was a two-tier labor market. In the top tier, people hired on for the long term rarely changed jobs and had little need for assistance in making transitions. In the remainder of the job market turnover was much higher, but it led nowhere. There was constant recycling through a series of low-wage, no-future jobs.

One consequence of this postwar system was that in much of the job market there was relatively little need for labor market intermediaries. In a few specialized niches intermediaries played a role (head hunting firms at
the top and the Employment Service at the bottom), but by and large they were not relevant. Furthermore, in the case of the Employment Service the outcomes were poor (Balducci, Johnson, and Gritz, 1995).

Another consequence of the postwar arrangement was that the public employment and training system, which included intermediaries, was not seen by core firms in the private sector as an important part of their operation. These firms hired people and kept them, and they also provided most of the skills training required by their labor force. As a consequence, the public system was viewed either as a form of charity or else as an extension of the welfare system. This in turn reduced its ability to deliver high-quality jobs to its clients (since the public system was not effectively connected to the source of good jobs), and a negative feedback loop ensued in which weak performance increased the isolation of the system from the core of the economy.

In recent years circumstances have changed, and a real opportunity has emerged to fashion a positive and respected role for public intermediaries. One reason that the situation is more hopeful is that, through careful evaluation and consideration of best practice, we have learned a good deal about what designs for public programs work best. As a consequence it is possible to create public intermediaries whose services are higher quality and that are attractive to firms. The other reason why intermediaries enjoy new opportunities is that the underlying employment model in the core of the job market is changing. The world of the Organization Man and of layoffs followed by recall is fading, and instead employment has had higher turnover and has become more volatile, not just at the bottom of the labor market but also for many other employees. There is thus a greater need for intermediary services than in the past. To some extent the private sector has responded to these signals, and we have witnessed the emergence of temporary help firms, Internet based job search services, and other intermediaries. However, there is also a need and an opportunity for an expanded public role.

**WHAT LED TO CHANGE**

The old system was blown apart by several forces. The willingness and ability of firms to maintain stable employment and to share profits via rising wages was based upon secure product markets and a surplus of profits. However, competition toughened a great deal in the final two decades of the last century. In part this was due to pressures of international competition, but at least as important was the wave of deregulation—in airlines,
banking, insurance, telecommunications, and trucking—that transformed the competitive landscape.

A second factor was the spread of new technologies that enabled companies to organize work in new ways. Some of these technologies were physical, notably information technology, which permitted both the dispersion of production and more powerful managerial control. Equally important were organizational innovations—just-in-time inventory, teams, quality programs, outsourcing—that led to increased productivity with leaner staffing.

A set of important political and institutional changes also undermined the old model. The increased concentration of stock holding among institutional investors and the rise of new forms of finance, such as junk bonds, enabled stockholders to pressure managers to focus more single-mindedly on maximizing profits and to avoid sharing profits with employees beyond the strict demands of the market.

A final key shift was the changing nature of skill and of skill provision. Economists typically distinguish between specific skills, which are useful only in the firm in which a person is employed, and general skills, which have broad applicability. When skills are specific, firms have an incentive to provide training, and people see little gain from mobility. However, when skills are general, firms will be reluctant to train because people can pick up their skills and utilize them elsewhere. In the presence of specific skills, firms’ turnover will be lower and careers will be built inside of one firm.

The diffusion of information technology has arguably led to skills becoming more general and hence transferable (Gould, 2002). Linked to this has been the growth of a very substantial vocational training infrastructure (community colleges and proprietary schools) that also removes some of the incentives for employers and employees to build longlasting relationships.

These changes also led to a new management idea: that firms should focus on their core competencies. This implies extensive outsourcing of “non-core” business functions, and it also means that the firm is constantly considering which activities should remain within its boundaries and which should be removed. Thus the pressure on employment stability, and hence on turnover, is continual.

The pressures described above led firms to substantially reconsider their employment systems. Taken together, the changes that ensued created a higher turnover and a less secure, more volatile labor market. Ironically, the demand for skill and commitment also rose, for reasons described below. Firms thus increasingly face the dilemma of how to achieve the flexibility they desire while at the same time acquiring a labor force whose characteristics match what they need.
THE VOLATILE LABOR MARKET

There is good reason to believe that job security has been undermined for all groups of employees. For example, firms are more willing to lay off employees for reasons other than declining sales. Osterman (1999) classified the reasons for layoffs in 1972 and 1994 as either due to poor sales or to restructuring. The fraction due to restructuring rose substantially. In a study of stock market reaction to layoffs researchers found that layoffs in the 1990s were seen by Wall Street in a positive light whereas stock prices previously had been punished by layoff announcements (Farber and Hallock, 1999).

The nature of layoffs has also changed: they are not followed by recall as they were in the past. Seventy percent of those who are unemployed due to layoffs experienced permanent (versus temporary followed by recall) layoffs, and, related to this, the fraction of those unemployed who are experiencing long-term spells has also grown.¹

There are other indications that job security has weakened. Every two years since 1984 the monthly survey of the labor force collects data on employee dislocation, defined as permanent layoffs due to business decisions of firms (e.g., plant closings or end of a shift, as opposed to poor individual performance). It is possible, therefore, to track how worker dislocation correlates with overall business conditions. Analysis of these data suggests that although there is a strong cyclical component to dislocation, during the 1990s there was more dislocation than would be expected given the tight labor market of that period (Farber, 2001).

The same data suggest that the costs of dislocation are substantial.² On average about 35 percent of those dislocated are not re-employed at the time of the survey. Of those who do find jobs, about 10 percent of those who previously held full-time jobs work part time after dislocation. The average earning loss experienced by those who do find work is about 12 percent. Although the probability of being re-employed does increase with time since dislocation, the earnings penalties are not reduced, and hence there is a substantial long-term cost associated with dislocation. Finally, in the 1990s expansion of the costs of dislocation were reduced, but by no means eliminated.

Additional evidence that there is more turnover in the labor market (and hence greater need for intermediaries) comes from the fact that firms that engaged in layoffs and restructuring in the 1990s also hired new employees at the same time. In an American Management Association survey conducted in 1996, 31 percent of the firms surveyed said that they were hiring and laying off at the same time, and the average firm that engaged in layoffs was in fact growing by 6 percent (Cappelli, 2001).
One of the notable characteristics of the past decade has been the growing threat to previously secure white-collar and management jobs. Whereas in the past the burden of layoffs and volatility has fallen upon service and blue-collar workers, now people in the upper reaches of the job market are also at risk. An American Management Association survey showed that while salaried jobs accounted for 40 percent of employment, they constituted 60 percent of job cuts (Capelli, 1999). In the dislocated worker surveys a gap remains in the fortunes of white- and blue-collar workers, but that difference has notably narrowed over time.

Yet another indicator of greater volatility is the spread of temporary employment. The increased utilization of staffing firms has been dramatic. Between 1979 and 1995 staffing firms grew 11 percent annually, five times faster than the average for nonagricultural employment. (Autor, 2000a). Between 1990 and 2000 temporary help firms were responsible for 10 percent of net job growth (Autor, 2000b). Clearly temporary work, by loosening the ties between employers and employees, is another aspect how work and careers are changing in the direction of a higher turnover labor market.3

Given all of this, one would expect that were summary data available on job security, it would show a sharp decline. But this is where the picture gets murky. The best available data along these lines are the job tenure information collected every two years as part of a supplement to the Current Population Survey. These data measure the number of years that the respondent has worked for the same employer.

Table 6.1 provides these data for the entire labor force and for men and women, both with and without age distinctions. The basic story is clear. There is a downward trend in the proportion of men holding long-tenure jobs, and the trend is especially pronounced for middle age men whom one would normally expect to be well ensconced in their organizations. However, the trend is quite different for women who, by contrast, have experienced a long-term increase in the fraction holding high-tenure jobs. The net effect is a mild decline in long-term tenure.

It is easy to see, from looking at the tenure data for men, why observers may feel that stable careers are crumbling. Although even in 2000 over half of men age 50–54 held long-tenure jobs, the decline has been sharp, and the trend, if extrapolated forward, certainly is not promising. However, if we ask about the stock of long-tenure jobs in the economy then the experience of women offsets much of what has happened to men. There is clearly a story to be told about why the fortunes of men and women diverge so sharply, but for the purposes of understanding employment systems, the first approximation is that stable careers seem to be in mild retreat, but nothing as dramatic as some commentators in the popular press would have it.
### Table 6.1  Percent of Employees with 10 or More Years of Tenure with Current Employer

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<tr>
<td>Both sexes over 25</td>
<td>31.9%</td>
<td>32.2%</td>
<td>30.5%</td>
<td>31.7%</td>
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<tr>
<td>Both Sexes Age 40-44</td>
<td>38.1</td>
<td>39.3</td>
<td>36.1</td>
<td>35.9</td>
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<tr>
<td>Both Sexes Age 50-54</td>
<td>53.5</td>
<td>51.4</td>
<td>50.4</td>
<td>48.6</td>
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<tr>
<td>Men over 25</td>
<td>37.7</td>
<td>35.9</td>
<td>33.1</td>
<td>33.6</td>
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<tr>
<td>Men Age 40-44</td>
<td>51.1</td>
<td>46.3</td>
<td>41.7</td>
<td>40.4</td>
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<tr>
<td>Men Age 50-54</td>
<td>62.3</td>
<td>58.5</td>
<td>54.9</td>
<td>51.6</td>
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<tr>
<td>Women over 25</td>
<td>24.9</td>
<td>28.2</td>
<td>27.6</td>
<td>29.5</td>
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<tr>
<td>Women Age 40-44</td>
<td>23.4</td>
<td>32.0</td>
<td>30.4</td>
<td>31.4</td>
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<tr>
<td>Women Age 50-54</td>
<td>42.5</td>
<td>43.4</td>
<td>45.8</td>
<td>45.6</td>
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*Source: Bureau of Labor Statistics.*

Additional evidence in the direction of moderation is found in the Bureau of Labor Statistics' survey of contingent work. As part of yet another supplement to the Current Population Survey, respondents are asked every two years about whether they hold contingent jobs. There are three alternative definitions of what is meant by contingent work, and the most expansive is simply employees who do not expect their jobs to last indefinitely (for reasons other than personal). Among people between the ages of 25 and 64, in February 2001, 3.2 percent reported that they held contingent jobs. This compares with 3.9 percent in 1995, 3.5 percent in 1997, and 3.3 percent in 1999. There is thus no upward trend in the fraction of the workforce holding precarious jobs.

When all of the foregoing is taken into account, the picture that emerges is of a job market in which security has frayed substantially, although for many people the older patterns remain in place. However, even people who have managed to keep their jobs find themselves in a potentially more insecure position than in the past. In addition, for employers a new set of practices has emerged that implies that they can no longer count on a secure supply of labor emerging from an internal job ladder. Firms must rely more heavily than in the past on the external labor market to supply labor, and this also has important consequences for the role of labor market intermediaries.

**PRESSURES FOR COMMITMENT AND SKILL**

Increased turnover and reduced commitment would not necessarily be a problem if work were being dumbed down. If this were the case then there would be much less to worry about regarding the capacities of the labor
force, and companies would not face any costs from the loss of job security and the increase in mobility. However, what is happening is just the opposite of dumbing down. The skill needs of firms are increasing. According to many commentators, the increased demand for skill lies behind the sharp rise in the educational wage premium. Whereas in 1973 people with only a high school degree earned 68 percent of those with a college degree, by 1999 this had fallen to 57 percent (Mishel, 2001). The fortunes of high school dropouts took an even worse turn.

There are at least two reasons why the demand for skill has increased. One is the diffusion of new technologies, notably information technology, which places increased demands on employees. Although there is controversy over the role computers play in explaining wage inequality, there is broad agreement that the expanded use of computers has increased the demand for skill. While there are cases of computers substituting for high-level jobs (for example, telephone repair people now can simply replace circuit boards instead of engaging in complicated rewiring), on balance computers require more, not less, skill. For example, those industries that invested most heavily in computers were also the ones that tended to increase their proportion of college relative to high school graduates.

Skill demands have also increased because firms have adopted ways of organizing work that require more judgment from employees and that place a premium on people working together to solve problems. These new work systems, termed "high-performance work organizations" emerged in the 1980s and early 1990s as a response to competitive challenges. They have been implemented in both manufacturing and in service sector firms.

At the core of the new systems are changes in how employees do their job. Perhaps the most typical innovation is the introduction of work teams. The idea of teams is that the employees take responsibility for a group of tasks, that there is a sense of responsibility for the team's product, that the workers are broadly skilled, and that there is an element of job rotation.

In many "transformed" firms employees are involved in aspects other than direct work activities. The most common example is problem-solving groups in which cross-sections of employees come together, to some extent obviating traditional managerial/nonmanagerial distinctions. These groups address problems such as production techniques, quality issues, and health and safety.

To understand the spread of these systems I conducted two surveys, one in 1992 and the other in 1997, that asked a representative sample of private sector establishments with 50 or more employees about their work organization practices (Osterman, 2000). I asked about self-managed teams, quality circles, job rotation, and total quality management. An establishment was recorded as utilizing a given practice if half or more of its "core" employees
were involved. In 1992, 14 percent of the establishments had three or more practices in place and 26 percent had two. By 1997, these figures had increased to 39 percent and 70 percent. Both the substantial rate of diffusion and the increase since 1992 point to the power of these ideas as well as their surprising ability to flourish even in an era of downsizing and employment insecurity.

As firms transform their work systems, it seems likely that the skills they need from their labor force will also change, both in terms of level and content. In the 1992 establishment survey there was a very clear relationship between work organization and training: the level of training in those establishments that had two or more of the practices in place was 35 percent higher than in establishments that had not modernized their work practices. This finding remains even after controlling for an extensive set of characteristics of the firm and the employees (Osterman, 1995).

The emergence of these new work systems, when thought of in the context of increased turnover and reduced job security, point to an important paradox in the job market. The new work systems require higher levels of skill and of commitment, as employees are asked to share their ideas with the firm and to make the extra effort to produce quality. However, changes in job attachment point to reduced commitment. Thus far, this paradox has been managed by firms, largely because employees are concerned enough about their future that they are willing to play ball. Whether this delicate balance can be maintained in the future is an important, unresolved question.

THE EMERGENCE OF PRIVATE SECTOR INTERMEDIARIES

If the foregoing trends in the labor market are truly significant, then it is reasonable to expect that the private sector would react by creating or expanding labor market intermediaries to meet the emerging needs. In fact, this is just what has happened. Between 1987 and 1997 revenue for the largest executive search firms grew from $45.2 million to $157.2 million (Cappelli, 1999). However, the growth of intermediaries has been much broader than in this relatively narrow niche. Perhaps the most dramatic example is the spread of temporary help or staffing agencies.

Temporary and Contract Work

I discussed earlier the extent of temporary work in the context of looser attachments between firms and workers, however it is also important to
understand important shifts in the role staffing firms play in the labor market. Although many companies still use temporary help agencies to meet peak loads and fill temporary vacancies, what is striking about these firms is the new roles they are playing. They have penetrated into a wide range of occupations, and they are an important element in many firms’ recruiting and training strategies.

Based on their survey of establishments, Abraham and Taylor (1996) concluded that one motivation of contracting out is to obtain greater flexibility in the wage structure. Although this is often taken to mean paying lower wages (and avoiding benefits) other case studies show that staffing firms can sometimes enable firms to pay certain categories of workers higher wages without being forced by the wage structure of the firm to increase the compensation of all employees.5

It is also increasingly clear that temporary help firms are performing intermediary functions. The movement from “temp to perm” is quite common, and firms increasingly use the temporary phase as a new version (with fewer legal complications) of probationary employment. In a survey I conducted, 24 percent of temporaries were eventually hired by a firm to which they were assigned. Census data report that 57 percent of workers in a temporary job were in a permanent job the next year (Cappelli, 1999). In a morphing together of two strata in the job market, Manpower Inc. has created an alliance with the search firm Drake Beam Morin.

Temporary help firms also train their employees. Manpower invests 2 percent of payroll on just R&D for training, a figure that is about the training budgets of most firms. It has 150 self-paced modular courses (Cappelli, 1999). In a 1994 government survey of temporary help firms, 68 percent provided some form of computer training (Autor, 2000b).

The Internet

The need for better intermediary services in the new environment has combined with the spread of new technology and led to what appears to be an explosion in job matching via the Internet. According to one estimate, there are currently 7 million unique resumes posted and 25 million (not necessarily unique) jobs advertised on-line. In August 2000 one of the leading sites, Monster.com, had 3.9 million resumes and 430,000 jobs (Autor, 2001). There are also sites, such as guru.com, that will work with firms to staff particular projects.

On its face this development promises a much more fluid labor market and much better intermediary services. It clearly has some advantages. For example, the cost of Internet job postings is much less than are newspaper
help-wanted ads. Hence to some extent these new jobs sites are simply a competitive effort to substitute a lower cost bulletin board (the Internet) for a high-cost one (newspapers). However, it seems reasonable to think that they are also a response to increased demand for intermediation. Nevertheless, there are a variety of reasons to think that the Internet is a complement to, not a substitute for, intermediary services provided in a more hands-on manner.

When people are hired for any but the simplest jobs, firms are concerned about personal traits such as ambition, honesty, conscientiousness, etc., which cannot be detected on resumes. In fact, the Internet is likely to cause special problems in this regard because people with traits that are unattractive will find it easy to post their resumes in the hopes that there will be little detailed follow up. Phone calls and letters from past employers are a partial solution, but these are often rose-colored. For these reasons there will continue to be a strong need for institutions to vouch for potential hires. These intermediary institutions have a deeper knowledge of the traits of candidates and also have their own reputation and relationships with employers that they will want to protect. Therefore, there is no reason to believe that the Internet spells the death of institutional intermediaries and, in fact, may very well stimulate demand for them.

**Employer and Union Centered Networks**

In the past decade there have been a growing number of examples of clusters of firms, and sometimes unions, coming together to help organize the labor market and provide intermediary services. At their best these efforts bring together the parties to discuss common technical, marketing, and employment problems. They work to find resources to address these issues, they engage the participants in designing common training programs for their labor force, and they create a mechanism to enable people to move easily from one firm to another.

In some instances these networks are business driven, such as the programs run by local chapters of Chambers of Commerce, the National Association of Manufacturing, and business associations such as the National Tooling and Machining Association. Similar networks have been created under union auspices, for example the Garment Industry Development Corporation in New York that is affiliated with the apparel union, UNITE. Another well-developed example of how networks can operate is the Wisconsin Regional Training Partnership. The partnership consists of a consortium formed by manufacturers, unions, and public sector partners in the Milwaukee metropolitan area.
OPPORTUNITIES FOR PUBLIC POLICY

Public labor market policy throughout the postwar period was based on the assumption that for most employees, jobs were full time, long term, and relatively stable. Frequent job changing was thought to be characteristic only of young workers searching for their niche, and after a relatively short period of time, even they were expected to settle down and develop careers within their "permanent" places of employment.

Linked to this assumption was a corollary point about where people worked. With the exception of special cases like the construction trades and parts of the entertainment industry, the traditional assumptions envisioned the typical workplace as a large, often industrial, firm. In reality, workers have always been distributed across large and small employers, and large enterprises were perceived to be on the vanguard of technology and work practices. Thus what they did in these areas was seen as progressive, "leading edge," and thus worthy of emulation—even if it did not appear to fit other, smaller firms.

Recent changes in the world of work have undermined these assumptions. In so doing, they have eroded the foundations of our current labor market institutions. The forms that work takes have become more varied. Many people no longer expect to play out the major portion of their work lives attached to a single employer. Companies have indeed become much more willing to layoff workers, not only as they always did in response to business downturns but even in periods of prosperity as shifts in technology and markets change the mix of labor requirements or in response to pressures from financial markets to increase returns on capital. Workers in turn increasingly see the need to move across enterprises to expand their skill base and maintain information networks in the course of their careers. Alternative forms of work and employment relationships have developed through temporary help agencies and independent contracting.

In a variety of ways, public policy has been undermined by these developments. We lack strong institutions for linking together a series of short-term work opportunities into a continuous stream of employment and income, now that this function is no longer performed within large enterprises to which workers are permanently attached. We lack institutional guidance for workers negotiating their careers through a sequence of skills developed by moving across the borders of different firms. Smaller entrepreneurial firms, which have been the source of much of the dynamism in the U.S. economy, are poorly served by the current system.

When firms increasingly hire from the outside into positions that were once part of closed job ladders, they will need assistance in identifying,
screening, and training potential recruits. In the old world, firms had ample opportunities to observe and assess people as they climbed internal ladders. These ladders also were the vehicle through which much training occurred. Now this pattern is less viable, and new institutions—intermediaries of various stripes—have the chance to fill the void. The private sector has responded and created new institutions to fill these needs. However, there also remains a need, and an opportunity, for creative public policy.

The case for public policy is given additional impetus by demographic trends. Without intervention it will be increasingly difficult for firms to obtain the kind of labor force they need. Whereas the labor force grew by 38.7 percent between 1980 and 2000, it is projected to grow by only 19.4 percent between 2000 and 2020. Furthermore, the labor force will increasingly consist of groups who traditionally face significant challenges. Whereas native-born whites accounted for 78.9 percent of the labor force in 1980, they will account for only 63.1 percent in 2020. Projected levels of educational attainment also imply a substantial slowing relative to the 1980 to 2000 experience (Ellwood, 2001).

Training is one important example of the importance of public policy. Firms view training as an investment, and in a high turnover environment the investment is less likely to pay off. Consistent with this expectation, survey evidence shows that employers with higher levels of turnover invest less than firms with lower levels. In addition, the flattening of organizations and the elimination of rungs in the job ladder reduce opportunities for people to learn new skills in small increments as they move up in the organization. Hence the new ways of organizing work are likely to decrease companies' investments in training just at the time that the demand for skill is growing due to technology and work systems such as teams and quality programs.

The case for more aggressive public policy with respect to training is threefold. First, there are important social benefits to increased training, and because these benefits are broadly shared, no firm is likely to consider them in making its own training decisions. Second, there are serious collective action problems. That is, any firm that makes a substantial investment has to worry that other firms will simply hire away its employees after the investment has been made. Third, there are distributional issues. People at the bottom of the job market are often ignored because the costs and risks of training them are perceived to be high. Yet these are the very people who are of concern from the viewpoint of equity and social justice.

In addition to training, public intermediaries can play an important role in helping firms access a labor force that they might otherwise ignore. People experiencing labor market difficulty often lack the networks, which connect them with good jobs, and they also do not have people or institu-
tions to vouch for their skills and reliability. An effective intermediary can help people get jobs and also assist them in remaining employed after they are hired.

The public employment and training system has long been seen as isolated from the core of the job market. However, the labor market developments outlined in this chapter may offer new opportunities for public intermediaries to overcome this stigma. Because firms now need these services more than ever, they may well be more responsive to public intermediaries that offer quality assistance. Whereas in the past the employment and training system was viewed as essentially an extension of the welfare or charity systems, and hence not taken seriously, today well-designed programs may be able to sell their services to a wider range of employers. If we are able to take advantage of this opportunity then the benefits will flow to people who had previously been confined to a stigmatizing system. The challenge will be to assure that programs are indeed effective and hence can take advantage of the opening that the newer, more volatile job market offers.

NOTES

1. These data refer to 2001 and are from Employment and Earnings, January 2002.

2. The data in this paragraph are taken from Farber (2001). Similar findings are reported in Osterman (1999).

3. If one looks at the level of temporary employment instead of growth rates the figures are a bit more moderate. In 2001 the Census’s Current Population Survey found that 3 percent of employees classified themselves as on-call workers, employees of staffing firms, or contract workers. However, this figure is a bit misleading because the high turnover of temporary workers implies that more people flow through these jobs in a given year than appear in them at any point in time. A reasonable estimate is that between seven and eight times as many people hold the jobs over the course of a year than at any point in time. A fair conclusion is that the spread of temporary work is one more indicator of the volatile insecure labor market, but in and of itself this employment form is far from the norm.

4. There is a correlation in data on individuals between computer usage and wage levels. Furthermore, those industries that have computerized the fastest seem to have the highest levels of wage inequality. On the other hand, computer usage may simply be a proxy for a person’s place in the occupational hierarchy, and any other proxy (e.g., use of pencils) would also produce the same effect. Furthermore, the diffusion of computers in the economy does not track very well the timing of the explosion of wage inequality. For a summary of this literature and a skeptical view about the relationship of computers to inequality see Card and DiNardo (2002).
5. Abraham and Taylor (1996) find evidence of this high-wage pattern in their data on contracting out, and Houseman, Kalleberg, and Erickeck (2003) also found examples of exactly this rationale in their case studies of temporary workers in healthcare.

REFERENCES


