

**Are American firms creating a more
segmented labor market?
Issues and preliminary evidence**

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Abstract

This paper addresses the question of how firm-level restructuring is affecting the nature of work and opportunity in America. It focuses on the possibility that the new methods of production and work organization are generating a more rigidly segmented labor market. This theme is beginning to emerge from various research strands but remains tentative and unformed. I first elaborate the thesis by identifying the dominant models of firm restructuring and their potential effect on the labor market. A brief review of research follows, emphasizing the scattered and indirect pieces of evidence for the rising segmentation thesis. Last, I argue that a focus on the mobility process as the central mechanism of segmentation is the key to further conceptual and empirical development in this field.

I. Introduction

American workers have seen striking changes in their jobs and wages during the last two decades. The 1970s brought stagnation in real earnings and wide-spread displacement of manufacturing workers. By the 1980s, the evidence indicated a declining middle class and an unprecedented rise in earnings inequality. The situation had become especially alarming for parts of the black and Hispanic population, with precipitous declines in labor force participation. Trends in the first half of this decade do not offer much solace. The recent recovery has been strong, but unlike ones before it has brought little improvement in average wages, and for the first time in recent history, college graduates are sharing in the general plight.¹

There is by now a substantial body of research on these trends (see Levy and Murnane 1992; Danziger and Gottschalk 1993; Mishel and Frankel 1991). The dominant explanation holds that technological change and global competition have significantly increased the demand for skilled labor. Substantial numbers of American workers are not meeting this demand and thus find their real wages declining. At the same time, well-educated workers reap the benefits of their qualifications, and the net result is greater inequality among workers. The effects of other factors such as deindustrialization and the decline of unions are also acknowledged, but in the end, it is the problem of supply that has been and continues to be stressed. Thus the main trend in public policy during the 1980s was to emphasize education and training programs, with the goal of giving workers the sophisticated skills required by the new post-industrial economy.

¹ Wage stagnation in the past several years has been experienced by *all* education groups, something that was not true during the 70s and 80s (Uchitelle 1995).

But recent years have brought the recognition that the problem of growing inequality is much more complex. Simply looking at what workers are (or are not) bringing to the labor market is not enough. Changes in the structure of that market may be contributing as well. In fact, researchers are starting to suggest that we may be witnessing the emergence of an increasingly polarized and unequal job structure, and that changes at the firm and plant level may be playing the leading role in this process. For significant numbers of workers, employment is being externalized at the same time that internal labor markets are being dismantled, and ladders of access to the remaining core jobs are increasingly cut off. At the firm level, the business press abounds with examples of innovative companies that are creating high quality and well-paid jobs for skilled workers. This has often been labeled the “high road” to competitiveness in a global economy. Yet a worrisome number of companies seems to be adopting a permanent “lean and mean” business strategy, as signaled by the proliferation of low-wage, dead-end jobs, the imposition of two-tiered wage systems, de-skilling of key tasks, and the substitution of “temps” for full-time workers. This has often been labeled the “low road.” The critical point is that if the two roads are both being practiced at the same time, a more unequal and rigid job structure is likely.

In short, researchers are suggesting that the reorganization of work and production by American firms in the search for competitiveness has yielded an increased division between core and periphery workers. The outcome is a more segmented labor market, where some jobs are being upgraded, others are being downgraded, and movement between the two tiers is becoming increasingly difficult.

This idea is very much in its infancy. It has only tentatively been put forth in the literature, and even then is based on informal and haphazard observation. The argument itself is not well developed. Firms have restructured their production process and labor use in a variety of ways, and this variation is not well understood or documented. Hypotheses about the effect on labor market processes are weak and require much extrapolation. Almost all of the theoretical focus has been on firms in manufacturing industries; service industries, now the main source of employment, have largely been neglected. And finally, there is almost no empirical, systematic research which directly tests any parts of the argument.

The goal of this paper is therefore to (1) lay out the range of ways in which American firms and workplaces have been reorganized, and to begin to trace the potential effect on segmentation in the labor market; (2) assemble the scattered and indirect evidence for the rising segmentation hypothesis; and (3) make an initial argument for the central role of mobility in the field's conceptual and empirical development. In order that there be a context for this discussion, we begin with a brief review of the traditional structure of management/labor relations.

II. Before Post-industrialism

For close to half a century, American industry profitably worked within the mass production paradigm. The features of this paradigm are well known (Kochan, Katz, and McKersie 1986; Piore and Sabel 1984; Jacoby 1985). By World War II, the craft production system of the 1800s had given way to monopoly capitalism, driven by the centralization of capital and the consequent dominance of large firms. Under Fordism, products became

standardized, as did the tasks that workers performed. Growth was contingent on market stability: the expansion of productivity required a constant expansion of markets. In the need to balance supply and demand, Keynesian macro-economics and government intervention came to play an important role.

Of interest to us is what happened to the social organization of production. The old foreman system of shop-floor control, often oppressive and punitive, no longer worked. This is because mass production brought with it growth of management and bureaucratization. What emerged was a combination of technical and bureaucratic control of the workplace (Edwards 1979). Unions played a critical role in this reformulation of industrial organization. The union was given a voice in setting wages, working conditions, and grievance procedures. In return, management had control over planning and company decision-making. Thus came the philosophy that management managed, while unions negotiated the impact on their workers. Bargaining became the dominant mode of interaction. Capital/labor relations were highly formalized and routinized, the division made explicit in every rule. ²

As a result, the nature of work was fundamentally changed. The Taylorization of production had yielded numerous and fragmented jobs, each with a strictly defined task. Within

² This description should not obscure the considerable amount of conflict and violence in the history of the Fordist system, especially in the early phases. But researchers are increasingly recognizing that the union bargaining model succeeded because it fit with the prevailing mode of industrial organization. It fit the requirement for control, it fit the production process, and it fulfilled the not negligible function of ensuring that consumer demand could keep pace with production (Kochan, Katz, and McKersie 1986).

this system of production, the allocation of labor, worker mobility, and wage determination were governed by the internal labor market. The system of job categories was diverse and each component rigidly defined. Wages were attached to particular jobs and determined by the position of jobs in the hierarchy. On-the-job training and seniority activated the promotion process, which thus became almost a technical procedure. Coupled with limited ports of entry, the result was strong job security. This structure was therefore characterized by a core group of full-time and long-term workers thoroughly entrenched in the firm, with middle-class wages the norm.

It should be stressed that, formally, this system of human resource management never covered the majority of American workers: at its height, union membership stood at roughly 30% (cite). But informally, the model was more widespread, especially in the manufacturing sector, because the threat of unionization often propelled non-union shops to offer comparable wages and working conditions. As a general rule, then, it is safe to say that the internal labor market represented the work experience of a significant number of American workers.³

III. The New Organization of Work and Production

As is well known, the 1970s brought the onset of decline of the mass production paradigm. The system had reached the limits to its expansion, primarily because it could not

³ It is still very much an open question to what extent service industries ever followed the internal labor market model. This would seem an important topic for research, if we are going to make statements about current changes in the organization of work.

maintain high levels of productivity gains in markets that were increasingly contested (Storper and Scott 1990). Thus, by the middle of the decade, it had become clear that

... recent concession bargaining, workplace innovations, and the rise in the importance of nonunion human resource management systems represented a breakdown of the industrial relations system that was shaped by New Deal labor policies and the early institutionalization of collective bargaining (Kochan, Katz, and McKersie 1986: 21).

Business leaders, policy analysts, and academics increasingly argued that America was facing another critical transformation of economic organization, and that companies must therefore fundamentally alter the way they organize the process of work and production (Hays and Abernathy 1980; Piore and Sabel 1984; Dertouzos, Lester, and Solow 1989). Partly drawing on successful principles of business from Japan and Germany, partly drawing on the craft production system from the 1800s, a host of new managerial and organizational principles was developed. Underlying all of the new models is a common goal: enabling the modern American firm to regain its competitiveness in the global marketplace, by designing an enduring system of industrial organization that consistently yields higher productivity and profits.

But how this goal is achieved varies enormously. Thus we are currently seeing a very wide spectrum of firm-level restructuring and innovation. At one extreme lies the “lean and mean” model, often characterized by short-sighted strategies and bottom-line cost cutting. At the other extreme lies the “high performance” model, characterized by long-term planning, innovative work structures, and substantial employee involvement. In the middle lie many different combinations of these polar options. Some of the new ideas have suffered the fate of monthly fads, others have only been implemented in piecemeal or *ad hoc* fashion, and conflicting policies are often combined and instituted simultaneously.

The critical question for us is how the structure of the labor market has been affected, and this is one of the most contested issues in the literature. Almost all researchers agree that the traditional structure, especially the institution of the internal labor market, is undergoing a fundamental change. In what way and to what extent is an entirely different matter.

A. The high performance firm

The high performance model is in many ways the ideal of how American firms should be responding to the changing economic landscape. It has been touted under various labels in academe and the business community (Dertouzos, Lester, and Solow 1989; Lawler 1986; Kanter 1983; Levine and Tyson 1990; Kochan and Osterman 1994; Womack, Jones, and Roos 1990), and perhaps most visibly, by the U.S. Secretary of Labor Robert Reich (1991). The model questions conventional ways of organizing companies and their employees. It calls for decentralization, lean production, flatter chain-of-command hierarchies, the creation of intra-firm customer relationships, “just-in-time” relationships to suppliers, and the use of total quality management. The success of these reforms is intimately tied to innovative human resource policies for a skilled workforce. The most important of these are participative management, self-directed teams and quality circles, job rotation, more sophisticated employee incentives and performance-based compensation, greater job security, and broader job specifications. These human resource strategies are intended to create high levels of motivation, as well as mechanisms that channel increased employee involvement into performance and profitability gains (Walton 1985).

Under this model, everyone wins. As productivity rises, businesses become more profitable. And because the firm's success depends on the skill and creativity of its workforce, it provides high wages, job security and mobility, and front-line decision making. Thus, companies retain or actually strengthen their internal labor market. Ideally, then, labor market effects look generally positive for workers. There are signs, however, that the reality may be different. Relatively few companies have adopted the full-fledged high performance model (see below), and this continued lack of diffusion raises the question of whether the model is really feasible in a highly competitive environment. It may be that the model *inherently* requires a peripheral layer of workers/firms to buffer and shield the core workers/firms from fluctuations in the economic environment. In their examination of the growing externalization of workers from the traditional internal labor market, Pfeffer and Baron conclude that:

... because externalization enhances flexibility and focus, it may actually be an essential concomitant of human resource policies that emphasize long-term employment, commitment of the permanent workforce, and a shared vision or distinctive competence (Pfeffer and Baron 1988, 274).

A good example is the innovative Saturn automobile plant, which recently negotiated a union contract that permits GM to staff 20% of the labor force with workers who are not covered by security pledges. Researchers also point to Japan, and the fact that the much heralded life-long job and one-company culture covers only a part of the workforce, with the remainder working in much less secure work environments reminiscent of the secondary labor market in the United States. This line of argument is very much in dispute, with some researchers making exactly the opposite point (Levine and Tyson 1990). But we should at least recognize the possibility that high performance systems inherently require a workforce distinctly segmented between inner core workers and buffer peripheral workers.

B. The “lean and mean” model of flexibility

At the other end of the spectrum of firm restructuring lie business strategies that emphasize the bottom line: cost-cutting, downsizing, and reliance on low-wage labor. The roots of these strategies can be found in the runaway shop phenomenon that started in the 1970s, where companies moved unskilled assembly abroad while on the domestic front forcing wage concessions and outright job cuts, and avoiding unions through relocation (Bluestone and Harrison 1982).

This approach -- competing first and foremost on the basis of cost -- continues to the present. The general character of the “lean and mean” model is a rationalized and bare-bones production process, with labor costs and quantities used to make constant adjustments to market changes in product mix and demand (Cohen and Zysman 1987). In their most coherent form, these types of strategies come under the aegis of post-Fordism or “flexible specialization” (Piore and Sabel 1984). Flexible specialization takes as given that the future will see continued high levels of competition and an uncertain and volatile product demand (Rosenberg 1989). In this environment, the firm creates new market niches by continuously differentiating and modifying its products. Firms become specialized and smaller, dedicated to specific but evolving products and services (Friedman 1988). Practices such as subcontracting and vendor/buyer alliances are seen as crucial, because they establish inter-firm networks and communication channels that enable industry-level flexibility.⁴

⁴ There are some serious questions about whether flexible specialization is always and under all circumstances the most efficient model of production. Osterman (1992) argues that the traditional model is actually superior in some cases. For example, several successful Japanese transplants in America have retained it -- Storper and Walker (1989) find that while the GM-Toyota venture in California is GM's most productive, its level of mechanical and electronic sophistication is lower than that of many other plants. Kochan, Katz, and McKersie (1986) review tests of productivity differences between the mass production and the flexible specialization models,

and cannot find clear support in favor of the latter. Christopherson and Storper (1989) actually find a decline in productivity in the motion-picture industry, which adopted full-scale flexible specialization techniques.

The success of these approaches, whether *ad hoc* or systematic, hinges on flexibility in how the firm manages human resources. For example, *wage* flexibility enables the firm to adjust wage levels and differentials to market conditions, including the type of labor employed; and *numerical* flexibility allows the firm to vary the amount of labor used, shedding and adding workers as needed (Hyman 1988). The labor market outcomes are not difficult to construct.

Given increased product market competition, continually changing technology, and the growth of educational institutions able to train workers, employers are less interested in maintaining a loyal company-trained workforce with low rates of turnover and more interested in being able to retrench quickly. Thus employers are restructuring the size of the core workforce and expanding the peripheral workforce (Rosenberg 1989, 394).

Frequently involved are union avoidance; increased use of two-tiered work and wage structures, separating an inner core of skilled workers from a periphery of cheaper part-time and temporary workers; subcontracting as a means of reducing the size and cost of core labor; and the surprising retention of some tenets of scientific management such as job fragmentation and de-skilling for part of the work force (Colclough and Tolbert 1992). Much less emphasis is placed on seniority and internal promotion, and on-the-job training is replaced with reliance on external education and training institutions (Appelbaum 1987).

It should be stressed that these types of changes are often interpreted as indicating the emergence of a truly competitive, more efficient labor market. The argument is that even innovative firms no longer have the luxury and profit margins to provide the traditional single-firm internal labor market, at least not for all workers. Instead, the argument is for a more open system, where labor truly is a factor of production and therefore constantly moves and relocates in accordance to where and when it is needed. The result is the creation of “multi-employer” careers and labor markets. In this scenario, within a given industry, workers frequently shift

between firms according to demand but gain portable skills in the process, so that upward mobility occurs across different organizations. Individual firms do not risk losing their investment in training because skilled workers will move where they are needed. The provision of portable health insurance and pensions, and the creation of external institutions such as job matching centers, ensures worker welfare. The system is more efficient, because wages and advancement are attached to the individual worker: competition between workers increases and the tie between skill and rewards is made stronger.

IV. A More Segmented Labor Market?

In sum, a fundamental reorganization of work and production is clearly underway in the American workplace. Changes in the nature of employment and mobility are unavoidable, and the number of workers affected by the new employment relationships will continue to rise. The critical question is what these new employment relationships look like and whether they will lead to a more fluid and equitable labor market, or to a more unequal and segmented labor market.

The remainder of this paper is dedicated to elaborating the latter hypothesis. Specifically, a number of researchers have started to suggest that the reorganization of work and production by American firms in the search for competitiveness may be yielding an increased division between core and periphery workers. The outcome is a more segmented labor market, where some jobs are being upgraded, others are being downgraded, and mobility between the two tiers is becoming increasingly difficult.⁵ This outcome may occur in two ways. First,

⁵ The most important sources are Osterman (1988), Kochan and Osterman (1994), Harrison (1994), Cappelli

American firms may increasingly adopt one of the two polar business strategies outlined above. The net outcome in terms of the labor market would then be greater polarization between workers in high performance firms (with job security and good wages), and workers in “lean and mean” flexible firms (with high job instability and stagnant earnings).

Second, firms may also increasingly contain both primary and secondary components *within* them. When firms lower costs by subcontracting and “externalizing” labor that is not absolutely critical to their operation, they drive a wedge between the protected and the contingent workers. The same can be said of the substitution of cheap and low-skilled workers for permanent workers. Internal labor markets are increasingly dismantled and ladders of access to career jobs are increasingly cut off.

One or both of these scenarios heralds a growing division between core workers and the peripheral and marginalized workforce. It must be emphasized that in this view, the concurrent rise in both the importance of skill and structural segmentation is not contradictory. That is, the rising value of skilled workers is consonant with business strategies that (1) protect a small inner core of high-skill and well-paid jobs critical to productivity, while (2) reducing costs by de-skilling and/or subcontracting peripheral low-wage jobs that are more and more cut off from advancement into the core. This issue will be taken up in detail in the final section.

There is no research that directly tests whether firm-level restructuring has resulted in greater labor market segmentation or any of its specific components, such as greater turbulence in work experience for “peripheral” workers. The problem is that adequate data do not exist.

(1994), Pfeffer and Baron (1988), Noyelle (1990), and Goldthorpe (1992), as one of the earliest statements.

What one needs is quantitative data, over time and at the firm level, including not only wages paid and worker characteristics, but also policies on promotion, changes in job definitions, hiring of ancillary workers, and so forth. On anything but a case study basis, such information is presently not available. Researchers have therefore had to rely mainly on indirect and ultimately weak indicators. Following is a list of empirical trends, from a variety of sources, which in combination begin to suggest that the reorganization of work and production in the search for competitiveness may be yielding an increased division between core and periphery workers. Given that data linking firm practices and labor market outcomes does not exist, one is left with looking at the two sides of the equation separately for clues, that is, data on changes in what firms have been doing, and data on how the labor market has been changing.

Empirical Indicators

A. Evidence on firm practices

1. The distribution of firm restructuring strategies

Although firm restructuring has been at the forefront of public and academic discourse for close to two decades, there is surprisingly little solid data on its prevalence. There are only a handful of nationally representative surveys, and these suffer from serious limitations.⁶ The emphasis has tended to be on identifying the prevalence of high performance practices, not on describing changes in the full distribution of business strategies (Freund and Epstein 1984; Lawler, Mohrman, and Ledford 1992). A very rough estimate is that between 20 and 30 percent of firms have adopted innovative systems, but this is highly variable and many argue that the percentage is much lower if one requires substantial innovation for a majority of the firm's workers.

⁶ The main problems are: (1) the surveys are not longitudinal and must therefore rely on retrospective questions; (2) the information obtained is often superficial (e.g. "do you practice Total Quality Management?"); (3) it is exceedingly difficult to get reliable responses on whether firms have used "lean and mean" labor strategies; and (4) firms do not usually give access to internal data (such as payroll books) which might allow independent measures.

For example, the National Center on the Educational Quality of the Workforce (1995) found that a quarter of the surveyed firms used benchmarking and that 37% had a TQM program. But penetration was quite low: only 12% of non-managerial employees worked in self-managed teams and only 17% experienced job rotation. Similarly, Osterman (1994) finds that 35% of surveyed companies had adopted two of his four measures of innovation, with the requirement that at least 50% of the core workers were affected. Upping the requirement to three or four of the measures lowers the percentage considerably. He does find that skill development and training are higher in the “innovative” firms, indicating some validity to his findings. Ichniowski (1990) was one of the few studies that attempted to identify the full distribution of firm practices. Cluster analysis of a wide range of firm practices yielded nine clusters, ranging from traditional union firms (13%) to transformed firms (13%), with a variety of intermediate firms (46%) in the middle, as well as a large percentage (28%) that could not be classified. The survey’s extremely low response rate, however, makes extrapolation of these findings questionable.

While there is a prodigious amount of case study research on firm restructuring, it suffers from a dominant focus on the manufacturing sector. This is in part because the more visible innovations have taken place in that sector (for example, NUMMI and Saturn, the steel “mini mills”, and chemicals). Very little has been done on the service sector, which is, the main employer of American labor. From the few studies on this topic, the conclusion is that few innovations exist in service and trade industries. Instead, observers speak of the growing Taylorization of service work, especially clerical and administrative (Appelbaum and Batt 1994), and report that “lean and mean” strategies may actually be more prevalent in expanding service industries such as business services and retail trade.

2. Evidence on specific business strategies

Another source of information is data on changes in the use of specific firm practices, many of which tend to fall in the cost-cutting category. The most publicized of these practices is downsizing, and there is no doubt that this strategy has increased in use. The most recent survey from the American Management Association (1994) found that in 1994, fully 44% of firms reported some staff reduction, and 72% had downsized at least once since 1989. Another symptom of the growth in downsizing is that 90% of the increase in unemployment during the past recession is estimated to be the result of permanent job losses. This compares with estimates as low as 40% in previous recessions (Nardone, et al. 1993)

Another cost-cutting strategy that has been tried is the imposition of two-tiered wage structures on full-time workers. This has been one of the most contested issues in recent worker/management disputes, where the company attempts to place a certain percentage of workers on a lower wage trajectory over time. In historically unionized sectors, this strategy has become increasingly visible. Cappelli and Sherer (1990) identify a steady increase in these dual pay structures since the beginning of the 1980s. By 1986, 28% of the surveyed firms were using two-tiered systems; by 1988, estimates range as high as 42%, with a consequent increase in wage

differentials.⁷ Related is Bloom and Freeman's (1992) finding that the percent of workers covered by pensions fell from 63% to 57% between 1979 and 1990, with the decline in unionization and union concessions playing a major role.

Last, the oft-cited rise in subcontracting may also affect the structure of labor use (Christopherson and Storper 1989). Data on the distribution of subcontracting is rare at a national level. We do know that wages, security, and promotion tend to be lower in firms that are contracted, firms which are often smaller and shorter lived (Bednarzik 1990). This is especially true in traditional and high-tech manufacturing, such as the garments industry. Katz and Kemnitzer (1983) also see the effect in Silicon Valley's electronics production shops, where subcontracting is common. Few of the contracted firms had unions, job advancement was minimal, and wages were below average.⁸

3. Changes in skill levels of occupations

[insert review of quantitative work on up-skilling and de-skilling]

Case studies have been the main source of information on changing skill levels in occupations. In their detailed case study, Colclough and Tolbert (1992) found that the high-tech sector increasingly contains a two-tiered occupation structure. Managers, engineers, technicians occupy higher skill and wage levels, while unskilled production workers reside in the lower tier. Moreover, the decline in on-the-job training and a wider divergence in skill levels has made movement from the lower into the upper tier more difficult. In terms of the service sector, some clues are provided by the literature on the transformation and de-skilling of clerical work, which

⁷ Insert discussion of data on spread of **concession contracts**.

⁸ Related is the recent growth of the informal economy -- the production and sale of legitimate goods outside the regulatory apparatus. This growth has been strongest in labor-intensive manufacturing in America's core cities -- during the 70s and 80s, roughly 6,000 manufacturing sweatshops opened in New York, Los Angeles, and Chicago, employing 85,000 workers, especially immigrant women (Feagin and Smith 1987). A number of factors contributed, among them increased subcontracting by formal sector firms (Sassen 1988). While advocates of flexible specialization see subcontracting as an important strategy, this particular manifestation is not what was anticipated. Nor has "flexibility" been thought to engender the decidedly pre-Fordist structures of work which are being observed in these low-grade manufacturing industries.

often points to increased segmentation in service work (Crompton and Jones 1984; *Working at the Margins* 1986). Strober and Arnold (1987) find a similar growing division in computer-related work.

B. Evidence from the labor market

1. The rise in part-time and temporary work

Perhaps most often cited is data on the increase in "contingent" work over the past several decades. For example, the constant dollar payroll of temporary-help firms grew by 754% in the 1970s and 236% in the 1980s (Hartmann and Lapidus 1989). This translates into a yearly job growth of 11 percent, contrasted with a 2 percent average growth for all jobs. Contrary to popular opinion, temporary-help wages are not on average higher, and benefits and security remain almost non-existent (Appelbaum 1987). A very interesting finding is that reliance on temporary help services increases with the level of fringe benefits in an organization, which would seem to support the idea that contingent workers are used to offset the costs of protecting an inner core of full-time workers (Mangum, Mayall, and Nelson 1985).

Part-time work has seen similar growth, increasing by 17% for men and 25% for women between 1968 and 1987. The prevalence of involuntary part-time work also rose, from 14 to 24% for women and from 31 to 43% for men (Blank 1986). In fact, Tilly (1990) finds that *all* of the net increase in part-time work since the 1970s is due to an increase in involuntary part-time work. Part-time workers tend to have lower hourly wages and tend to be concentrated in non-professional service industries. Last, the flip side of increasing part-time and temporary work is a sharp increase in the amount of work required of the remaining full-time workers, especially among the most educated workers (Leete and Schor 1994).

2. Changes in job tenure

If firm restructuring is having an impact on workers' opportunities and work experience, this should be observable in their employment histories. There are now a handful of studies that study employment volatility, using either cross-sectional data on job loss (from the CPS Displaced Worker Survey) and job tenure (from the CPS occupational tenure and mobility surveys), or longitudinal work histories for single cohorts (from the PSID). These have documented rising job instability over the last two decades, though the changes have not been distributed evenly across the workforce. Recent job losses have risen more in service industries, and among black, older and more educated workers over the last decade (Farber 1993; Boisjoly, Duncan and Smeeding 1994; Marcotte 1995). Tenure and retention rates have also declined (although there is some controversy over the magnitude of these declines), and the changes correspond loosely to changes in the wage structure (Diebold, Neumark and Polsky 1994).

There have been significant declines in retention rates among younger workers (Swinnerton and Wial 1995), and particularly among younger workers with 3-6 years of tenure (Diebold, Neumark, and Polsky 1994). This is a key finding, as the development of stable long-term employment relations for younger workers would be occurring precisely during this tenure

interval. The projected change in the eventual tenure distribution is a 13.6% decline in the fraction of the workforce with 0-3 years of tenure, and a 2.7% rise in the fraction with 8 or more years (Swinerton and Wial 1994). It is important to note that the decline in long term tenure will be concentrated among younger workers, because nearly 60% of those who will eventually accumulate 8+ years of tenure have already done so.

The penalties to workers from job loss have been documented to be substantial. Workers who lose their jobs tend to have lower wages before they are laid off (Jacobson, Lalonde and Sullivan 1991, de la Rica 1992), are less likely to be employed in the following year (Topel 1990, Farber 1993), find inferior or part-time replacement work (Podgursky and Swaim 1987; Topel 1990), and experience an average wage penalty of over 10% even if they find another full time job (Farber 1993).

C. Lessons from the earnings inequality literature

A largely separate and much more well developed strand of research has focused on explaining the striking increase in earnings inequality over the past two decades. On the one hand, if labor market rigidities are weakening both within and between firms, we should see a lessening of earnings inequality within industries. This is what advocates of high performance and flexible work systems would predict in the long run. In the short run, increased dispersion in wages might obtain. This would result, however, from unskilled, uneducated workers losing their position of importance in the new production processes. According to this argument, then, human capital variables should explain most of the increase in earnings inequality within industries. On the other hand lies the argument that structural segmentation is actually rising -- and earnings inequality with it. That is, the growth of structural divisions between core and peripheral workers results in growing inequality among wages. These divisions may well correspond, in part, to human capital variables. There should, however, also be residual increases in earnings inequality within industries that are not explained by human capital variables.

The bulk of the literature has attempted to account for the rise in earnings variation with changes in the distribution and returns to human capital. Estimates vary considerably (from 20 to 50 percent), but there is clearly a strong effect. A major issue is how to interpret the residual; at best, it is a *potential* structural source of the rise in inequality, one that might eventually be attributed to restructuring practices by American firms.⁹

⁹ **Insert discussion of findings on trade, deunionization, etc. as indicating that some of the residual is structural.**

However, as described above, direct empirical tests are impossible given the serious data constraints and will have to wait until the appropriate firm-level data is collected. Levy and Murnane (1992) make this conclusion in their literature review. Moreover, the case study research they discuss shows mixed results. It does suggest that the increase in firm-specific wage differentials may reflect variation in how firms respond to international competition and in how they use technology. Some manufacturing firms have increased out-sourcing, reducing the need for production workers, and used technology to simplify jobs and increase monitoring. The result is de-skilling and lower wages in the jobs left at home. Other firms have reorganized production and retrained workers so as to make greater use of workers' knowledge in increasing quality and lowering costs, yielding higher wage levels. At the aggregate level, the result is more wage dispersion between firms.

There are only a few quantitative studies that look at earnings variation at the firm level. To start, Groshen (1991) finds that plant-specific wage differentials explain 27% of earnings variation in a cross-sectional analysis. Davis and Haltiwanger's (1991) estimate for manufacturing firms is roughly 43%. More important, they find that 50% of the growth in wage dispersion between 1975 and 1986 within the manufacturing sector is accounted for by plant-specific differentials. But because there is no information about how firms have changed their work and production process, there is no *a priori* reason to ascribe the effect to firm restructuring. Colclough and Tolbert (1992) find that earnings inequality rose more rapidly in high-tech industries than in traditional industries. They attribute this rise to the predominance of "lean and mean" production strategies. Such strategies yield highly elastic demand for the lower tier of workers. In contrast, inelasticity is strong in the upper tier. The result is lack of bargaining power and declining wages for the lower tier. The problem is that high-technology industries are quite unique and extrapolation to all industries is not warranted. Scattered qualitative evidence from other industries does suggest similar trends. Strober and Arnold (1987) find a similar growing segmentation in computer-related work, with the direct result of increasing wage differentials over time. In electronics industries, Snow (1983) also finds that wages of production workers have fallen relative to white collar workers. Christopherson and Storper (1989), in their review of the motion-picture industry's adoption of flexible specialization, find a significant inter-occupational rise in wage differentials.

V. Segmentation and the Role of Mobility

In combination, the foregoing studies clearly suggest that strong changes are taking place in the American labor market, and as such they are useful in a field that is still very young. But ultimately, these trends remain static indicators. They tell us little about the causes at work and do not easily inform the larger debates about labor market segmentation. While data limitations

are partly to blame, there is also a serious conceptual problem. Hypotheses about the effect of restructuring on labor market processes are weak and require much extrapolation. The concept of segmentation in particular is ill-defined and overly simplistic. If this research area is to progress, development is needed on both conceptual and measurement fronts.

I would suggest that the most promising avenue for such development is to focus on the issue of worker mobility. In both policy and academic discussion, the key underlying issue is whether the potential for upward mobility has changed for different parts of the working population, for mobility is the central *mechanism* by which labor market segmentation is generated and maintained. If it were simply the case that job quality was becoming more uneven but that mobility chances were remaining stable, we would not be nearly as concerned. The real issue is that mobility from entry-level to good career jobs may be declining, that some groups of workers may be increasingly cut off from lifetime movement into the core.

None of this is new. Worker mobility was a critical element in much of the original theoretical work on dual labor markets. At root, what distinguished the dual segments was the absence or presence of internal labor markets, and this concept was inherently built on the mobility process (Doeringer and Piore 1971). Current discussion of segmentation has lost this emphasis, and it is critical that we return to it. Beyond this initial insight, however, it is unclear whether the original segmentation literature can be of much help. First, much of the research focused on elaborating different models of how internal or closed labor markets worked, i.e., vacancy chain and queuing models (see Rosenfeld's 1992 review). Very little work was done on differentiating other types of mobility, such as cross-firm and cross-occupation movement. It is precisely the latter, however, that are at issue now. Second, much of the empirical work took the

(ultimately ill-fated) strategy of trying to identify segments on the basis of static industry or sectoral indicators. But researchers are increasingly arguing that industry and occupation are no longer the key dimensions of segmentation, because many of the observed changes have taken place within both of these analytic categories (Dickens and Lang 1988). The theoretical work on alternative dimensions, such as the structure of employment relationships, may be more fruitful here (Sorensen and Tuma 1981; other cites).

The task of elaborating the theoretical role of mobility in labor market segmentation is quite difficult and clearly cannot be resolved here. But there are two immediate benefits from shifting to a focus on mobility. Empirically, it opens up a large new arena for testing the rising segmentation hypothesis. As noted above, comprehensive data from the firm side of the equation is quite rare and ultimately weak. Researchers therefore find themselves migrating to the labor market side of the equation, but often get stuck reciting the same data on contingent and part-time work, displaced workers, etc. Moving to an emphasis on changes in workers' mobility paths can break this deadlock.

What will be required, however, is that researchers force themselves to identify in detail what the proposed increase in segmentation implies in terms of mobility. I would argue that this is currently the most important task for the field. A good example is the work on job tenure. There is a vague sense in the field that the distribution of tenure should be changing as a result of restructuring -- but exactly how is another matter. The simplistic conceptualization of core versus peripheral workers indicates that we should expect a growing bifurcation in employer tenure. The protected core jobs offer long and stable employer tenure, the peripheral jobs offer shorter tenure and greater job volatility. Yet for certain professional and financial occupations,

frequent employer shifts are a key route to career mobility and income growth. And we might expect that firm restructuring increases the prevalence of this pattern. If indeed internal labor markets are breaking down, then firms might increasingly hire from outside to fill high -wage jobs. In this case, then, one wants to link the analysis of job shifts with an analysis of wage growth across jobs. What might then differentiate core from peripheral workers is not so much differences in tenure (although that may still be partly the case), but also differences in the job change trajectories as they are linked to the age-earnings profiles, and these are two key characteristics of mobility paths.¹⁰

The focus on mobility has another potential benefit: it may allow us to untangle the roles of individual and structural causes. This has been a major fixation in current research on the rise in wage inequality, especially in labor economics. The dominant tendency has been to focus on identifying that portion of the rise in inequality due to changes in the distribution and returns to human capital variables. This portion is then labeled as a supply-side factor. The underlying framework is that if human capital factors explain the rise in inequality (or related outcomes such as changes in tenure or upward mobility), then no demand-side adjustments are needed, and public policy should simply focus on education and training programs. Put another way, strong human capital effects are seen as inimical to “structural” explanations.

¹⁰ This is one example of the type of analytical development being called for. Other important examples would include detailing the implications of rising segmentation for cross-industry and -occupation shifts, and changes in the wage determination process, particularly in terms of returns to education and experience.

But this traditional allocation of effects increasingly seems fundamentally wrong. The current problem gives an excellent illustration. Clearly, firm restructuring has at least partly taken place along human capital lines. The inner “core” jobs tend to be skilled jobs for educated workers and the “peripheral” jobs tend to be unskilled jobs for workers without a college degree. Superficially, this represents an increased role for human capital. We know that the demand for skilled, high-level workers has increased and that the returns to education escalated sharply during the 1980s. And it is likely that educational credentials become more important as hiring is increasingly done from the outside and the firm needs “objective” indicators with which to screen workers.¹¹

But an emphasis on mobility points out that while initial filtering may be done on the basis of education and other individual-level indicators, structure at least partly takes over thereafter. Following Spilerman’s (1977) insight more than a decade ago, career lines or job trajectories are empirical realities, structural features of the labor market, and these can be understood in terms of institutional features of this market. If firms no longer provide on-the-job training, skill acquisition, and career promotion ladders for their low-skill or contingent workers, then the lower wage and career outcomes for those workers are partly the result of structural effects. Similarly for educated, core workers who do receive the benefits of institutional support. The key question then becomes how we should interpret wage determination equations: human capital variables may well show up strong, but what do these effects really indicate? In this application, assigning human capital effects to purely supply-side factors and then arguing for

¹¹ As opposed to internal labor markets, where the firm trained workers and could observe their real skill.

supply-side public policy would be a mistake. Demand-side factors are also captured in these effects, because worker mobility is in part governed by structured career trajectories.

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