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The Development of Internal Labor Markets in American Manufacturing Firms

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Introduction

Social scientists studying bureaucratic systems of employment have found the internal labor market to be a useful analytic construct, which explains how firms achieve allocative efficiency through the use of administrative procedures that confer certain rights and benefits to the incumbent workforce. Internal labor market theory is a subset of those theories of the firm concerned with the manner in which economic planning and internal organization supercede exclusive reliance on the market mechanism. To paraphrase D.H. Robertson, internal labor markets may be thought of as "islands of conscious power in an ocean of unconscious cooperation [much] like lumps of butter coagulating in a pail of buttermilk."[1]

Little is known about the dynamic processes by which internal labor markets were formed. Current theories about internal labor markets often have been tacked onto various historical generalizations without regard for the complexity of underlying causal and temporal sequences.

This paper analyzes the development of internal labor markets in American manufacturing firms viewed from the perspective that their origins are part of an historic shift in the principles governing employment. Emphasis is thus placed on unionization and personnel management as institutions which both impelled and reflected the replacement of a market-oriented, arbitrary and impermanent employment system by one that was more bureaucratic, rule-bound and secure.

The characteristic features of an internal labor market did not gradually take hold in an ever growing number of firms. Instead they were adopted during two periods of crisis for the older system of employment -- World War I and the Great Depression. These were periods when the unions gained strength, when personnel managers were influential and when the state intervened in the labor market. This uneven growth suggests that many firms did not immediately perceive the value of a bureaucratic system of employment. It also suggests that the internal labor market was an adaptation to new social norms of employment, especially those of trade unionism, rather than a simple response to growing organizational complexity.

I. The Foreman and the "Drive" System, 1870-1915

America's manufacturing industries underwent dramatic expansion in the late nineteenth and early twentieth centuries. Manufacturing employment nearly doubled between 1880 and 1900, and nearly doubled again between 1900 and 1920. This growth was accompanied by a trend toward larger establishments. The number of workers per iron and steel establishment rose from 65 in 1860 to 103 in 1870, and 333 by 1900.[2] New industries such as electrical machinery and motor vehicle manufacturing soon rivaled steel and textiles in establishment size.[3]

Not only scale, but also the speed of manufacturing operations rose markedly after 1880, cutting the amount of time involved in processing each unit of output. Underlying the decline in production time was the widespread substitution of power machinery and handling equipment for human labor. Increased speed and volume of production allowed for a persistent reduction in unit costs, which permitted the channeling of internally generated cash flows into the acquisition of other firms that produced inputs or substitutes for the merging firm's products.[4]

The increased size and complexity of the manufacturing firm created numerous administrative difficulties. Until the 1880s, most proprietors had been content to leave the management of production to their foremen and highly skilled workers. Where skill mattered, the foreman and the workers he supervised often knew more about technical matters than did the firm's owners.[5] But the rapid growth of industry put pressure on this decentralized system of production management. The flow of production was hindered by a lack of coordination between the various departments of a firm. Data on costs were not kept or were gathered irregularly, which made it difficult to compare the performance of various units. Greater coordination and systematization were required if production speed was to be increased.[6]

Between 1880 and 1920, the systematic management movement introduced new methods of production management to industry. Most of the movement's members were engineers; discussions of plant administration and cost accounting rarely were found outside of engineering publications during this period. Efficiency engineers introduced various administrative innovations that displaced traditional methods of production management. Early production control systems told the foreman which units he was to produce, the order in which operations were to be performed, and the method by which these operations were to be carried out. Standardized procedures, cost accounting and detailed record-keeping facilitated the centralization of decision-making. Thus the foreman's directive and conceptual duties in production were gradually assumed by engineers and middle managers; the routine aspects of his duties were assigned to clerical personnel. This bureaucratization resulted in a steady increase in the ratio of administrative to production employees.[7]

Efficiency engineers, despite their forays into production management, left relatively untouched the other major area of a foreman's responsibilities, his employees. The overall lack of attention to employment matters in early management literature stemmed from two sources. There was first the engineers' belief that most employment and labor relations problems could be solved by a properly devised incentive wage. And second, there was the perception that there was nothing notably inefficient about the foreman's traditional employment methods. Robert F. Hoxie's 1914 survey of firms that had systematized their production processes found that they used no more advanced methods of employment management than nonsystematized firms. This prompted Hoxie to criticize the engineers for their "naive ignorance of social science" and indifference to the "human factor." Consequently, the development of a bureaucratic system of employment lagged behind the systemization of other spheres of the firm.[8]

In contrast to the varying degrees of control that the foreman exercised over production, his authority in employment matters was more uniform across industries. In most firms, the foreman was given free rein to manage the acquisition, payment and supervision of labor. To the worker, the foreman was a despot -and not often benevolent - who made and interpreted employment policy as he saw fit. There were some checks on the foreman's power, but usually they emanated from the workers he supervised and not from the proprietor.

The foreman's control over employment began literally at factory gates. On mornings when the firm was hiring - a fact advertised by newspaper ads, signs or word of mouth - a crowd gathered in front of the factory. The foreman stood at the head of the crowd and picked out those workers who appeared suitable or had managed to get near front. At one Philadelphia factory, the foreman tossed apples to the throng; if a man caught an apple, he got the job. Foremen could be less arbitrary, hiring their friends or relatives of those already employed. Many relied on ethnic stereotypes to determine who would get a job or which job they would be offered. Workers often resorted to bribing the foreman with whiskey, cigars or cash to get a job, a practice that one study found to be "exceedingly common" in Ohio's factories.[9]

Assignment to a job was determined in large part by favoritism or prejudice. The foreman often had little interest in or knowledge of an employee's previous work experience. If a newly hired employee proved unsatisfactory, he was easily replaced by someone else. Transfers from one department to another were rare. As one observer noted, "Foremen are apt to assume the attitude that 'if you do not work in my department you cannot work elsewhere,' and will do everything in their power to prevent dissatisfied workmen from being replaced." Intra-departmental promotions occurred, although definite lines for promotion were unheard of before 1910, except on skilled work.[10]

The foreman also had considerable power to determine the wages of the workers he hired. Whether piece or daywork, the foreman could and did set widely varying rates for different individuals doing the same work. Because labor costs were monitored by management but not the wage determination process, the foreman had an incentive to hire individuals at the lowest rate possible. It was common practice for a foreman "to beat the applicant down from the wage he states he wishes to the lowest which the interviewer believes he can be induced to accept."[11] Variations in rates across departments were common because each foreman ran his shop autonomously. Employment and wage records were rarely kept before 1900; only the foreman knew with any accuracy how many workers were employed in his department and the rates they received. Foremen jealously guarded wage information, allowing them to play favorites by varying the day rate or assigning favored workers to jobs where piece rates were loose.[12]

A firm's owners expected the foreman to hold labor costs down despite or because of the latitude they gave him in determining rates. This meant paying a wage no greater than the "going rate" for a particular job. But it also meant striving to keep effort levels up to reduce unit costs. When the going rate rose, effort became the key variable to be manipulated by the foreman.[13]

Foremen relied on a combination of methods to maintain or increase effort levels that were collectively known as the "drive system": close supervision, abuse, profanity and threats. Informal rules regulating work behavior such as rest periods were arbitrarily and harshly enforced. Workers constantly were urged to move faster and work harder. Sumner Slichter defined the drive system as "the policy of obtaining efficiency not by rewarding merit, not by seeking to interest men in their work...but by putting pressure on them to turn out a large output. The dominating note of the drive policy is to inspire the worker with awe and fear of the management, and having developed fear among them, to take advantage of it."[14]

The drive system depended, ultimately, on fear of unemployment to ensure obedience to the foreman. Workers were more submissive when the labor market slackened and jobs were scarce, as was often the case before World War I. A tight market tended to undermine the foreman's authority, forcing him to rely more heavily on discharges to maintain discipline.[15] The foreman was free to fire anyone he saw fit, and discharges were liberally meted out.[16]

The instability of employment had causes wider than high rates of dismissal. In its cyclical and seasonal forms, unemployment regularly touched a large portion of the working class. Between 1854 and 1914, recessions or depressions occurred every three to four years with about twenty-five of these sixty years spent in contraction.[17] In Massachusetts, the incidence of unemployment was high even during relatively prosperous periods such as 1900-1906, when at least one out of every five of the state's manufacturing workers experienced some unemployment each year. Even Massachusetts' trade union members, a relatively skilled group, were not immune from job loss. An average of 29 percent of these workers experienced some unemployment each year between 1908 and 1916. The amount of time spent in unemployment was considerable. In 1890 and again in 1900, over 40 percent of the nation's unemployed were jobless for more than four months.[18]

Unemployment filtered widely through the labor force even during good years because of dismissals and seasonal instability. Employment tended to be most stable in those consumer goods industries which produced items unaffected by style changes. But in 1904 even the most stable industry - bread and bakery products - had monthly employment levels that varied by nearly 20 percent. That same year, the industrial average fluctuated by 40 percent over the year, rising to 70 percent in the railway car industry.[19] The seasonal instability of employment perpetuated the drive system. Activity became frenzied during the busy season as firms rushed to fill orders. Capacity utilization rates and employment levels rose by magnitudes rarely encountered today.

However, the existence of widespread unemployment is in itself no indication of the impermanence of the employment relationship. If there had been an understanding between workers and their employers that they would be recalled when needed, periodic unemployment need not have severed the relationship. But few firms made systematic attempts to rehire their workers after layoffs. For example, statistics from a large metal-working plant whose records distinguished between new hires and rehires of workers who had been laid off on account of the depression that began late in 1907 reveal that only 8 percent of all new hires for the following three-year period were rehires of those who had been laid off during the depression. Average industrial rehire rates probably were much lower.[20]

Mechanisms to maintain the employment relationship during downturns also included guaranteed income or employment plans and work-sharing arrangements. Employment guarantee plans were in operation at only 15 firms by 1920, although work-sharing was more prevalent. However, the bulk of these work-sharing plans were initiated by trade unions in cooperation with unionized employers. Employers in non-union firms maintained that work-sharing was cumbersome and inefficient.[21]

Few workers had anything resembling equity in their jobs. When layoffs came, rare was the employer who ordered his foremen to reduce the workforce systematically. Employment security was determined by the same arbitrary criteria as hiring. Bribes were a common means of ensuring job security. In some shops, "everyone has to pay some sort of tribute to his foreman. The tribute is usually in the form of money or service, but there are cases where the tribute is of a nature which cannot be mentioned in an open paper."[22]

Thus, prior to World War I, employment for most manufacturing workers was unstable, unpredictable and inequitable. The worker's economic success and job satisfaction depended on a highly personal relationship with his foreman. There <u>was</u> an implicit system of employment here, although it wasn't bureaucratic. Foremen had many favors available for those whom they befriended or who bought their friendship. Personal ties and loyalty counted for much, although later reformers were horrified by the particularism and brutality that infused the drive system. Yet where employment practices first achieved a semblance of rational organization, stability and equity, these features were not a managerial innovation but were imposed from below.

The Workers' Response

The institution of trade unions curbed the foreman's arbitrary exercise of prerogatives and gave the skilled worker considerable control over the terms of his employment. The trade union ensured that strict rules and equitable procedures would govern allocative decisions. While only a minority of all workers belonged to unions, those unions were a persistent reminder that the employer's authority, and that of his agents, could be circumscribed through collective action.

Controlling access to a trade was a fundamental element of the unions' countervailing power. Although the apprenticeship system was fast disappearing,[23] the unions had other devices to bolster their control. The closed or preferential shop restricted the foreman's discretion to hire whomever he chose and enhanced the demand for union labor. This protected union members against discrimination in hiring and guaranteed that a given number of vacancies would be filled by them. In some trades, the closed shop led to more restrictive union admissions policies to divide a fixed number of potential vacancies over a smaller body of members. Some unions required that the foreman apply to a union hiring hall when in need of labor, which gave the union the power to dispense jobs to those workers it deemed fit. These arrangements demonstrated to a worker that his well-being was better served by allegiance to his union rather than to his foreman.[24]

Trade unions had several objectives in their approach to wage determination. They sought to protect not only absolute wage levels but also relative and effort wages. The basis of the unions' approach was the so-called "standard rate" that all members were supposed to receive. This standard rate reflected the principle of equal pay for equal work, which ruled out merit grading and all premium or bonus systems under which earnings did not rise in proportion to output and effort. The unions' strong insistence of the use of the standard rate was based on the premise that foremen always would prefer to deal with individuals and that this was the surest way to divide and conquer the union.[25]

Output limitation was the most effective device that the skilled worker could use to check the foreman's driving and to protect the effort wage. In some instances the union listed output limits in the trade agreement, although typically union members policed themselves. Skilled workers who restricted output depicted themselves as "sober and trustworthy masters of their trade" whose restriction showed their "unselfish brotherhood."[26]

Various means were used to limit the foreman's use of favoritism. For example, the molders demanded that piece rates be listed in a price-book to be made available to the union, to prevent foremen from paying different rates for similar work. In the Chicago meatpacking industry, the cattle butchers devised a detailed system of promotion lines governed by seniority. This was intended to prevent favoritism in job allocation and maintain a sense of equity among the union's members. Foremen and line officials were strongly opposed to this practice. As John R. Commons observed, "These rules of promotion do not find favor with the superintendents, who contend that forced promotion takes a man away from work he does well."[27]

Output limits, along with rules regulating manning levels and working hours, also were intended to reduce the likelihood of unemployment. While such strictures had some stabilizing effect on the demand for union labor, they could not prevent periodic occurrences of cyclical unemployment. When layoffs threatened, the unions attempted to mitigate the impact of unemployment through work-sharing and seniority rules.

Work-sharing took a variety of forms. In some industries, such as brewing, the employers and the union made joint arrangements to share the work. In the printing trades, the unions unilaterally withdrew their members for a day or two each week.[28] Seniority layoffs were less common than work-sharing. They were prevalent on the railroads and in the printing trades. The railway workers' first written agreement recognizing seniority as a layoff criterion was signed in 1875. The printing trade's famous "priority law," adopted in 1890, required that layoffs be made according to seniority; the law also regulated discharge.[29]

Unions in a variety of industries sought to regulate dismissals by requiring that a member be discharged only for just cause. Discharge resrictions often included provisions for an investigation and hearing if a worker complained of unfair dismissal.[30] These provisions, together with the closed shop and seniority rules, undermined the fundamental assumption of the drive system - that employment was a relationship of indefinite duration terminable at the employer's will. The unions held the alternative concept that employment was a permanent relationship between the union - a set of workers - and the employers(s) - a set of jobs. The union behaved as if it owned a set of jobs continuing through time. Under the closed shop system, only union men could fill these jobs; under work-sharing, the jobs could not be dissolved. The unions' employment security mechanisms restricted the employer from turning to the open market to fill vacancies. Moreover, the unions' allocative, wage and dismissal practices embedded the employment relationship in a web of impersonal, equitable rules. These restrictions, when redefined as a permanent, rule-bound relationship between a set of incumbents and a set of jobs in a particular firm, would comprise an internal labor market.[31]

Few options were available to the less skilled, non-union worker who was dissatisifed with either his job or his foreman. Managers invariably supported their foremen in any dispute with employees, fearing that any liberality in hearing grievances would "give the workmen exaggerated notions of their rights and management desires to keep the workers' minds off their rights." Unskilled or non-union workers had few rights; the only one that was consistently recognized was the right to quit.[32]

On occasion, the unskilled, immigrant workforce was fully capable of engaging in militant activity, especially during economic recovery periods. But despite these spectacular strikes, in most instances, the less skilled worker had no alternative in seeking higher wages or better conditions than to terminate employment. Quit rates were high long before World War I. They varied directly with skill; annual separation rates for unskilled workers often surpassed 200 percent. Just as the number of strikes tended to increase during a recovery, so did the number of quits.[33] "Exit" of the unorganized was an alternative to "voice".

The absence of definite prospects for advancement in the firm was an additional spur to labor mobility. Economist John Davidson noted in 1898 that the relative difficulty with which occupational mobility ("trade mobility") could be achieved made quitting and geographic mobility ("place mobility") more likely.[34]

Contemporary observers believed that the standardization of technology across firms facilitated worker mobility. Manufacturing technology was becoming less firm-specific and idiosyncratic than it had been in the nineteenth century.[35] Firms were introducing on a wide scale a technology that de-emphasized skill and lowered training costs. This reduced the cost of each separation for the employer by making workers more interchangeable. And it made it easier, or less costly, for workers to shift jobs. The opportunity for movement from plant to plant was facilitated by the standardization of equipment and the ease with which one could learn a new job. Paul H. Douglas observed in 1918 that, "The very process of machinery which made work more specialized, made the worker less specialized. He was now transferable... A machine tender who has learned the general principle of caring for a machine can tend ribbon-weaving machinery as well as shoe-making. He is really an interchangeable part in the industrial mechanism."[36]

II. The Personnel Management Movement, 1890 to 1915

Prewar employers were satisfied with the profitability of the decentralized, drive system of employee management. Immigrant labor was abundant, which fostered an attitude of indifference to improving employment methods. One contemporary noted the prevalence of employers who "consider labor a commodity, to be bought and sold on the open market when trade is brisk, and disposed with at will when demand subsides." The immigrant worker was variously portrayed as dumb, docile or unreliable. Any attempt to obtain the worker's trust and cooperation by improving employment conditions was thought to be futile since "labor will simply take advantage of liberal treatment."[37]

But the drive system was not without costs. First, it entailed administrative costs that could be reduced by more bureaucratic methods of coordination. Elements of the engineers' approach to production management - orderly procedures, accurate records and the departmentalization of routinized functions - came into play in the decade after 1900 when a few firms first established personnel departments. One such department was initiated by Goodyear Tire and Rubber in 1900; it concerned itself with the orderly processing of new employees and the keeping of employment and pay records, essentially clerical functions. Most of these departments had a limited effect on employment policy since they were adjuncts of the firm's production division, which was preoccupied with producing maximum output at top speed.[38]

The production manager's short-run, cost-minimizing orientation made him suspicious of any attempt by the personnel department to expand its ambit beyond the clerical. Production officials were wary of changes in employment methods since they led to few immediate or easily measured improvements in output or costs. Consequently, critics of the drive system pointed to the personnel manager's low status and powerlessness as barriers to employment reform.

These early critics also pointed to a second set of costs generated by the foreman's crude employment methods: recurring labor unrest and erratic working habits. They worried about the relationship between private employment policies and such societal problems as unemployment and a drift to the political left. These problems had been apparent to nineteenth century observers as well. What was new was the intensity of the critics' perception that social order was declining, a realization that disorder was linked to private employment practices, and the belief that order could be achieved by more scientific and humane methods of labor administration.

Many of these critics were middle class professionals - social workers, settlement house workers, academics and ministers - who were applying their expertise toward solving the pressing social problems of the cities and industry. The social justice movement of the time was made up of individuals who were imbued with a humanitarian ethic of uplift and social reform that made them sympathetic to the immigrant working classes. They shared a belief that industrial and social conflict could be assuaged by trained professionals dispassionately applying their knowledge to social problems. Yet despite their good intentions, their writings and programs contained distinct strains of social control, accommodation and elitism. The reformers in this group technicalized and rationalized the problems of a rapidly industrializing society. The reforms they devised helped to strengthen existing institutions and steer social change from more radical paths.[39]

Like the engineers, these reformers idealized scientific expertise and rational administration, but they were also deeply concerned with the non-administrative costs of the drive system. Although they had a limited impact on most firms before World War I, their activities laid the foundations for the proliferation of personnel departments during the war. Industrial welfare work and labor market reform were two branches of the social justice movement that had direct links to wartime developments.

Welfare Work

One strand of welfare work may be traced to the perod of labor unrest between 1877 and 1894, when employers sought to turn the loyalty of their skilled workers away from the unions through the use of quasi-pecuniary incentives such as profit-sharing, pension and stock bonus plans. Another strand was rooted in the belief that the cause of labor unrest, social tension and a perceived decline in the work ethic was the worker himself - the intemperate, slothful worker or the ignorant, immigrant worker prey to radical nostrums. To countermand this, firms experimented with a variety of programs ranging from thrift clubs, compulsory religion and citizenship instruction, to company housing, outings, magazines and contests. The idea was to use the firm to recast the worker in a middle class mold, thus making him sedulous, sober and loyal.[40]

Many of those engaged in employee welfare work as administrators and publicists had backgrounds in social work, mission work and the civic reform and settlement house movements. Welfare work was the private sector analogue to the "search for order" that these professionals then were conducting in American cities.[41] Welfare workers believed that their moralistic paternalism would improve workers' lives and change some of industry's cruder aspects. One early welfare worker said of her colleagues that they went into welfare work "with faith in its power to meliorate industrial conditions."[42]

Welfare work was viewed skeptically by some who believed that paternalistic attempts to uplift workers had an uncertain effect on productivity and loyalty at best. Welfare workers regularly encountered resistance from production managers and foremen who resented intrusions into their domain. To counter this, welfare work increasingly was justified by the engineers' criterion of efficiency. Welfare workers argued that conflicts with line management only could be alleviated by vesting their authority in a separate department - free of interference from the line.[43]

By 1910, firms had begun to centralize their welfare programs in a single department with clearly defined responsibilities. A few of these departments were on a par with other major corporate divisions and included employment management responsibilities.[44] But in most firms the welfare department, like the personnel department, remained subordinate to the production division. The welfare worker in these firms, said one observer, "has not yet been assimilated in the operating organization... He deals largely with matters outside the regular routine of industry operations, he has to do primarily with the men while <u>off</u> the job rather than <u>on</u> the job..." Most welfare departments posed little real threat to the foreman's autonomy since they lacked both independent authority and a mandate to intervene in employment matters. The drive system could and did coexist with extra-work paternalism.[45]

Yet welfare work created a distinctive role. Labor management was becoming the province of the specialist and labor-related policy was turning into a decision-variable subject to rational administration. The creation of welfare departments marked the beginning of efforts to develop employment policies that weren't subordinate to the firm's short-run emphasis on production and which recognized the value of maintaining employee morale and loyalty.

Labor Market Reform

Personnel management was also heavily influenced by the vocational guidance movement. Vocational guidance had developed alongside vocational education to assist in directing the "manually-minded" child to his appropriate niche in the labor market.[46] However, some educational and child-labor reformers believed that vocational guidance should be more than just an effort to fit children to particular curricula or jobs. They were concerned about the numerous immigrant youths who entered "blind alley" jobs[47] with unstable futures and little chance for advancement. These reformers thought that schools could be better used to regulate the youth labor market by having counselors scrutinize the jobs that employers offered school leavers to ensure that decent, stable jobs were provided. Counselors were to encourage employers to educate and train their young workers, rationalize their hiring procedures and to promote from within.[48]

Leading this group was Meyer Bloomfield, a former settlement house worker who had introduced vocational guidance to the Boston schools in 1910. Bloomfield began to have doubts that the schools were "the most suitable agency to attempt the organization of the labor market for the young" and redirected his energies from the schools to industry. He founded a professional association of personnel managers in Boston in 1912, although few firms in the Boston area had personnel departments at that time. Many of the early members of the association were, like Bloomfield, proselytizers and reformers.[49]

Bloomfield and his supporters thought that the establishment of personnel departments would bring to industry "some idea of what fitness and future means in the career of the worker." Personnel managers would be the vehicle for introducing vocational methods to industry, which would ensure that young workers continued to receive guidance and training. These vocationalists argued that greater attention had to be paid to the character of work and its effects on the worker. They blamed the efficiency engineers for the high degree of specialization that had made jobs monotonous and undermined good working habits. The foreman was heavily criticized for his crude motivational methods and for failing to assign workers to jobs that matched their interests and abilities. Vocationalists advocated the establishment of personnel departments that would change allocative practices through such techniques as scientific selection procedures, written job specifications, tryout transfers and internal promotion plans. These techniques were supposed to decasualize employment and promote stable working habits by providing something akin to a career path for manual workers.[50]

Bloomfield's supporters thought that the transfer of allocative authority from foremen to personnel departments also would reduce the amount of youth and adult unemployment. Other labor market reformers in groups such as the American Association for Labor Legislation (AALL) were attracted to the idea of organizing the labor market through voluntary measures as an alternative to national labor exchanges and unemployment insurance. The AALL claimed that personnel departments could permanently reduce unemployment by making hiring more efficient, restricting dismissals and administering transfers in lieu of layoffs. Although few employers adopted the stabilization methods recommended by these groups during the 1914-1915 depression, they later discovered that these methods could be used to motivate and retain workers during a period of labor scarcity.[51]

Liberal followers of Frederick W. Taylor, the noted efficiency engineer, became ardent advocates of this new approach to unemployment since it held the promise that a major social problem could be solved by the same efficient managerial techniques then being applied to production. This brought the engineers into the ranks of what was to become a national personnel management movement. During the 1914 depression, groups formed in major cities to discuss unemployment problems and promote personnel management by local employers. The groups were organized by Bloomfield, Taylor Society and AALL members; they later became the nucleus of the first national association of personnel managers, founded in 1918.[52]

Thus the disparate strands that would compose the personnel management movement began to come together in the years before America's entry into the war. Efficiency, the engineers' watchword, with its connotations of scientific method and bureaucratic order, infused the welfare work and vocational guidance movements at the same time that employment reform began to be taken seriously by the engineers. The roots of personnel management are to be found not only in the technical imperatives imposed by a firm's increased size and complexity -these created the empty slots in the managerial hierarchy - but also in the backgrounds of those who filled these slots. The professionals employed in industry brought with them the same ideologies and techniques that were being used to solve social problems outside industry. Adapted to an industrial setting, such methods contained an implicit attack on the laissez-faire principles governing employment. These professionals argued that industry had an obligation to restrain itself, and to actively reconstruct the employment relationship by making it less arbitrary and more responsive to the worker's needs and thus to the needs of the firm.

The personnel management movement provided a framework for the ascendance of the expert, the professional reformer and problem solver. Supporters of personnel management had high hopes that the professionalization of employment management would humanize industry by injecting liberal values into the firm. It was emphasized repeatedly that the personnel manager had to be a "big man," imbued with the liberal temperament that a university education was supposed to impart. Reform of the drive system could only be achieved by placing the professional, a man of science and class neutrality, in charge of finding a private solution to the "labor problem." The personnel manager was viewed as the catalyst whose expertise and broad vision would bring "the business conscience... into alignment with the social conscience."[53]

Those in the personnel management movement who were most concerned with the issue of prefessionalism tended to be sympathetic to trade unionism. An emphasis on professional standards and ideals linked the movement to an agenda of priorities beyond the employer's narrow interests. Men like Bloomfield, Morris L. Cooke and Boyd Fisher, as well as former socialists like Algie Simons and Ordway Tead, believed that professional personnel management could introduce enlightened ideas about employee rights and collective bargaining to industry. The precise relation of the personnel manager to the union rarely was specified but these liberals envisioned some sort of joint control exercised by judicious managers and responsible, accommodative trade unions. Professionalism protected the movement's progressive character while simultaneously making its goals more acceptable to workers.[54]

Others in the movement were ardent foes of the unions. They saw the need for reform and restraint but these were viewed not as an opening wedge but as a way to ensure that the unions lost their attractiveness. Change was necessary but it was always to be unilateral and designed to maintain employer control.[55]

In mitigating the drive system, personnel managers of either persuasion weakened the potential appeal of trade unions by preempting reforms that skilled workers had been pushing for themselves. For less skilled workers, the personnel management movement brought some of the benefits that the trade union had delivered to the more skilled, including allocation by rule, enhanced security and rudimentary grievance mechanisms.

III. The Personnel Management Movement During World War I, 1916-1920

Employers were slow in coming to the realization that a change in employment methods could serve as a "backfire against unionism." They were put off by the reformers' attitudes toward unions; they were skeptical that a relationship existed beween morale and effort; moreover, labor was cheap and abundant.

The foreman's drive system allowed firms the flexibility to adjust their forces to shifts in demand. It seemed an effective mode for holding worker expectations and unit costs in line. As Sumner Slichter noted in 1919, the drive system was profitable, given an elastic supply of immigrant labor and a short-run perspective on what he called "the interests of employers as a class." These conditions held until 1916. But the tightening of labor markets induced by the war created a host of problems that made employers more receptive to change.[56]

During the period from 1916 to 1920, unemployment rates fell to their lowest levels since 1890.[57] A serious consequence of tight labor markets was an erosion in effort norms and shop floor discipline. In the past, periodic downturns and a labor surplus, as reflected in high unemployment rates even during good times, could be relied upon to maintain worker discipline and make the foreman a credible driver. But with the manpower shortage caused by the war, the traditional forces for maintaining effort and discipline were at their weakest. The result was a deterioriation in what Slichter called "capital's ability to compel production." When Guy Tripp of Westinghouse addressed a dinner in New York in 1920, he said that "effort" at Westinghouse had fallen off by 20 to 30 percent and that "this transcends in its vital importance all questions of strikes, wages, prices and everything else."[58]

Despite Tripp's ordering of priorities, strikes were very much on employers' minds during this period. A wave of labor unrest swept the country between 1916 and 1921. The ratio of strikers to all workers during these six years remained constantly at a level achieved later during the more famous strike years of 1934 and 1937. After the war, the nation witnessed an unprecedented attempt to organize workers in the steel industry, a policemen's strike in Boston, general strikes in Chicago, New York and Seattle and national strikes by railway workers and coal miners. Trade union membership nearly doubled between 1915 and 1920. Public sympathy for organized labor created pressure for change, as did heavy government intervention in the war labor market.[59]

The combination of these problems - labor shortages, slackened effort and labor unrest - brought about an increase in quit rates, especially among unskilled, unorganized workers. One labor economist noted in 1919 that,

> Trade unions voice their protest against bad conditions by asking a committee to see the firm. The unorganized voice their protest by 'asking for their time'.

But the wartime rise in quit rates was not unprecedented. Labor turnover in a relatively 'good' prewar year such as 1913 approached wartime levels: the unemployment rate was about 35 percent higher, and turnover was 33 percent lower, in 1913 as compared to 1917-18. What made the war period unique was not the level of quits so much as a new concern for the implications of such a separation. These included the higher cost of replacing a separating worker;[60] the belief that a propensity to quit was related to weak effort norms;[61] and the realization that the same conditions that gave rise to quits today might lead to a strike tomorrow.[62]

The new techniques of personnel management now appeared relatively attractive to employers faced with this breakdown in the traditional system of labor administration. Advocates of personnel management promised that replacement of the foreman's haphazard employment system by one that was more bureaucratic and equitable would relieve labor shortages, improve productivity and promote labor peace and stability. Joseph Willits, a prominent economist, said, "It will pay the employer to show more regard for his employee's interest" and he called personnel management "a fundamental force for the reform of business."[63] Despite lingering skepticism about the wisdom of tampering with tradition, a substantial minority of industrial firms rapidly established personnel departments.

Between 1915 and 1920, the proportion of large establishments (those employing more than 250 employees) with personnel departments rose from less than 7 percent to 25 percent.[64] The Federal government helped to speed the creation of personnel departments by training hundreds of personnel managers in war emergency courses at various universities. Several war labor agencies promoted personnel management, believing that it would standardize employment conditions in war industries and thus reduce the likelihood of disputes. The government's Emergency Fleet Corporation was directly responsible for the creation of personnel departments in 34 private shipyards; the industry had none at the start of the war.[65]

There was, however, a sharp disjuncture between the ideal personnel department envisioned by the movement's proselytizers and the actual practices of most firms. Only a small number of departments, perhaps as few as fifty, approached the ideal. These were fully centralized departments whose mandate was on a par with the firm's other functional divisions. They controlled the formulation of all labor-related policy as well as its execution. An independent, powerful personnel department provided the authority needed to curb recalcitrant line officials and administer programs that required intra-firm coordination. But most personnel departments failed to establish either their independent authority or a full range of the employment policies that were considered "best practice" at the time. The following section discusses the potential range of employment reform and examines why most firms did not adopt programs of this scope.

Employment Reforms

The selection and assignment of new employees were the functions most commonly taken over by the new personnel departments. As presumed experts in human relations, personnel managers were supposed to be less corrupt and more skilled in choosing the "right man for the right job." The new procedure was to have foremen requisition workers from the personnel department when needed; they were not allowed to refuse the workers sent to them. Personnel departments were to maintain employment records and keep a list of applicants on file. In theory this was intended to create a reserve to be drawn upon when the demand for labor increased. In some open-shop firms, these records were used to screen out union members or other undesirables. Other firms followed a policy of hiring an ethnically diverse group of workers to forestall unionization. The personnel manager, said Arthur H. Young, "is like unto a chef, in charge of the mixture at his particular plant."[66]

Yet the hiring techniques used by most personnel departments were quite rudimentary (see Table 1). Only about one-half kept employment records; maintaining a list of reserve applicants was said to be "seldom practiced." Much of the personnel manager's energy was spent trying to convince foremen of the virtues of centralized selection. Foremen believed that "the old way is good enough" and resented their loss of authority. They blamed production problems on the personnel department's poor judgment in selecting workers. Personnel managers complained that they had a harder time selling their selection methods to foremen and line executives than to a firm's top managers.[67]

TABLE 1 HERE

Personnel managers adovcated the use of rules and procedures to curb the foreman's discretion in wage setting and create a more equitable wage structure. The first step in this process was to analyze the duties and requirements of every job in the firm, using methods similar to those employed by vocational guidance counselors. From the job analysis data, the personnel department could classify jobs into groups and standardize wages within groups. This allowed the department to identify those rates that were "out of line" and which might become a source of disputes.

The introduction of job classification and wage standardization was a sharp departure from the anarchy and individualistic bias of prewar wage determination practices, and demonstrated some recognition that wages were part of a relative structure. One of the first classification systems was introduced at Ford Motor Company in 1914, ostensibly to "prevent the favoritism of a foreman for an employee." The system reduced the number of basic wage rates at Ford from sixty-nine to eight.[70]

Several major wartime strikes were held over the issue of wage standardization. The unions involved, most notably the Machinists, demanded that firms standardize occupational nomenclature, classify jobs and standardize wages within classifications. This was intended to reduce the inequities produced by the foreman's rate-setting methods and weaken the individualizing tendency of incentive wage systems, which carried different rates for different workers. Various war labor agencies occasionally supported the unions as part

Table 1. Employment Practices in Industry, 1918-1923

	ALL FIRMS[68]	FIRMS WITH PERSONNEL DEPARTMENTS[69]
Personnel Department	25%	
Records of Hiring and Firing	18	50%
Use of Selection Tests	4	12
Job Analysis	12	
Centralized Wage Determination	-	38
Periodic Wage Increases	24	
Plant Promotion Plan	15	
Promotion by Formal Ratings	12	
Vacancies Posted	2	
Transfer Plans	23	
Personnel Department Has A Say in Dismissals		36

of the government's wide-ranging efforts to head off labor disputes and shortages by standardizing wages both within and across industries and regions.[71]

Employers were naturally wary of standardization since it carried the risk of politicizing wage determination by tying groups of workers together in a common wage band. They also worried that standardization would undermine the incentive effects of the new bonus wage systems. Consequently, despite the volumes written about job analysis and wage standardization, they were less popular in practice than a review of the literature would suggest (Table 1). Wages often continued to be set by foremen or by time-study engineers rather than personnel managers.[72]

Personnel managers and employment reformers believed that an internal promotion system was an essential feature of a well-managed firm. There were several reasons for this belief. First, vocationalists in the personnel management movement thought that a promotion plan provided an incentive for greater effort and commitment to work. They emphasized the need to provide career motivations for manual workers since this would "put the zest of the struggle and contest into their work, [and] the hope of better things tomorrow to take their minds off the difficulties of today." Promotion plans, said one personnel manager, would make "routine factory work a sufficient career."[73]

Second, these policies were supposed to systematically develop a workers's skills and act as a screening device by which "the competent and persevering employee gradually rises to the top." Third, internal promotion and hiring plans were said to depress quits since they rewarded the worker for stability and gave him "hope that efficiency in his present job will win him something better." Finally, these policies were thought to "engender loyalty and *esprit de corps*" by reducing the foreman's discretion and making promotions subject to definite criteria. Loyalty would increase if workers were assured that good behavior and ability were going to be recognized and rewarded. But as Slichter realized in 1919, these promotion policies also enhanced employer control over the workforce by raising the cost of separation to the employee.[74]

A definite plan for promotion and a policy of filling vacancies from within normally accompanied each other. The incentive effects of a promotion plan were weakened if a firm turned to the external labor market to fill above-entry level vacancies. And if vacancies were filled internally, a definite promotion and transfer plan eased the bureaucratic task of finding appropriate workers. If promotion lines were vague and centralized labor allocation was weak, as was often the case, promotion continued to be somewhat haphazard and hiring from within was only minimally enforced.[75]

Firms were reluctant to implement definite promotion plans because it was believed that they hindered allocative flexibility. A plant manager at a large manufacturing firm said, "Our business is not a progressive series of positions. Any good organization is always adjusting itself to new conditions. Lines of promotion are absurd." Other firms maintained that promotion plans created unrealistic expectations among incumbent workers that a particular job would be theirs when it became vacant - this hampered the firm if and when it preferred to hire someone else to fill the vacancy - and would create "softness" among workers by making advancement appear to be too automatic. Firms that had definite promotion plans considered it wise to view them as guidelines rather than definite commitments. Hence only a very few firms guaranteed their workers a fully internal hiring policy for above-entry level vacancies. Internal promotion plans were not widespread (Table 1) nor were merit wage increases in lieu of promotion[76]

The absence or ineffectual enforcement of promotion policies meant that most promotions still were controlled by foremen, even in firms with personnel departments. Only 3 percent of firms surveyed in 1924 allowed their personnel department to have a say in promotions. A personnel manager at one firm complained that "pull" still determined who could get promoted. He said, "Pull goes a long way in this company. It is a long, slow process trying to introduce modern personnel methods."[77]

Personnel managers made their deepest raids into the foreman's territory when they removed or restricted his discharge privileges. To justify this incursion, foremen were portrayed as autocratic, barbaric and overworked. As noted, tight labor markets and rising unionization rates made unrestricted dismissals a liability to employers. Foremen at one Philadelphia firm were told, "Your system may have been good once but it won't go now." At Goodyear, the firm's foremen were held responsible for the outbreak of labor radicalism and unrest in Akron in 1919. They were told by Goodyear's personnel director that, "The driver must go."[78]

There was tremendous variation in the extent to which personnel departments assumed control of dismissals. At many firms, the foreman was only allowed to suspend a worker from his department. The worker could then go to the personnel department for a hearing and possible transfer to another department. For example, Standard Oil issued a list of offenses for which a foreman could dismiss a worker and guaranteed the right of appeal to the personnel department. At Firestone, only the personnel manager was allowed to dismiss a worker; foremen merely sent unsatisfactory workers to him. Some progressive, non-union firms including Ford Motor, Dennison Manufacturing, Packard Motor and Filene's, the Boston department store, instituted quasi-judicial arbitration boards to adjudicate disputed dismissals.[79]

The ethos of professional neutrality found practical expression in these new dismissal systems. The personnel department had to be somewhat independent of the rest of the firm if it was to mediate disputes between workers and their supervisors. As one reformer put it, personnel managers had to be persons "with an outside point of view, strong in their policies and strong in their ideals." Only through demonstrated neutrality would workers trust personnel departments to define and protect their rights. Personnel managers claimed that their "broader viewpoint" put them "in a position to pass unbiased judgment on a discharged employee and give him an impartial hearing."[80] As a third force in the firm, the personnel department would function as both management and union. One personnel manager said that his "most important duty is just this one thing: to come in close contact with employees; to gain their confidence; to hear their troubles and adjust them; to be their champion and at the same time the guardian of the company's interest."[81]

Foremen and production officials were more resentful of this reform than any other, since the unrestricted discharge was considered fundamental for maintaining effort on the shop floor. The fact that a worker could appeal a discharge to the personnel manager was said to be "demoralizing to the discipline of the factory." It undermined the foreman's authority, independence and prerogative to establish his own rules. Personnel managers, on the other hand, argued that the use of centrally determined rules and appeals procedures actually would increase the foreman's authority by allowing any conflict over rule enforcement to be deflected to the "higher ups." But this left open the question of what would happen if the personnel department disagreed with the foreman's interpretation of the rules, which was precisely what worried critics of personnel management.[82]

A 1918 survey of 40 firms found that the personnel department was involved in discharge decisions at about one-third of the firms surveyed, either to approve the foreman's choice (23 percent) or to make the determination independently (13 percent). Limits were imposed on the extent to which the personnel department could overrule the foreman in these firms; most personnel managers lacked the authority to reinstate an employee. Some skeptics claimed that at most firms, "a foreman may still be as petulant as ever about discharging."[83]

Another area in which efforts were made to strengthen the bonds between firms and their incumbent employees was the so-called "new welfare work." This included such quasi-pecuniary programs as savings and stock ownership plans, group insurance, pensions and paid vacations. These welfare programs began to supplant more paternalistic welfare work after the war and increased in popularity during the 1920's.[84]

The "new" welfare work relied on individual incentives that tied receipt of benefits to a workers's loyalty, punctuality, obedience and seniority. Most of the programs had an eligibility rule known as the "continuous service provision"; an employee had to be continuously employed for a certain period before he was elegible to receive benefits. This provision was strictly enforced. A worker lost <u>all</u> of his accumulated seniority if a break occurred in his service record. This could be caused by a suspension, participation in a strike or other forms of "disloyal" behavior. By tying hefty benefits to an unbroken service record, these programs increased the cost to the worker of a dismissal or quit. This had the effect of increasing employer control over the workforce.[85]

The industries where the new welfare work was most prevalent tended to be those with little or no union organization. Employers said that the programs had a quieting effect on labor disturbances and contributed to "loyalty" and "cooperation". The Studebaker Company introduced a program consisting of paid vacations, pensions, stock ownership and life insurance in 1919. When a strike occurred in Detroit in 1920, the firm's body painters and trimmers refused to participate for fear they would lose their new benefits. An economics professor at Northwestern warned in 1918 that these benefit plans were "likely to arouse the suspicion of the employees that the employer is endeavoring to shackle them. They are likely to feel that he simply wishes to protect himself against any possibility of group action on their part."[86]

The plans had other objectives. They were intended to help a firm raise capital without diluting management control. Also, some of the savings plans were linked to home building programs to encourage employees to purchase products that weren't leisure-intensive, like automobiles. Finally, the new welfare programs helped to reduce turnover among senior employees. It is wise, however, not to make too much of these plans. Even by the late 1920's, the new welfare plans reached no more than about one out of every seven industrial workers. Moreover, employer expenditures on these programs were meager by current standards, averaging only two percent of compensation in 1927.[87]

The tendency in personnel management was to create a more equitable and secure employment relationship, one that encouraged workers to remain with the firm and protected them from arbitrary treatment. The continuous service provisions of the new welfare plans meant that employers were beginning to keep records of seniority and were rewarding tenure in various ways, albeit ways that enhanced their control. Two-thirds of a group of firms surveyed in 1924 indicated that seniority was "a factor" in promotion decisions, although none made it a primary determinant. In a relatively short span of time, personnel management had significantly altered some of the premises of the drive system by popularizing the idea that employment security and stability could be profitable to the firm.[88]

But the various mechanisms to encourage stability affected only a minority of the workforce. Even for this minority, these incentives were unevenly applied, either restricted to particular groups or ineffectually practiced, which suggests a less than whole-hearted commitment on the part of employers to an enduring employment relationship. The true test of this commitment was the manner in which employers treated employees during a cyclical downturn, a test that would come during the depression of 1920-1922.

The outlines of an internal labor market were beginning to emerge in firms that had personnel departments. Administering programs that required intra-firm coordination or placing checks on line officials was difficult to do without a personnel department. Data from a 1918 survey showed that a firm with a personnel department was ten times more likely to conduct job analyses, four times more likely to have a plan for internal promotion and three times more likely to have dismissal restrictions. Professional personnel management was a force for the reform of traditional employment methods, although it was held back by the persistence of old attitudes and beliefs.[89]

The ideology of the drive system continued to exert a strong hold on line officials and employers despite the efforts of personnel managers to convince them of the virtues of an alternative approach. This explains the limited nature of reforms implemented before 1920. In 1919, Joseph Willits pointed to the prevalence of what he called the "Bourbon employer" who thought that "the events of the war have justified his previous beliefs as to the essential depravity of American workmen." Willits thought that the war had hardened, rather than softened, the employer's prejudices. The persistence of this ideology - that liberality undermined discipline, that foremen had to be upheld in disputes with workers, that labor was a commodity - made it difficult for personnel managers to expand their influence either within or beyond the minority of firms that had initiated personnel departments by 1920.[90]

IV. The 1920's

By mid-1920 it was evident that the beliefs which had stymied the progress of personnel management were growing in intensity. An open-shop movement spread from state to state while the Red Scare hysteria gripped the nation. Postwar hopes for social reconstruction and cooperation were replaced by calls for a "return to normalcy." Hostility to Progressive reform movements became widespread. A prominent personnel manager warned that if labor markets softened, employers would "seize with avidity what they consider a long-deferred opportunity to put the screws down."[91]

A split appeared in the personnel management movement several months before the onset of the depression of 1921-1922. A conservative faction launched a broad attack on their more liberal colleagues. It is not now clear whether they were motivated by a genuine disagreement with the liberals or by fears about their own futures. Yet they were able to articulate a program for the movement that was more in tune with the new mood of the times, a mood that was to prevail throughout the 1920's.

The most common charge levelled by the conservatives was that personnel managers had gone too far in blaming the foreman for industry's problems and then stripping him of his authority. They argued that foremen should be given greater discretion to allocate, discipline and discharge workers. The personnel department was to be an auxiliary to the production division rather than an independent department. Under the new view, the personnel manager would no longer be an impartial force for change within the firm; he would have to give up his professional pretensions. The new model of personnel management promised to restore allocational flexibility and preserve authority relations on the shop floor at a time when calls for "a return to business principles" and a reassertion of discipline were on the increase. Those personnel managers who adopted this model presumably would stand the greatest chance of weathering the oncoming depression.[92]

The depression demonstrated that a personnel department was not essential to the maintenance of either morale, effort or stability. Unemployment rates in manufacturing reached over 20 percent in 1921. With this came a decline in strikes and turnover as well as a sharp increase in labor productivity.[93] Many firms cut back or completely eliminated their personnel departments during the depression. One employer noted that, "People are now willing to work hard and do it more cheerfully than heretofore. Therefore, personnel departments as such are not so great." Personnel departments that survived the depression lost their status as independent units and were integrated into manufacturing or production divisions. A survey of departments still in existence in 1923 noted a marked trend toward the decentralization of what was termed the "control" of personnel activities. A 1927 study found that "many personnel departments, even those extensively organized, are... 'mere fronts'. The term is especially applicable where such departments are definitely ordered not to interfere with 'production' and where the personnel staff is given to understand that its function is not an integral part of the administration."[94]

Although these moves were touted as cost-cutting necessities, they had more to do with the desire to restore discipline. In 1928, after the dust had long settled, one well-placed observer commented that "more personnel men lost their jobs because they were given and used too much authority, because they usurped the prerogatives of line organizations and consequently interfered with normal disciplinary procedure, than because of business depression." Personnel management faded from public attention amid the quiescent labor atmosphere of the 1920's. The proportion of large establishments with personnel departments grew more slowly than before, rising from 25 percent in 1920 to 34 percent in 1929.[95]

The manufacturing labor market during the 1920's was a buyer's market characterized by stagnant employment and relatively high unemployment. Manufacturing employment did not grow at all between 1919 and 1929; average annual unemployment rates in manufacturing were higher between 1923 and 1927 than for any other five-year period since 1900, excluding depression years. In 20 out of 26 manufacturing industries, average hourly wage rates declined between 1920 and 1929.[96] These factors were responsible for the decade's downward trend in quit rates and, ultimately, for the slow growth of employment reform.[97]

After the depression, personnel departments conformed to the new model of decentralized management, which left the foreman with considerable power. Many departments now lacked the requisite authority to ensure compliance with intraplant allocative and pay rules. However, firms with personnel departments still were relatively attractive places to work during the 1920's, unlike firms that did not initiate personnel departments or failed to replace those that had been discontinued during the depression. At these firms, said economist Leo Wolman, "there was a reversion to older methods."[98]

The decentralization of authority made it difficult to operate or expand programs that required the foreman's cooperation. The proportion of firms with definite promotion plans remained constant throughout the decade and may have even declined slightly from pre-depression levels. The foreman's resurgence was most noticeable in the area of hiring and dismissals. Fewer firms reported using centralized selection methods in 1929 than in 1918. The proportion of firms that allowed their personnel departments to have a say, either final or advisory, in discharge decisions also declined between 1918 and 1929. Liberals in the personnel management movement were bitter about this shift away from professionalism and reform. Mary B. Gilson castigated advocates of the new model for "turning the clock back a considerable distance in regard to the development of centralization in the selection and training of workers as well as in safeguarding discharges, because of their blind zeal in defending what they called the foreman's 'rights'".[99]

Wage determination again became the foreman's prerogative as individualized incentive wages became more popular during the decade. A 1928 survey of firms belonging to the open-shop National Metal Trades Association found that over 90 percent relied exclusively on either time study or an individual's past performance in setting wage rates. The proportion of manufacturing workers on incentive pay rose from 44 percent in 1922 to 71 percent in 1932. One result of this failure to continue wartime experiments in wage standardization was a widening of occupational wage differentials. An International Labor Organization study noted that skill differentials were wider in the United States than in other industrialized nations. This failure no doubt contributed to the urgency with which organized workers later sought to reform pay structures and attach wages to jobs rather than individuals.[100]

Despite the efforts that were made to retain workers during the war period, most firms did little to ensure the continuity of employment during the severe depression of 1920-1922. A few firms like International Harvester and McElwain Shoe paid dismissal wages and engaged in relief activities such as work-sharing. But studies by the AALL and the Russell Sage Foundation turned up few instances of work-sharing, systematic transfers or dismissal compensation, which were termed "unusual relief arrangements." The ten giant firms that made up the Special Conference Committee issued a statement in favor of layoffs based on merit rather than seniority.[101]

However, after the depression there appeared to be a greater adherence to seniority as an allocative criterion. During the brief recession of 1927, 40 percent of the firms surveyed by the Conference Board reported that seniority was a primary factor in determining layoffs. This reflected some concern with the permanence of employment but the commitment to seniority was still weak. 61 percent of the surveyed firms gave no preference to senior workers when rehiring; 14 percent erased all accumulated seniority if a laid-off worker was rehired. Even in those firms where seniority was a primary factor in layoffs, there were few definite rules as to when it applied. At many firms, seniority only became more important than efficiency or ability after the worker had been with the firm for more than five, and in some cases more than ten or twelve, years. That is, use of seniority as the governing factor in layoffs was itself a seniority benefit.[102]

The shallow commitment to employment security and the decentralization of allocative authority suggest that drive methods still were prevalent. In the automobile industry during the 1920's, the most commonly cited worker grievances were speed-ups, accidents and foreman favoritism. In the mid-1920's, when the Lynds visited open-shop Muncie, Indiana, they found considerable pessimism among the town's working-class families concerning employment security and promotional opportunities.[103]

There were, however, some firms that adopted advanced employment methods during the 1920's. C. Canby Balderston studied a group of firms with "pioneer" personnel programs, by which he meant the existence of a personnel department, the provision of benefits to enhance employee security, formal wage plans and mechanisms for maintaining the stability of employment.[104]

Balderston's "pioneer" firms shared certain characteristics. During its earlier phase of expansion, personnel management had shown no obvious relation to particular industrial characteristics such as technological sophistication or profitability. Most wartime industries had been buoyed by high demand and hefty cost-plus contracts. But during the 1920's, some industries declined (e.g., metals, textiles, railroads) while more dynamic "new" industries (e.g., chemical and petroleum products, electrical manufacturing, public utilities) took the lead as a result of age, innovation and mergers. Balderston's firms came from industries that had relatively high and stable profit levels during the 1920's, which assured these firms of sufficient funds to finance personnel programs.[105]

This is not to say that profitability, which was correlated with technical sophistication, was the only determinative factor. Balderston's "pioneer" firms also came from industries with relatively stable seasonal and cyclical product demand. The assurance of a continuous derived demand for labor permitted a firm to plan employment policies that were based on a presumption of a continuing employment relationship. Firms in industries that weren't on the technological cutting edge but were relatively stable, such as producers of consumer non-durables, were the decade's heaviest users of various employment stabilization techniques[106] and constituted the tiny group that guaranteed their employees a minimum amount of time of employment or pay per year.[107] Medium-sized, 'low' technology but stable firms like Columbia Conserve, Dennison Manufacturing or Hills Brothers offered their workers greater job security than firms that were larger and possessed more market power but either were less stable (e.g., auto producers), less profitable (e.g., textile mills) or both (e.g., steel mills).[108]

Finally, Balderston's firms showed a marked tendency to be privately owned or tightly controlled. This allowed such well-known liberal employers as Henry S. Dennison, Morris Leeds and William P. Hapgood to gain the control necessary to exercise their preferences over those of more conservative managers and shareholders.[109]

Most manufacturing workers continued to be employed by firms that had neither unions nor personnel departments. Autocratic methods, arbitrary practices and employment insecurity persisted at these firms, encouraged by the waning of wartime sense of urgency. On the other hand, 19 percent of the industrial workforce in 1929 was employed by firms that had personnel departments.[110] Some of these firms expanded the liberal employment policies introduced during the war; in others, there was evidence that the commitment to reform had weakened, which slowed the pace of change. Yet an extrapolation of employment policy trends would have been a misleading guide to future developments.

V. 1930-1945

Corporate employment policy was faced with an uncertain future during the first three years of the Great Depression. Many of the new welfare programs were discontinued as they became a drain on already scarce corporate funds, or lost their incentive value. Although some large firms did not initially cut wage rates as they had done during the 1920-1922 depression, smaller firms were quick to make cuts. By 1932, major firms like General Motors and U.S. Steel had joined in. Early in 1933, William H. Leiserson gloomily wrote that the "depression has undone fifteen years or so of good personnel work" and he warned that "Labor is going to look to legislation and not to personnel management for a solution of the unemployment problem."[111]

Contrary to Leiserson's pessimism, personnel management and employment reform prospered in the wake of the National Industrial Recovery Act. Personnel departments were given the authority to administer the NRA labor codes and ensure compliance with the directives of the new industrial Labor Boards. The growth of union organization also affected the status, authority and content of personnel management. The Special Conference Committee's report for 1933 noted that the spread of collective bargaining had "added measurably to the tasks of personnel managers and to the importance of their functions within organizations."[112] The result was a rapid expansion of rules and equitable allocative practices after 1933. At some firms, unions were directly responsible for this growth. At others, union threat effects accelerated the implementation of definite employment procedures and employment security measures.

The effect of these developments on the organization of personnel departments was quite dramatic. The proportion of large firms with personnel department nearly doubled between 1929 and 1935; the proportion of the industrial workforce covered by a personnel department shot up from 19 percent in 1929 to 72 percent in 1935. "The union movement," said one personnel manager, "has given personnel a function of great importance in management's eyes and has therefore been a means for helping elevate its status."[113]

TABLE 2 HERE

The simultaneous expansion of unionism and personnel management was an impetus for the adoption of internal labor market practices. The trend during the 1920's toward decentralization of allocative authority was reversed as foremen lost much of their power to select and dismiss employees. The proportion of firms relying on centralized hiring and selection techniques grew steadily after 1933 as did the involvement of the personnel department in dismissal decisions (Table 2). Although over one-half of all industrial firms gave their foremen sole authority to dismiss employees in 1936, this had dwindled to less than one percent by 1948. Firms were more careful to ensure due process in dismissal decisions and promulgated rules that detailed the offenses for which an employee might be discharged. The proportion of firms using these rules rose from 38 percent in 1936 to 87 percent in 1948. These dismissal safeguards were the result of government labor board decisions,

Table 2. Employment Practices in Industry, 1918-1964[114]

	1918-23	1927-29	1935-36	1940	1946-48	1964
Personnel Department (L)	25%	34%	64%			
Centralized Selection						
All Firms	50				94%	
Large Firms		42	63			
Discharge						
Foreman has sole authority (A)			55		1	
Personnel department involved						
All firms	36		7	17%	31	
Large firms		24	28			
Plant Promotion Plan (A)	15	14	28			
Formal Promotion Rating Plan						
All firms	12					59
Large firms		14	25			
Seniority						
Retained for less than one year after layoff (A)		27	14			7
Wage or Employment Guarantee						
Number of plans in operation	15	35	79	138	196	

A: Proportion of all industrial firms. L: Proportion of industrial firms with more than 250 employees.

union restrictions and a determination to prevent dismissals from becoming an organizing issue.[115]

Promotion methods also changed as job ladders and internal promotion plans became more widespread (Table 2). Despite the relatively fast growth in the use of promotion plans, they were still uncommon before the war. A 1939 study by the Princeton Industrial Relations Section found that definite procedures for promotions were "rare" and that firms "which usually have been the leaders in industrial relations progress have not been greatly concerned with this aspect of employment management relations." But job lines became more well-defined under the stimulus of wartime bargaining and the growing tendency to use seniority as a criterion in layoffs.[116]

The slow implementation of promotion plans and job ladders prior to the 1930's suggests that their value to the firm as an incentive or control device was less important than their value to employees as a form of security and protection against arbitrary assignment.[117] The same may be said of formal rating plans for promotion, which substituted definite criteria for foreman discretion. Use of formal rating plans for wage earners did not become popular until after 1929 (Table 2).

Definite promotion lines and advancement criteria were closely related to the degree to which firms were committed to filling vacancies from within. During the 1920's, foremen and personnel managers were still free to hire outsiders if they so chose, which was an important reason for the relative scarcity of promotion plans. But by 1950, 93 percent of surveyed firms employing more than 500 workers reported that "all or most" manual jobs were filled internally. Similarly, in 1924 only 2 percent of surveyed firms said that they used the internal labor market method of posting vacancies for internal bids, but by 1948, automatic consideration or posting-and-bidding clauses had become common in collective labor agreements; in 1970 they could be found in over one-half of all manufacturing agreements.[118]

Wage determination was another area where foremen were displaced by personnel managers and collective bargaining. Job classification, wage standardization and job evaluation plans were widely adopted after 1933. During the 1930's, firms quickly created rationalized wage structures that would enhance management control under collective bargaining. The National War Labor Board, like its predecessor during World War I, pushed for the implementation of classification plans to reduce the likelihood of wage disputes and ease the administrative task of stabilizing wages. Richard A. Lester interviewed postwar managers and found that most believed that collective bargaining had been "a stimulus to the adoption of specific and definite wage policies, the consistent application of such policies and the establishment of systematic wage scales..."[119]

Some unions denounced job evaluation as a "management tool" and as an evasion of management's duty to bargain over wages. Opposition was strong when the plans were unilaterally introduced; 50 percent of the plans in existence in 1946 had been implemented during the 1930's. But it is important to note that it was the prospect of having to bargain over wages that forced most firms to adopt these plans.[120]

A modern internal wage structure began to emerge as job evaluation was linked to promotion plans and seniority principles were strengthened. Wages now moved in contours around key rates. The relative wage structure became more rigid and tenure became an increasingly important determinant of a worker's wage.

The emphasis on seniority as a key factor in promotion, layoff and wage decisions was an important change in employment policy. Union demands for seniority rules were intended to eliminate favoritism and discrimination, and to provide greater security for older workers.[121] The 1930's depression intensified long-standing resentment of the foreman's allocative power and heightened workers' concern with security. As unions consolidated their power during the war, they sought to apply seniority criteria to wider spheres of employment decisions.[122]

Managers were not opposed to seniority _per se_. As noted, seniority was used as an allocative criterion in numerous firms before the depression. But few had adopted the rigid and all-encompassing approach to seniority that the unions now demanded. Production officials were concerned that this approach would hinder the firm's flexibility in making allocative and pay decisions. The confrontation over seniority pitted the worker's claims to continuity of employment and property rights in a set of jobs against the employer's claim to a right to decide when efficiency should outweight equity considerations. These conflicts were muted, however, by the fact that unions were now firmly entrenched and by the reascendance of the personnel department. Some personnel managers were very willing to implement a seniority system which, by centralizing allocative authority, had the effect of increasing their own power.

Non-union firms also relied more heavily on seniority after 1933, although it was less widely applied than in unionized firms. Threat effects influenced this development. A 1950 study of seniority in non-union firms reported that "...a great number of nonunionized firms are constantly aware of the implied threat of unionization if their personnel procedures are mishandled. Their attitude is that as long as they keep their house in order, they can remain unorganized." In addition to threat effects, the existence of a personnel department in a non-union firm made it more likely that the firm would rely on seniority rules.[123]

Security of employment and attachment to the employer both increased after 1933 as seniority criteria grew more important and workers were allowed to retain their seniority for longer periods after layoff. Employment and income guarantee plans, the most explicit version of an implicit employment promise, also became more prevalent (Table 2) and were associated with unionization.[124] The new emphasis on job security and the proliferation of firm-specific benefits linked to tenure undoubtedly contributed to the postwar decline in the quit rate. "Voice" mechanisms for expressing dissatisfaction, especially labor unions and personnel departments, had an additional, negative effect on mobility. Thus, at the beginning of the 1950's, labor economists began to worry that the "no trespassing signs" of numerous internal labor markets were hindering the fluidity and overall efficiency of the external labor market.[125]

The process of internal labor market formation had its most deleterious effect on the foreman, who was subjected to sharp pressures from below and above. Union grievance procedures, allocative rules and bargaining processes stripped the foreman of much of his authority. Personnel managers again crimped his prerogatives and took his responsibilities away from him. In 1940, Ira B. Cross. Jr. observed that because of these pressures, foremen "no longer controlled the employment of the men who worked under them... In general, they were pretty well-kicked around by both sides."[126]

Conclusion

There exist three alternative explanations of the origins of the internal labor market. Each has its roots in a particular normative conception of the internal labor market as well as a body of positive research. Each suggests a way of theorizing the relationship between personnel management, trade unions and the internal labor market.

The first explanation conceives of the internal labor market as an efficiency-oriented set of procedures, rules and allocative practices. It is depicted as a response by cost-conscious managers to the constraints imposed on the firm by idiosyncracy, turnover costs and organizational size and complexity. In this model, management is fully capable of restraining itself in the absence of external pressure. The personalistic and impermanent aspects of the employment relationship are discarded because they no longer are profitable in the face of changing technology, turnover costs and organizational complexity. Rule-bound, quasi-permanent employment relationships simply are the outcome of managerial optimizing; they have no normative content.[127]

In support of this view, it is noted that a profit-maximizing firm would not have adopted an internal labor market unless it had been a relatively more efficient form of organization. Firms that failed to adopt this form either suffered competitive losses or were not subject to the same constraints as adopting firms. Also, the rather similar personnel practices of unionized and non-union firms are pointed to as evidence of management's ability to restrain itself through an internal labor market. This is intended to suggest that unions and other strictly non-economic forces have had relatively little influence on the calculus of managerial decision-making. A generous interpretation of these institutional forces is given by those who argue that the union facilitates internal labor market arrangements but is not strictly necessary for their achievement. A more cynical interpretation is that institutional forces like a union hinder or obstruct the achievement of efficient results.[128]

However, one problem with this explanation is its somewhat monocausal emphasis on training and turnover costs. If it could be shown that job content became more firm-specific at some point in the past, then a neat case could be made for the internal labor market's origins. But there are few convincing stories about why such a shift might have occurred. In fact, it is more likely that job content became less idiosyncratic over time. One of the advantages of mass production technology was that it made workers more interchangeable by shortening learning curves. This reduced the replacement cost of turnover. A technology based on the interchangeability of workers cannot at the same time make them more indispensable.[129]

The explanation also conflicts with the historical development of the internal labor market: the rapidity with which employment reforms were introduced when certain institutional forces were strong; the slackening of managerial restraint when these forces were weak; and the persistent conflict between personnel managers and the more production-oriented branches of management. This development suggests that changing social norms shaped the internal labor market. There has never been a perfect match between what Robert Solow has termed "social conventions or principles of appropriate behavior" and the outcomes generated by the market. It is not clear now, nor was it clear in 1921, that the body of practices that comprise the internal labor market are what management would freely choose in the absence of non-economic constraints.[130]

Employers today probably would not drastically change their employment practices in the absence of these constraints. Solow's principles of appropriate behavior have become embedded in a structure of law and employee expectations of fairness and security. But if one could somehow weaken this structure, it is likely that employers would shift to an alternative shouldering of recessionary adjustments, less allocative rigidity and less benign methods of eliciting effort.

A second explanation gives heavier weight to institutional factors.[131] It contains a more optimistic appraisal of the importance of changes in social norms brought about by unionization, the professionalization of management and public labor market policies. These are viewed as countervailing powers that held employers in check or goaded recalcitrant employers to decasualize employment and curb the excesses of the drive system.

In this view, competitive forces did not spontaneously generate a new set of personnel policies. Instead, changes in worker aspirations and social norms pushed firms to adopt employment practices that promoted equity and security. With the benefit of hindsight vision we may observe that these practices often enhanced productivity through their effect on turnover and morale, or by stimulating programs to upgrade the workforce. However, this result wasn't always apparent to those who managed firms in transition. During the transition, there was continual skepticism among managers that internal labor market arrangements would improve productivity. There also were repeated struggles between unions and managers over the relative weighting of equity and efficiency in these new arrangements. Management sought to keep worker aspirations in line with a ceiling imposed by the market and channel change in the most profitable direction.

Underlying this explanation is the assumption that differences between unions and management are not unbridgeable. Within a region of conflict determined by employee preferences and competitive forces, consensus and cooperation are possible. Unions and personnel managers shared a mutual interest in restraining foremen, improving security and developing employment rules and procedures. Unions constrained personnel managers and personnel managers constrained the union and other managers. The historical process of convergence was uneven but by the end of World War II, an accommodation had been achieved. Personnel managers had assimilated union goals and the unions had accepted management's goals. This explanation recognizes that unions and social norms are crucial props to the internal labor market. Had there been no external pressures, change would have occurred much more slowly.

This explanation "fits" better with historical developments. Unlike more radical interpretations, it is skeptical of the claim that bureaucratic employment practices are a one-dimensional form of control. The employment relationship contained in the internal labor market was the product of long periods of struggle against economic insecurity and inequity at work. Employees, and the unions that represented them, had strong interests in the characteristic features of the internal labor market. Often it was the unions, not management, that pushed most strongly for job ladders, bureaucratic rules and guarantees of an enduring relationship. These features constrained the exercise of managerial power and represented a substantively more rational way of organizing employment.

All of the familiar forces of reform - trade unions, public policy and professional experts - played important roles in the transition to a less market-oriented system of employment. Technicians, academics and reformers did not always hew to a line laid down by employers nor did they simply turn science and expertise into forces of domination. The argument that managers consciously designed the internal labor market to maximize employer control is unconvincing; personnel management was more contradictory than that.

But there is an aspect of the third, or radical, explanation that is plausible.[132] This model notes the vast disparity of power between employers and those who depend on them for their livelihood. The ceiling that the institutionalists see as the limit on trade union activity is set not only by market forces but by management's superior power to define the limits of the possible. Issues that transcend these limits. such as demands for joint control of supervision or of production, either are not raised or are resoundingly beaten down.

This is one reason why the goals of personnel managers and unions never were that far apart. Personnel management absorbed the limited aspirations of the AFL, not the IWW's calls for self-management. Similarly, the CIO chose to make reasonable demands that furthered the programs initiated by personnel managers before 1935. The reasons for such self-restraint by unions are not hard to find.

The unions' limited aspirations were encouraged by the possibility of making significant gains within the existing set of property and power arrangements. Samuel Gompers' pragmatic formula for the labor movement was to seek "more" of what could be given, not of what might be taken. The unions' acceptance of management's terms was reinforced by groups like personnel managers, who demonstrated and encouraged the seeking of a middle way. The professional, neutral posture of personnel managers and other experts reassured the unions that they were being reasonable and not unduly submissive.

Thus, no single explanation is entirely satisfactory nor are these three explanations mutually exclusive. Instead, the development of internal labor markets in American manufacturing firms was the result of shifts in economic and organizational variables like firm size; changes in social norms spurred by unionization, new managerial philosophies and public employment policies; and the balance of power within and outside the firm. This eclectic conclusion, like the parable of the blind men and the elephant, underscores the need to adopt a multi-disciplinary approach to the study of employment practices in large firms.

1. D.H. Robertson, Control of Industry quoted in R.H. Coase, "The Nature of the Firm" Economica, 4 (1937), 388.

2. Stanley Lebergott, Manpower in Economic Growth: The American Record Since 1800 (New York, 1964), 510; Twelfth Census of the United States, Vol. 7, Manufactures, Part I (Washington, 1901), lxxii-lxxiv.

3. Cambria Steel Company had nearly 10,000 workers in 1900 and double that number in 1909. General Electric's plants in Schenectady and Lynn each employed more than 10,000 workers in 1910. Ford's giant Highland Park plant had 19,000 employees in 1915 and soon was eclipsed by the firm's colossal River Rouge plant. Daniel Nelson, Managers and Workers: Origins of the New Factory System in the United States, 1880-1920 (Madison, 1975), 7-9; Victor S. Clark, History of Manufactures in the United States, Vol. 3 (Washington, 1929), 160-164.

4. Alfred D. Chandler, Jr., The Visible Hand: The Managerial Revolution in American Business (Cambridge, 1977), 280-281, 338-339, 365.

5. Nelson, op. cit., 36-42; Dan Clawson, Bureaucracy and the Labor Process (New York, 1980), 75-83; David Montgomery, "Workers' Control of Machine Production in the Nineteenth Century," Labor History, 17 (Fall 1976), 486-492.

6. David Brody, Steelworkers in America: The Nonunion Era (New York, 1969), 19; Joseph A. Litterer, "Systematic Management: The Search for Order and Integration," Business History Review, 35 (Winter 1961), 469-474.

7. Henry Metcalfe, "The Shop-Order System of Accounts," Transactions of the American Society of Mechanical Engineers (ASME), 7 (1886); F.E. Webner, "Obtaining Actual Knowledge of the Cost of Production," The Engineering Magazine, 36 (October 1908); Frederick W. Taylor, Shop Management (New York, 1911), 110-122; Horace L. Arnold, The Complete Cost Keeper (New York, 1912); Marc J. Epstein, The Effect of Scientific Management on the Development of Standard Cost Systems (New York, 1978); Joseph A. Litterer, "Systematic Management: Design for Organizational Recoupling in American Manufacturing Firms," Business History Review, 37 (Winter 1963), 376-389; Reinhard Bendix, Work and Authority in Industry (New York, 1956), 211-218.

8. Frederick W. Taylor, "A Piece Rate System: Being A Step Toward Partial Solution of the Labor Problem," Transactions of the ASME, 16 (1895), 860-895; C. Bertrand Thompson, "Wages and Wage Systems As Incentives" in Thompson (ed.), Scientific Management: A Collection of the More Significant Articles Describing the Taylor System of Management (Cambridge, 1914), 684-705; Robert F. Hoxie, Scientific Management and Labor (New York, 1915), 31-32, 120-121.

9. Joseph H. Willits, "Steadying Employment," The Annals, 65 (May 1916), 72; H. Keith Trask, "The Problem of the Minor Executive," The Engineering Magazine, 38 (January 1910), 501; C.J. Morrison, "Short-Sighted Methods in Dealing With Labor," The Engineering Magazine, 46 (January 1914), 568; Fred H. Rindge, Jr., "From Boss to Foreman," Industrial Management, 53 (July 1917), 508-509.

10. Brody, op. cit., 120; Charles Fouhy, "Relations Between the Employment Manager and the Foreman," Industrial Management, 58 (October 1919), 336; T.J. Zimmerman, "How They Hold Their Men," System, 16 (August 1910), 150-152.

11. Sumner H. Slichter, The Turnover of Factory Labor (New York, 1921), 319.

12. Willits, op. cit., 72; John P. Frey and John R. Commons, "Conciliation in the Stove Industry," U.S. Bureau of Labor Statistics Bulletin No. 62 (Washington, 1906), 128; Commission of Inquiry, Interchurch World Movement, Report on the Steel Strike of 1919 (New York, 1920), 139.

13. Driving occurred under daywork, where the effort wage was indeterminate, as well as on the new incentive wage systems, which were calculated to reduce unit labor costs as output rose. But it also was prevalent on piecework, partly in response to workers' restriction of output. Lloyd Ulman, The Rise of the National Trade Union (Cambridge, 1955), 549-551.

14. Slichter, op. cit., 202; Ernest M. Hopkins, "A Functionalized Employment Department as a Factor in Industrial Efficiency," The Annals, 61 (September 1915), 117.

15. For example, during the depressed year of 1915, 79 workers were discharged from a Chicago metal working plant. 32 percent of the discharges were for "positive misconduct;" the remainder were for "unadaptability" and "unreliability", which suggests that discharges were a substitute for layoffs. In 1916, when conditions had improved and workers could afford to be feisty, the number of dismissals rose to 291, and the proportion due to "positive misconduct," which included insubordination and violation of rules, rose to 52 percent. Slichter, op. cit., 100, 178-184.

16. Discharges accounted for 16 percent of all separations between 1910 and 1918. Paul F. Brissenden and Emil Frankel, Labor Turnover in Industry (New York, 1922), 80-81.

17. Robert A. Gordon, Business Fluctuations, second ed. (New York, 1961), 251.

18. Alexander Keyssar, "Men Out of Work: A Social History of Unemployment in Massachusetts, 1870-1916," Unpublished doctoral dissertation in History of American Civilization, Harvard University, Cambridge, 1977, 73-79.

19. U.S. Bureau of the Census, Census of Manufactures: 1905, Part I (Washington, 1907), 27-54.

20. Slichter, op. cit., 126. The fact that the plant compiled data on rehires at a time when few others bothered to do so suggests that the data are not representative. Currently between 60 and 65 percent of workers on temporary layoffs are rehired by their original employers. Kim Clark and Lawrence Summers, "Labor Market Dynamics and Unemployment: A Reconsideration," Brookings Papers on Economic Activity (1979:1), 49.

21. Office of War Mobilization and Reconversion and Office of Temporary Controls, Guaranteed Wages: Report to the President by the Advisory Board (Washington, 1947), 290, 295; New York City Mayor's Committee on Unemployment, How to Meet Hard Times (New York, 1917), 24; Louis Levine, The Women's Garment Workers (New York, 1924), 279-283.

22. Morrison, op. cit., 568; Keyssar, op. cit., 153.

23. Paul H. Douglas, American Apprenticeship and Industrial Education (New York, 1921), 74.

24. Sumner H. Slichter, Union Policies and Industrial Management (Washington, 1941), 63; U.S. Industrial Commission, Report on the Relations and Conditions of Capital and Labor, Vol. 7 (Washington, 1901), 603, 620; Sanford M. Jacoby and Daniel J.B. Mitchell, "Development of Contractual Features of the Union-Management Relationship," UCLA Institute of Industrial Relations, Working Paper No. 40 (April 1982), 10.

25. David A. McCabe, The Standard Rate in American Trade Unions (Baltimore, 1912), 101, 111, 226-232; John R. Commons, "Labor's Attitude Toward Efficiency," American Economic Review, 1 (September 1911), 469; Ulman, op. cit., 483-484.

26. Slichter (1941), op. cit., 166-167; Montgomery, op. cit., 491.

27. Frey and Commons, op. cit., 128, 157; John R. Commons, "Labor Conditions in Meat Packing and the Recent Strike," Quarterly Journal of Economics, 19 (November 1904), 17.

28. Commons, ibid., 15; Mayor's Committee on Unemployment (1917), op. cit., 24; Ulman, op. cit., 546-556; Don D. Lescohier, "Working Conditions" in John R. Commons et al., History of Labor in the United States, 1896-1932, Vol. 3 (New York, 1935), 122-126.

29. The unions' preference for work-sharing reflected the seasonal nature of industries employing craft labor, the high inter-employer mobility of skilled labor and the unions' egalitarian code of ethics. Slichter (1941), op. cit., 117; Dan Mater, "The Development and Operation of the Railroad Seniority System," Journal of Business, 13 (October 1940) and 14 (January 1941); George Barnett, The Printers (Cambridge, 1919), 209-240.

30. Sanford Jacoby, "The Duration of Indefinite Employment Contracts in the United States and England: An Historical Analysis," UCLA Institute of Industrial Relations Working Paper No. 39 (February 1982), 38-42; Jacoby and Mitchell, op. cit., 5.

31. Frederic Meyers, "The Analytic Meaning of Seniority," Proceedings of the Eighteenth Meeting of the Industrial Relations Research Association (1966), 4; Clark Kerr, "The Balkanization of Labor Markets" in E. Wight Bakke (ed.), Labor Mobility and Economic Opportunity (Cambridge, 1954).

32. Slichter (1921), op. cit., 387. During the violent 1909 strike of unskilled workers at the Pressed Steel Car Company of McKees Rocks, Pennsylvania, the president of the firm was succinct in his opinion of the strikers. He said, "If a man is dissatisfied, it is his privilege to quit." Brody, op. cit., 78, 138-139.

33. Ray Ginger, "Labor in a Massachusetts Cotton Mill, 1853-1860," Business History Review, 28 (March 1954), 84, 87; Brissenden and Frankel, op. cit., 91; Slichter (1921), op. cit., 30-33, 56-69.

34. John Davidson, The Bargain Theory of Wages (New York, 1898), 181-183. The continuously high rates of geographic mobility by American workers between 1830 and 1920 are evidence of a strong propensity to quit. Stephen Thernstrom, The Other Bostonians: Poverty and Progress in the American Metropolis, 1880-1970 (Cambridge, 1973), 229-230.

35. The development of a capital goods industry allowed firms to purchase identical machinery from national vendors rather than having to craft their own as in the nineteenth century. One writer noted that, "There is

nothing that one well-administered concern can do that gives it an advantage in policy over another.... All can buy the same kinds of machinery if they know where to get it; or they can design the same kind. Processes cannot now be kept entirely secret." Ernest M. Hopkins, "Advantages of Centralized Employment," The Annals, 71 (May 1917), 2.

36. Douglas, op. cit., 124.

37. Dudley R. Kennedy, "The Future of Industrial Relations," Industrial Management, 59 (March 1920), 228; Sumner H. Slichter, "The Management of Labor," Journal of Political Economy, 27 (December 1919), 827.

38. Henry Eilbirt, "The Development of Personnel Management in the United States," Business History Review, 33 (Autumn 1959), 346; Fred W. Climer, "Cutting Labor Cost in Seasonal Business," Manufacturing Industries, 13 (May 1927).

39. There is a large and growing body of scholarship that analyzes the rise of a new middle class and its role in furthering various Progressive reform activities. The interested reader should consult the following: Allen F. Davis, Spearheads for Reform: The Social Settlements and the Progressive Movement, 1890-1914 (New York, 1967); Samuel Haber, Efficiency and Uplift: Scientific Management in the Progressive Era (Chicago, 1964); Magali S. Larson, The Rise of Professionalism: A Sociological Analysis (Berkeley, 1977); Christopher Lasch, Haven in a Heartless World: The Family Besieged (New York, 1977); Pat Walker (ed.), Between Labor and Capital (Boston, 1979).

40. Stuart Brandes, American Welfare Capitalism, 1880-1940 (Chicago, 1976); Robert Ozanne, A Century of Labor Management Relations at McCormick and International Harvester (Madison, 1967), 32-40; Stephen J. Scheinberg, "The Development of Corporation Labor Policy, 1900-1940," Unpublished doctoral dissertation in History, University of Wisconsin, Madison, 1967, 21-75.

41. Arthur Mann, Yankee Reformers in the Urban Age (Cambridge, 1954), 84-85; Davis, op. cit., 185-186.

42. Mary B. Gilson, What's Past is Prologue (New York, 1940), ix.

43. Daniel Nelson and Stuart Campbell, "Taylorism Versus Welfare Work in American Industry," Business History Review, 46 (Spring 1972), 5; Ozanne, op. cit., 34-35; Robert Clothier, "The Function of the Employment Department," U.S. Bureau of Labor Statistics Bulletin No. 196 (Washington, 1916), 9; Harold Ley, "Employee Welfare Work that Pays," American Industries, 22 (March 1922), 33.

44. Charles U. Carpenter, "The Working of a Labor Department in Industrial Establishments," The Engineering Magazine, 25 (April 1903); Louis A. Boettiger, Employee Welfare Work (New York, 1923), 128.

45. Slichter (1921), op. cit., 431-434.

46. John M. Brewer, History of Vocational Guidance: Origins and Early Development (New York, 1942); Frank Parsons, Choosing a Vocation (Boston, 1909); Sol Cohen, "The Industrial Education Movement, 1907-1917," American Quarterly, 20 (Spring 1968).

47. A blind alley job was defined as one "which offers little opportunity for growth in skill or knowledge.... and which does not usually lead to a better occupation." John M. Brewer, _The Vocational Guidance Movement_ (New York, 1918), 289.

48. Meyer Bloomfield, _The Vocational Guidance of Youth_ (Boston, 1915); Owen Lovejoy, "Vocational Guidance and Child Labor," U.S. Bureau of Education Bulletin No. 14 (Washington, 1914), 13-15; Sophonisba P. Breckinridge, "Guidance by the Development of Placement and Follow-Up Work," ibid., 62-63.

49. Meyer Bloomfield, "The School and the Start of Life" in Bloomfield (ed.), _Readings in Vocational Guidance_ (Boston, 1915), 679-720; Meyer Bloomfield, "Introduction" in Roy W. Kelly, _Hiring the Worker_ (Boston, 1918), 2; Ralph G. Wells, "The Work Program of the Employment Managers' Association of Boston," _The Annals_, 65 (May 1916), 111.

50. Meyer Bloomfield in U.S. Commission on Industrial Relations, _Final Report and Testimony_, Vol. 1 (Washington, 1916), 393; Meyer Bloomfield, "The New Profession of Handling Men," _The Annals_, 61 (September 1915); Kelly, op. cit., 131-136; Henry Metcalf in National Association of Corporation Schools (NACS), _Third Annual Proceedings_ (1915), 348-410; NACS, _Fourth Annual Proceedings_ (1916), 297.

51. Meyer Bloomfield, "General Discussion," _American Labor Legislation Review_, 4 (May 1914), 350-352; John B. Andrews, "A Practical Program for the Prevention of Unemployment in America," _American Labor Legislation Review_, 5 (November 1915), 585-587.

52. Richard A. Feiss, "Scientific Management Applied to the Steadying of Employment and Its Effect in an Industrial Establishment," _The Annals_, 61 (September 1915), 103-111; Herman Feldman, "The New Emphasis in the Problem of Reducing Unemployment," _Bulletin of the Taylor Society_, 7 (October 1922), 176-177; Malcolm C. Rorty, "Broader Aspects of the Employment Problem," _Industrial Management_, 52 (February 1917), 723; _Personnel_, 1 (April 1919), 7.

53. Meyer Bloomfield, "Problems of Industrial Management," U.S. Bureau of Labor Statistics Bulletin No. 247 (Washington, 1918), 157; Slichter (1921), op. cit., 409-410; Harlow S. Person, "University Schools of Business and the Training of Employment Executives," U.S. Bureau of Labor Statistics Bulletin No. 196 (Washington, 1916), 32-33. These developments were part of a broader effort then underway to professionalize management by teaching it in university schools of business administration. See Sanford M. Jacoby, "The Evolution of Personnel Management in the United States," UCLA Institute of Industrial Relations, Working Paper No. 35 (1982), 9-11.

54. Meyer Bloomfield, "Comments" in U.S. Bureau of Labor Statistics Bulletin No. 196 (Washington, 1916), 73; Boyd Fisher to Walter V. Bingham, February 12, 1919, Box 4, Bingham Papers, Carnegie-Mellon University, Pittsburgh; Ordway Tead and Henry C. Metcalf, _Personnel Administration_ (New York, 1920), 9-10.

55. Sanford M. Jacoby, "The Origins of Internal Labor Markets in American Manufacturing Firms, 1910-1940," Unpublished doctoral dissertation in Economics, University of California, Berkeley, 1981, 253; Sumner H. Slichter, "Review of Personnel Relations in Industry," _Administration_, 2 (August 1921), 261-263.

56. Slichter, ibid., 262; Slichter (1921), op. cit., 432, 426-427.

57. Lebergott, op. cit., 512; Paul H. Douglas, Real Wages in the United States, 1890-1926 (New York, 1930), 445.

58. Sumner H. Slichter, "Industrial Morale," Quarterly Journal of Economics, (November 1920) reprinted in Potentials of the American Economy: Selected Essays of Sumner H. Slichter (Cambridge, 1961), 169; Guy Tripp in Iron Trade Review, 66 (January 19, 1920), 369. Between 1909 and 1919, the average annual rate of increase of manufacturing output per unit of labor input was 27 percent lower than the preceding decade's rate. The number of bricks laid per eight hour day by Indiana bricklayers fell from 1100 in 1909 to 614 in 1918 to 541 in 1920. John W. Kendrick, Productivity Trends in the United States (Princeton, 1961), 136; Paul H. Douglas, "Personnel Problems and the Business Cycle," Administration, 4 (July 1922), 17-18.

59. Alexander M. Bing, Wartime Strikes and Their Adjustment (New York, 1921), 28-30, 291-296; Jeremy Brecher, Strike! (Greenwich, 1972), 133-180; David Montgomery, "The New Unionism and the Transformation of Workers' Consciousness in America, 1909-1922," Journal of Social History, 7 (Summer 1974), 514.

60. Wartime labor shortages sharply increased the cost of recruiting and training workers, although some of these costs were subsidized by Federal agencies like the U.S. Employment Service. Also, there was a cost attached to the output that was lost when a vacancy could not immediately be filled. J.B. Densmore, "Lessons of the War in Shifting Labor," The Annals, 81 (January 1919); Boyd Fisher, "How to Reduce Labor Turnover," The Annals, 71 (May 1917), 10-11.

61. Much of the concern with turover served as a proxy for the related decline in discipline and productivity. Quits were thought of as the culmination of a process of deterioration in an individual's work habits. One government official said that the "initial symptoms" of turnover were "carelessness in regard to his or her work... the next logical stage of the disease, usually evidenced after the first day of rest, is absenteeism." Then, he said, came the quit. Emil Frankel, "Labor Absenteeism," Journal of Political Economy, 29 (May 1921), 487.

62. Firms began to gather data on quits in the belief that these would serve as an "index of the degree to which management is successful in keeping in touch with its employees." Economist Don D. Lescohier argued that if employers paid more attention to the grievances of their departing workers, there would be fewer quits and "less labor agitation." Walter D. Scott and Robert C. Clothier, Personnel Management (Chicago, 1923), 469, 485; Don D. Lescohier, The Labor Market (New York, 1919), 90.

63. Joseph H. Willits, "The Labor Turnover and the Humanizing of Industry," The Annals, 61 (September 1915), 131.

64. These figures are estimates. Robert F. Lovett, "Tendencies in Personnel Practice," Bureau of Personnal Research, Carnegie Institute of Technology, Service Bulletin, 5 (February 1923), 11-12; Edward D. Jones, "Employment Management," Federal Board for Vocational Education Bulletin No. 50 (Washington, 1920), 15; Jacoby (1981), op. cit., 617.

65. Paul H. Douglas, "War Time Courses in Employment Management," School and Society, 9 (June 7, 1919), 692; Meyer Jacobstein, "Government Courses for

Training Employment Managers," U.S. Bureau of Labor Statistics Bulletin No. 247 (Washington, 1918), 19; Paul H. Douglas and F.E. Wolfe, "Labor Administration in the Shipbuilding Industry During War Time, II," Journal of Political Economy, 27 (March 1919), 376-377.

66. Kelly (1918), op. cit., 57-100; National Association of Employment Managers, Proceedings (Cleveland, 1919), 35; C.J. Shower, "Pontiac Centralizes Its Employment of Labor," Automotive Industries, 39 (July 11, 1918); Arthur H. Young, "Harmonizing the Man and His Job," Iron Trade Review, 60 (February 5, 1917), 427.

67. Paul H. Douglas, "Plant Administration of Labor," Journal of Political Economy, 27 (March 1919), 551; "Relations of Employment Office and Foremen" in Industrial Relations Association of America (IRAA), Proceedings (Chicago, 1920), Part 2, 559-563; D.R. Kennedy, "Training the Foreman of Industry," Industrial Management, 59 (January 1920), 68.

68. These data probably are biased upward by the overrepresentation of advanced firms in the surveys. Leslie H. Allen, "The Workman's Home," Transactions of the ASME, 40 (1918), 217; Paul F. Gemmill, "Methods of Promoting Industrial Employees," Industrial Management, 67 (April 1924), 240, 243, 246; Kelly, op. cit., 32.

69. "A Survey of Personnel Activities of Member Companies," National Association of Corporation Schools (NACS) Bulletin, 7 (August 1920), 347-348; Kelly, op. cit., 32.

70. J.D. Hackett, "Job Analysis as Aid to Production," Iron Trade Review, 67 (September 9, 1920), 722-724; Hugh L. Clary, "The Zoning of Jobs," Industrial Management, 61 (May 1921), 324-326; John Lee, The So-Called Profit Sharing System in the Ford Plant," The Annals, 65 (May 1916), 300. At Clothcraft Shops, a pioneer in wage standardization, emphasis was placed on internal consistency of the wage structure. The personnel manager at the firm wrote, "we carefully went over our rates, wages and salaries quarterly, always with the idea of relativity of rates in our plant in mind. That nebulous thing known as the 'market rate' did not govern us." Gilson, op. cit., 75.

71. See the discussion of the 1918 Bridgeport machinists' strike in Jacoby (1981), op. cit., 438-441; Richard H. Rice, "Discussion of Employee Representation Plans," National Association of Corporation Training Bulletin, 8 (August 1921), 346-363; Bing, op. cit., 195-206.

72. Wage standardization by the government was "almost everywhere resisted by employers." Bing, op. cit., 199; "Report of the Special Conference Committee,"July 15, 1920, Industrial Service Department Committee Minutes, YMCA Historical Library, New York.

73. Slichter (1921), op. cit., 189, 356; Meyer Bloomfield, Labor and Compensation (New York, 1918) 308-309; Fisher, op. cit., 27; Franklyn Meine, "Promotions of Factory Employees" in Daniel Bloomfield (ed.), Problems in Personnel Management (New York, 1923).

74. Meine, ibid., 280-281; Phillip J. Reilly, "Planning Promotion for Employees and the Effect in Reducing Labor Turnover," The Annals, 71 (May 1917), 136-139; Slichter (1921), op. cit., 435.

75. "Survey Methods of Promotion," Industrial Relations, 7 (April 2, 1921), 619-624; B.S. Beach, "Filling Vacancies From Within the Ranks," Industrial Management, 67 (February 1924), 90.

76. National Association of Employment Managers, Proceedings (Cleveland, 1919), 62; Industrial Relations, 15 (May 26, 1923), 1544; National Association of Corporation Training, "Methods of Transfer and Promotion in Business Organizations," Confidential Report No. 6 (October 1920), 3, 4, 7-12; Gemmill, op. cit., 238.

77. Gemmill, op. cit., 246; Slichter (1961); op. cit., 178; Fouhy, op. cit., 336.

78. Merlin M. Taylor, "We Can't Get Men to Stay," Factory, 20 (February 1918), 231; Charles M. Horton, "Under New Management - Judging Men," Industrial Management, 55 (March 1918), 226; National Association of Corporation Schools Bulletin, 7 (April 1920), 179-182.

79. "Standard Oil's New Labor Democracy," NACS Bulletin, 5 (June 1918), 207-209; John R. Commons, Industrial Government (New York, 1921), chap. 5; Joseph T. Gilman, "Analyses of Reasons for Leaving and Their Use," U.S. Bureau of Labor Statistics Bulletin No. 227 (Washington, 1917), 135.

80. Jean Hoskins in National Association of Employment Managers, Proceedings (Cleveland, 1919), 37; "Hiring, Discharge and Transfer: A Symposium," Industrial Management, 58 (August 1919), 159.

81. Edwin S. Blodgett, "I Quit - I No Like Job," Factory, 21 (March 1919), 473-474, emphasis added.

82. Jones, op. cit., 19-20; Meyer Bloomfield, "Employment Management Department," Industrial Management, 52 (January 1917), 557.

83. Kelly, op. cit., 32; Commission of Inquiry, op. cit., 210-211.

84. Sumner H. Slichter, "The Current Labor Policies of American Industries," Quarterly Journal of Economics, (May 1929) reprinted in Slichter (1961), op. cit., 184-212.

85. "Reduction of Absence and Tardiness," Industrial Relations Section, Princeton University (December 1927), 15; National Industrial Conference Board, Industrial Pensions in the United States (New York, 1925), 13-15, 62-65.

86. ibid., 25-28; James P. Adams, "A Common Sense Attack on Labor Turnover," Industrial Management, 62 (November 1921), 302; Ralph Heilman, "Do You Keep Your Men Too Long?", System, 33 (April 1918), 540.

87. "Report on Profit Sharing and Stock Ownership" in YMCA, Industrial Conference on Human Relations and Betterment in Industry (New York, 1924), 21; "Reduction...," op. cit., 2; Adams, op. cit., 301; Jacoby (1981), op. cit., 476-479.

88. Gemmill, op. cit., 238.

89. Kelly, op. cit., 32.

90. Joseph Willits, "War's Challenge to Employment Managers," The Annals, 81 (January 1919), 48.

91. Allen M. Wakstein, "The Origins of the Open-Shop Movement, 1919-1920," Journal of American History, 51 (December 1964), 460-475; Robert K. Murray, Red Scare: A Study in National Hysteria (Minneapolis, 1955); Dudley R. Kennedy, "The Future of Industrial Relations," Industrial Management, 59 (March 1920), 558.

92. National Association of Corporation Schools, Eighth Annual Proceedings (1920), 97-101; Industrial Relations Association of America, Proceedings (Chicago, 1920), Part 1, 81; Charles Piez, "Trends in Management; What is the Business Outlook Today?", Factory, 26 (January 1, 1921), 32; E.S. Cowdrick, "What Are We Going to Do With the Boss?", Industrial Management, 60 (August 1920), 195.

93. Douglas (1930), op. cit., 445; Douglas (1922), op. cit., 18-23.

94. William L. Chenery, "Personnel Relations Tested," The Survey (May 21, 1921), 236-237; Lovett, op. cit., 13; J. David Houser, What the Employer Thinks (Cambridge, 1927), 74, 116.

95. W.J. Donald, "The Newer Conception of Personnel Functions," Factory and Industrial Management, 75 (March 1928), 514-515; National Industrial Conference Board, Industrial Relations Programs in Small Plants (New York, 1929), 20. One may get some sense of the growth of interest in, and awareness of personnel management from the following data on the number of articles on employment management per 1,000 American magazine and journal articles during the indicated periods:

1905-09	1910-14	1915-18	1919-21	1922-24	1925-28	1929-30
.00	.00	.14	2.05	.81	.91	.70

Hornell Hart, "Changing Social Attitudes and Interests" in Recent Social Trends in the United States: Report of the President's Committee on Social Trends (New York, 1933), 433.

96. Lebergott, op. cit., 512, 514; Douglas (1930), 445; National Industrial Conference Board, Wages in the United States (New York, 1931), 19; Irving Bernstein, The Lean Years (Boston, 1960), 67.

97. Arthur M. Ross argued that the decade's "signal reduction" in quit rates was evidence of the effects of a "flourishing" of personnel management. All available evidence suggests that Ross was mistaken. Quit rates declined because of soft manufacturing labor markets; personnel management stagnated rather than fourished during the 1920's. Arthur M. Ross, "Do We Have a New Industrial Feudalism?", American Economic Review, 48 (December 1958), 910-912; Jacoby (1981), op. cit., 526-537.

98. "The Personnel Content of Management," American Management Review, 12 (April 1923), 3-6; Sam A. Lewisohn, "Management's Part in Personnel Administration," Personnel Administration, 9 (August 1922), 3-4; T.G. Portmore, "Selecting Employees to Meet the Needs of the Foreman," American Management Review, 12 (April 1924), 3-5; Leo Wolman and Gustave Peck, "Labor in the Social Structure," Recent Social Trends in the United States, op. cit., 830.

99. See Table 2, infra; Gilson (1940), op. cit., 101.

100. Florence A. Thorne to Morris L. Cooke, Box 66, Cooke Papers, Franklin D. Roosevelt Presidential Library, Hyde Park, New York; M.J. Jucius, "The Use of Wage Incentives," Journal of Business, 5 (January 1932), 6;

Bernstein, op. cit., 67; Robert Ozanne, Wages in Practice and Theory (Madison, 1968), 144-155.

101. Leah H. Feder, Unemployment Relief During Periods of Depression (New York, 1936), 313; "Unemployment Survey, 1920-1921," American Labor Legislation Review, 11 (September 1921), 210-213; "Report of the Special Conference Committee: Supplement," March 1921, Industrial Service Department Committee Minutes, YMCA Historical Library, New York. The Special Conference Committee included representatives of Standard Oil of New Jersey, Bethlehem Steel, Du Pont, General Electric, General Motors, Goodyear, International Harvester, Irving National Bank, U.S. Rubber and Westinghouse. See Jacoby (1981), op. cit., 415-419.

Note that along with declines in employment and hours worked, money wage rates also fell sharply between 1920 and 1923. Real wages hardly declined, however, due to the steady drop in consumer and wholesale prices. Clarence D. Long, "The Illusion of Money Wage Rigidity," Review of Economics and Statistics, 42 (May 1960), 150-151; George Soule, Prosperity Decade: From War to Depression, 1917-1929 (New York, 1947), 104-113.

102. National Industrial Conference Board, Layoff and Its Prevention (New York, 1930), 38-39, 56.

103. Roger E. Keeran, "Communist Influence in the Automobile Industry, 1920-1933," Labor History, 20 (Spring 1979), 216; Robert S. and Helen M. Lynd, Middletown: A Study in Modern American Culture (New York, 1929), 66-78.

104. C. Canby Balderston, Executive Guidance of Industrial Relations (Philadelphia, 1935), 224-240.

105. Sanford M. Jacoby, "Union-Management Cooperation: An Historical Perspective" in Eric Flamholtz (ed.), Human Resource Productivity in the 1980s (Los Angeles, 1982); David S. Landes, The Unbound Prometheus (Cambridge, 1969), 359-385.

106. These techniques included product diversification, sales planning, production for stock, training workers for transfers and working repairs in with production. See Herman Feldman, The Regularization of Employment (New York, 1925); S.A. Lewisohn, E.G. Draper, J.R. Commons and Don D. Lescohier, Can Business Prevent Unemployment? (New York, 1925).

107. A typical employment guarantee plan was the one begun at Procter and Gamble in 1923. It guaranteed at least forty-eight weeks of work or pay to about 60 percent of the workforce at the firm's main plant. Guaranteed Wages (1947), op. cit., Appendices D and E; Herbert Feis, Labor Relations (New York, 1928), 36.

108. Less stable firms could have eased the burden of instability by paying unemployment insurance but few of the decade's non-union employers did this. They might have offered higher wages but contemporary observers felt that any existing compensating differentials were "indadequate" so that "the primary burden of instability of employment falls upon the worker and his family." Finally, firms could have tried to stabilize employment and reduce seasonal fluctuations, as Balderston's pioneers were doing. But for a variety of economic reasons, the seasonal instability of employment actually increased in most durable and semi-durable manufacturing industries during the latter half of the 1920's. National Industrial Conference Board, Layoff..., op. cit., 67; Alvin Hansen and Paul A. Samuelson, "Economic Analysis of Guaranteed Wages" in Guaranteed

Wages, op. cit., 425; Simon Kuznets, Seasonal Variations in Industry and Trade (New York, 1933), 211, 311, 355-361.

109. Balderston, op. cit., 224-240.

110. National Industrial Conference Board, Industrial Relations Programs..., op. cit., 2, 20.

111. Bernstein, op. cit., 314, 476-478; Joseph Shister, Economics of the Labor Market (New York, 1949), 437-442; William M. Leiserson, "Personnel Problems Raised by the Current Economic Crisis," The Management Review, 22 (April 1933), 114.

112. Ordway Tead and Henry C. Metcalf, Labor Relations and the Recovery Act (New York, 1933), 184; Clarence G. Stall, "Industrial Relations and the Trade Association," American Management Association Personnel Series No. 26 (1937), 5-9; U.S. Senate, Committee on Education and Labor, "Hearings Before the Subcommittee on Violations of Free Speech and Rights of Labor," 76th Cong. (1939), Part 45, 16831.

113. National Industrial Conference Board, What Employers Are Doing for Employees (New York, 1936), 23, 60-61; James C. Worthy, "A Working Philosophy of Personnel Management," Unpublished paper delivered to the Industrial Relations Association of Chicago, 1951.

114. 1918-1923: See Table 1, infra, at note 68. 1927-1929: National Industrial Conference Board, Layoff..., op. cit., 56; National Industrial Conference Board, Industrial Relations Programs..., op. cit., 20. 1935-1936: National Industrial Conference Board, What Employers Are Doing..., op. cit., 23, 60-61, 64-65; National Industrial Conference Board, Personnel Practices Governing Factory and Office Administration (New York, 1937), 73-74, 78. 1940: National Industrial Conference Board, "Personnel Practices in Factory and Office," Studies in Personnel Policy No. 23 (1940), 15. 1946-1948: National Industrial Conference Board, "Personnel Practices in Factory and Office," Studies in Personnel Policy No. 88 (1948), 10, 18. 1964: National Industrial Conference Board, "Personnel Practices in Factory and Office: Manufacturing," Studies in Personnel Policy No. 194 (1964), 17, 139. Date on employment guarantee plans from Guaranteed Wages, op. cit., 293.

115. National Industrial Conference Baord, Personnel Practices (1937), op. cit., 73-74; National Industrial Coference Board, "Personnel Practices" (1948), op. cit., 37-38.

116. Helen Baker, "Company Plans for Employee Promotions," Industrial Relations Section, Princeton University, Report No. 58 (Princeton, 1939), 8; Ronald Schatz, "American Electrical Workers: Work, Struggles, Aspirations, 1930-1950," Unpublished doctoral dissertation in History, University of Pittsburgh, Pittsburgh, 1977, 129-131.

117. For a different view see Katherine Stone, "The Origins of Job Structures in the Steel Industry" in Richard Edwards, Michael Reich and David Gordon, Labor Market Segmentation (Lexington, 1975), 4648.

118. Richard A. Lester, "Hiring Practices and Labor Competition," Industrial Relations Section, Princeton University, Report No. 88 (Princeton, 1954), 19, 32; Gemmill, op. cit., 240; "Collective Bargaining Provisions: Promotion, Transfer and Assignment," U.S. Bureau of Labor Statistics Bulletin No. 908-7 (Washington, 1948), 7-17; "Major Collective Bargaining

Agreements: Seniority, Promotion and Transfer Provisions," U.S. Bureau of Labor Statistics Bulletin No. 1425-11 (Washington, 1970), 36.

119. Charles W. Lytle, Job Evaluation Methods (New York, 1946), 110; The Termination Report of the National War Labor Board, Vol. 1 (Washington, 1947), 240-259; Richard A. Lester, "Company Wage Policies," Industrial Relations Section, Princeton University, Report No. 77 (Princeton, 1948), 21, 43.

120. Sar A. Levitan, "Union Attitudes Toward Job Evaluation and Ingrade Progression, Industrial and Labor Relations Review, 4 (January 1951), 268-274; Helen Baker and John M. True, "The Operation of Job Evaluation Plans," Industrial Relations Section, Princeton University, Report No. 74 (Princeton, 1947), 13.

121. Labor economists have suggested that union preference for seniority reflects the disproportionate influence of relatively immobile, older union members. But at least in the area of layoffs, the adoption of seniority criteria was a more complex process than the economic literature suggests. Older union members in the electrical manufacturing industry favored across-the-board hours reductions over seniority layoffs during the 1930's because they were ideologically committed to maintaining unity between the employed and the unemployed. During and after World War II, the industry experienced an influx of younger workers who were less familiar with work-sharing and less attached to an egalitarian ideology. This explains, although only in part, the demise of work-sharing as an alternative to seniority-based layoffs in the industry. Richard Freeman and James L. Medoff, "The Impact of Collective Bargaining: Illusion or Reality?" in Jack Stieber (ed.), U.S. Industrial Relations 1950-1980: A Critical Assessment, Industrial Relations Research Association (Madison, 1981), 56-57; Schatz, op. cit., 140-143, 150-151.

122. Clinton S. Golden and Harold J. Ruttenberg, The Dynamics of Industrial Democracy (New York, 1942), 120-150; Sumner H. Slichter, James J. Healey and E. Robert Livernash, The Impact of Collective Bargaining on Management (Washington, 1960), 104-115.

123. H. Ellsworth Steel and Homer Fisher, Jr., "A Study of the Effects of Unionism in Southern Plants," Monthly Labor Review, 87 (March 1964), 267; John J. Speed and James J. Bambrick, Jr., "Seniority Systems in Nonunionized Companies," National Industrial Conference Board, Studies in Personnel Policy, No. 110 (1950), 6; H. Ellsworth Steele, William Myles and S. McIntyre, "Personnel Practices in the South," Industrial and Labor Relations Review, 9 (January 1956), 248.

124. Two-thirds of the firms that offered these guarantee plans in 1946 were unionized. Guaranteed Wages, op. cit., 297.

125. Kerr, op. cit., 96; Joseph A. Shister, "Labor Mobility: Some Institutional Aspects," Industrial Relations Research Association, Third Annual Proceedings (1950), 44; John Pencavel, "An Analysis of the Quit Rate in American Manufacturing Industry," Industrial Relations Section, Princeton University (Princeton, 1970), 41-50.

126. Ira B. Cross. Jr., "When Foremen Joined the C.I.O., Personnel Journal, 18 (February 1940), 227.

127. Michael Wachter, "The Primary and the Secondary Labor Market Mechanism: A Critique of the Dual Approach," Brookings Papers on Economic Activity (1974:3); O.E. Williamson, M.L. Wachter and J. Harris, "Understanding the Employment Relation: The Process of Idiosyncratic Exchange," Bell Journal of Economics, 6 (Spring 1975).

128. Howard M. Vollmer, Employee Rights and the Employment Relation (Berkeley, 1961), 17-18; Peter Doeringer and Michael J. Piore, Internal Labor Markets and Manpower Analysis (Lexington, 1971), 34-38. Oliver E. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications (New York, 1975), 80-81.

129. Sanford M. Jacoby, "The Origins of Internal Labor Markets in Japan," Industrial Relations, 18 (Spring 1979), 187-190.

130. Robert M. Solow, "On Theories of Unemployment," American Economic Review, 83 (March 1980), 3; Slichter (1921), op. cit., 425.

131. See, for example: Lloyd Reynolds, The Structure of Labor Markets (New York, 1951); Lester (1954), op. cit., 95-103; John T. Dunlop, Industrial Relations Systems (New York, 1958). Also see George A. Akerlof, "A Theory of Social Custom, of Which Unemployment May Be One Consequence," Quarterly Journal of Economics, 94 (June 1980), 749-775.

132. For example see: Richard C. Edwards, Contested Terrain: The Transformation of the Workplace in the Twentieth Century (New York, 1979), 130-162; Stone (1975), op. cit., 75-79; David Noble, America By Design: Science, Technology and the Rise of Corporate Capitalism (New York, 1977), 257-320.