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# DID AMERICAN WELFARE CAPITALISTS BREACH THEIR IMPLICIT CONTRACTS? PRELIMINARY FINDINGS FROM COMPANY-LEVEL DATA, 1920-1940

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## ABSTRACT

It has been claimed that American employers' experiments in private welfare capitalism collapsed during the Great Depression and were subsequently replaced by the welfare state and industrial unionism. However, recent studies reveal considerable differences among firms, adding complex nuances to a simple story of discontinuation. Characterizing private welfare capitalism as a set of personnel practices that constituted an implicit contract equilibrium, this paper compiles data of fourteen manufacturing firms and tests the implications of implicit contract theory. It finds that the repudiation of implicit contracts was positively correlated with the severity of the depression experienced by a firm and negatively correlated with the effectiveness of internal enforcement mechanisms. It also shows that a firm with more repudiation experienced greater change in labor-management relations under the New Deal regime. A comparative case study complements the findings by providing quantitative evidence.

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# 1 Introduction

Recent empirical studies have documented that the choice of human resource management (HRM) practices pertaining to blue-collar employees can have a significant impact on labor productivity (Jones & Kato (1995); Ichniowski, Shaw & Prennushi (1997); Lazear (2000); Knez & Simester (2001); Kato & Morishima (2002)). HRM policies, including compensation plans, training and education, job design and assignments, promotion, and more, thus have important implications for economic efficiency and industrial performance. The objective of this paper is to study the dynamic evolution of HRM practices among American manufacturing firms from 1920 to 1940 from a contract-theoretic perspective.

Historians have traced the development of personnel management and internal labor markets back to the beginning of the twentieth century with the advent of big business (Nelson (1975); Jacoby (1985)). In particular, the movement known as "private welfare capitalism," which refers to employers' voluntary provision of non-wage benefits, greater employment security, and employee representation to their blue-collar workers, gradually spread among large industrial concerns during the first three decades of the century. It has been argued, however, that the experiments in private welfare capitalism had failed during the Great Depression and were subsequently replaced by the state social welfare and trade unionism under the New Deal regime (Bernstein (1960); Brandes (1970); Brody (1980)). In this view, an extraordinary economic shock constituted a sufficient condition to mark an end to corporate welfarism: "Three decades after the New Deal," observes Brandes (1970), "only vestiges of welfare capitalism remained" (p.30).

More recently, a growing number of historians have revisited this view, adding richer and more complex pictures to a simple story of discontinuation and replacement.[1] Berkowitz & McQaid (1988) emphasize the continuing influence of welfare capitalists into the post-WWII period which shaped a uniquely American "mixed" social welfare system built upon private welfarism precedents. Jacoby (1997) observes that not all corporations abandoned their innovative HRM practices during the Great Depression, suggesting substantial heterogeneity across firms. In particular, he hypothesizes that employers who implemented welfare capitalism more wholeheartedly during the 1920s and were less affected by the depression were more likely to

[1] Berkowitz & McQaid (1980); Zahavi (1988); Nelson (1989); Cohen (1990); Tone (1997); Jacoby (1997); Bordo, Goldin & White (1998).

maintain their personnel practices and nonunion status (Chapter 1).

While the welfare capitalism debate has stimulated numerous historical studies, due to the absence of an analytical framework and systematic measurement, it has been difficult to synthesize evidence across disparate studies. The purpose of this paper is threefold: to introduce a game-theoretic framework and substantiate Jacoby's hypothesis; to test the derived implications using company-level data; and to offer a comparative case study to document internal dynamics.

Recent applications of game theory to institutions in historical contexts highlight the merit of modelling an institution as a self-enforcing equilibrium rather than as the rules of the game (Greif (1993); Greif, Milgrom & Weingast (1994)). In particular, implicit contract theory captures the essential features of private welfare capitalism and provides a useful tool in examining strategic interactions between management and workers (Moriguchi (2000, 2003)). First, it indicates that, when contracts are contingent on unverifiable variables (i.e., implicit contracts), they require internal enforcement mechanisms to be an equilibrium. The theory also implies the existence of a threshold time discount factor below which it is no longer profitable for management to maintain implicit contracts. Taken together, managerial decision to breach the implicit contract is a function of the severity of the depression and the effectiveness of internal enforcement mechanisms. Second, the theory indicates multiple equilibria in which expectations of management and workers can play a critical role in an equilibrium selection. In particular, once mutual trust breaks down and labor-management relations become adversarial, the theory predicts that implicit contracts would likely be replaced by legally-enforceable (i.e., explicit) contracts.

To test the above implications, I compile company-level data from fourteen major welfare capitalists combining primary and secondary sources.[2] The findings are consistent with the implications of implicit contract theory. First, holding the effectiveness of internal enforcement constant, a company that was hit harder by the depression was more likely to breach its implicit contract. Second, holding the severity of the depression constant, the presence of stronger internal enforcement was associated with a lower degree of repudiation. Lastly, a higher degree of repudiation was associated with employees' support for outside unions and the development

[2]The sample firms are: Bethlehem Steel, Eastman Kodak, E.I. du Pont de Nemours, Endicott Johnson, Ford Motor, General Electric, General Motors, Goodyear Tire & Rubber, International Business Machines, International Harvester, Procter & Gamble, Standard Oil of New Jersey, U.S. Steel, and Western Electric of AT&T.

of more explicit union contracts.

The case study analysis complements the above findings by providing qualitative details. I compare the experience of two companies, General Electric and General Motors, which were hit equally severely by the depression but differed in the extent to which they kept their implicit contracts. The comparative analysis highlights a subtle but important role for internal enforcement mechanisms that bound managerial actions and helped maintain implicit contractual relations. This observation is consistent with the recent advances in personnel economics that identify an important complementarity among HRM practices (McDuffie (1995); Ichniowski et al. (1997); Kato & Morishima (2002)).

The rest of the paper is organized as follows: Section 2 lays out a game-theoretic framework and its implications, Section 3 presents company-level data and the main findings, Section 4 provides a case study analysis, and the final section concludes.

# 2 Conceptual Framework

## 2.1 Historical Observations

Private welfare capitalism refers to employers' voluntary provision of benefits and compensation to their employees apart from those offered under spot contracting. Although the early personnel movement was often erratic and short-lived, after World War I private welfare capitalism matured into more substantive and sophisticated HRM policies in the hands of leading employers.[3] Throughout the 1920s, private welfare capitalism was confined to a "progressive minority" in the economy, mainly large firm in capital-intensive industries. Yet, as Tables 1 and 2 indicate, it was a sizable and growing minority. By the end of the decade, at least 400 establishments (or 200 firms) employing approximately 1.5 million or 15% of production workers in the U.S. adopted comprehensive corporate welfarism.[4] In these establishments, corporate welfarism typically encompassed the following three areas in HRM: (a) implicit incentive contracts, (b) human capital investment, and (c) internal enforcement mechanisms (Moriguchi (2003)).

First, management introduced pecuniary incentive contracts that were *contingent on* em-

[3] Slichter (1929); Berkowitz & McQaid (1980), p.56; Jacoby (1985), p.174; Cohen (1990), p.161 and p.430.

[4] U.S. Department of Labor, Bureau of Labor Statistics (1919); U.S. Department of Labor, Bureau of Labor Statistics (1928); NICB (1929); and NICB (1934). See Moriguchi (2003) for a detailed discussion.

ployees' firm-specific tenure and other desirable characteristics, such as merit, workmanship, and loyalty. In these programs (e.g., retirement pension, employee stock ownership, life, health, and accident insurance, paid vacations, housing plans), employers promised benefits whose amount increased with an employee's tenure, but retained discretion to qualify or disqualify employees on an individual basis. Since the provision of these benefits was voluntary and beyond legal obligation, management held the right to modify or discontinue the plans altogether if it so desired. In other words, even though these contracts were explicitly spelled out, they were legally unenforceable and thus *implicit* contracts.[5]

Second, while offering incentive contracts to encourage long service and meritorious behavior, management also invested in the human capital of blue-collar employees. Leading employers established training programs, provided technical, safety, and health education, and disseminated practical information through employee magazines and pamphlets. In a typical corporate apprenticeship program, young employees enrolled in two- to five-year courses that combined on-the-job training and in-class instructions and received job offers from their employer upon graduation with satisfactory performance. The corporate training was tied to a policy of *internal promotion* that offered career prospects to production workers based on their merits, skills, and tenure.[6]

Third, large employers instituted various personnel programs to provide internal contract enforcement (Moriguchi (2003), pp.10-12). To win employees' loyalty and trust, employers sponsored a variety of social and recreational activities involving employees and their families. To establish credible commitment, management formalized HRM programs and announced their rules, regulations, and operations through bulletin boards, employee handbooks, and employee magazines. Some employers set up funds for pension plans and committed corporate resources ex ante to meet future financial obligations. To ensure fair and consistent implementation, management appointed personnel managers, centralized personnel administration, and kept employee records. To facilitate bilateral communication and employee involvement, management initiated suggestion systems, joint committees, and group meetings. In particular, employers introduced joint administration, whose most formal expression was an *employee representation plan* (ERP),

[5]U.S. Department of Labor, Bureau of Labor Statistics (1919), p.11; U.S. Department of Labor, Bureau of Labor Statistics (1928), p.74; Commons, Lescohier & Brandeis (1935), pp.338-39; Jacoby, p.197.

[6]Allen (1943); Rumm (1989); Nelson-Rowe (1991); Young & Tuttle (1969); Schacht (1975).

also known as a company union.[7] Even though ERPs were by no means collective bargaining units comparable to trade unions, they provided regular forums for information sharing and labor-management consultation that previously had been non-existent.[8]

Company-specific evidence indicates that, in a number of instances, corporate welfarism became a *mutually binding* commitment between management and workers. At Endicott Johnson, once management introduced corporate welfare policies, they became an "independent code of just behavior" by which employees judged corporate actions. Managers felt that they could not abandon the programs "for fear of violating the explicit and implicit expectations" it had created among employees (Zahavi (1988), p.105 and p.143). At Eastman Kodak, a formula for its profit-sharing plan was maintained regardless of business conditions, as management was "deathly afraid" that workers would misunderstand any change as reneging on a deal (Jacoby (1997), p.79). In general, employers were concerned about an impact on employee morale, possible labor disputes, and negative consequences for future recruitment that the termination of personnel programs might trigger (NICB (1931), p.13).

## 2.2 Implicit Contract Analysis

Based on the above observations, I develop an analytical framework which characterizes corporate welfarism as a set of HRM practices that could constitute an implicit contract equilibrium.[9] Consider a game between an infinitely-lived firm and over-lapping generations of workers who live for two periods. I assume that each worker can invest in human capital with a cost that will increase his labor productivity one period later. The human capital investment, which materializes as high employee quality, such as merit and loyalty, is assumed to be *non-contractable*, i.e., observable within the firm but unverifiable by a third-party.[10] Suppose that the human capital investment produces a net surplus. To induce the investment, an employer can design an implicit contract that provides a young worker with an employment guarantee for two periods and

[7]In ERPs, employee representatives were elected from among blue-collar employees and regularly met with management representatives to discuss matters of mutual concern, including corporate welfare programs.

[8]Houser (1927), pp.15-20; Slichter (1929), p.413; Nelson (1982).

[9]The basic model underlying this framework is a repeated game with non-contractable human capital developed by Kanemoto & MacLeod (1989), which is modified and extended for the purpose of historical analysis. See the theoretical appendix in Moriguchi (2001) for the formal model.

[10]The level of employees' output is also assumed to be non-contractable, i.e., even though the quantity of output can be measured without cost, measuring the quality and other dimensions of the output is assumed to be costly.

promises extra compensation in the second period contingent on his human capital acquisition. If the game is played only once, anticipating that the employer will renege on the promise once the investment is sunk, a worker never invests in human capital.

Under what conditions can the implicit contract be self-enforced? I assume reputation as a primary enforcement mechanism: an employer's breach of contract will cause current and future employees to withdraw cooperation by restraining work effort, stop investing in human capital, and joining outside unions. The *self-enforcement* condition requires that the employer's gain from appropriating extra compensation today be smaller than the present value of the future losses resulting from such appropriation.

I focus on two subgame perfect Nash equilibria of the repeated employment game that resemble spot contracting and corporate welfarism, respectively. The *Spot Contract Equilibrium* (SCE) is characterized by short-term employment relations, no human capital investment, a basic wage paid to young and old workers, and low labor productivity. By contrast, the *Implicit Contract Equilibrium* (ICE) is characterized by long-term employment relations, extra compensation paid to old workers, high human capital investment, high labor productivity, and internal enforcement based on reputation.

The implicit contract theory generates the following implications.

1. *Multiple Equilibria & Coordination*: The existence conditions for the equilibria imply that when the ICE exists the SCE also exists. In the presence of multiple equilibria, management cannot unilaterally "select" an equilibrium, as its realization will depend on workers' expectations. If workers believe that the firm would not honor its implicit contract, the equilibrium unravels and degenerates to the spot contracting outcome, fulfilling the workers' original expectations. Therefore, the coordination of expectations and the establishment of mutual trust are necessary in achieving the ICE.

2. *Complementarity*: The theory underscores the importance of internal enforcement mechanisms and indicates a complementarity among diverse HRM practices. In particular, an effective reputation mechanism requires workers' ability to monitor management as well as to deter managerial opportunism. In contrast to a common view that management always benefits when it can "divide and conquer" workers, the implicit contact theory indicates that the firm may benefit from empowering employees to a limited degree to establish credible commitment.

3. *The Impact of the Great Depression*: The theory implies that the ICE is vulnerable to economic fluctuations. Assume that a depression exogenously shortens the firm's time horizon and lowers its time discount factor. A sufficiently severe depression will move the firm's discount factor below the "threshold" given by the self-enforcement condition. Note that the threshold discount factor is decreasing in the effectiveness of internal enforcement mechanisms. The theory thus predicts that (1) a firm is *more likely* to repudiate if a depression is *deeper* holding the effectiveness of internal enforcement constant, and that (2) a firm is *less likely* to repudiate if it has *stronger* internal enforcement holding the severity of a depression constant.

4. *The Rise of the Explicit Contract Equilibrium*: Lastly, the theory implies that, after the breakdown of the ICE and the reversion to the SCE, management and labor may advance an alternative contractual arrangement using third-party enforcement. That is, in the presence of mutual *distrust,* the employer and workers may agree to develop contractable proxies for non-contractable human capital (e.g., seniority, job grades, skill certifications) and write legally-enforceable contracts contingent on these proxies. The resulting equilibrium, the *Explicit Contract Equilibrium* (ECE) is more efficient than the SCE but generally less efficient than the ICE.

The first two implications are consistent with the historical observations presented above. The multiplicity of equilibria, however, is difficult to empirically test due to unobservability of critical variables, and the same is true for a complementarity across HRM practices. In the following analysis, I focus on the last two implications, exploring the relationships among the severity of the depression, the strength of internal enforcement, the repudiation of implicit contract, and the nature of subsequent labor-management relations.

# 3 Evidence from Company-level Data

Although there is an extensive literature on American welfare capitalism, existing work tends to be either comprehensive macro-level studies (Bernstein (1960); Brandes (1970); Brody (1980); Jacoby (1985); Fairris (1997); Tone (1997)) or in-depth company studies (Ozanne (1967); Fine (1969); Schatz (1983); Nelson (1988); Zahavi (1988)). Available evidence is predominantly descriptive and qualitative with the exception of the surveys by the Bureau of Labor Statistics and the National Industrial Conference Board (BLS (1919, 1928); NICB (1929, 1934)). The

survey data, however, are aggregated to the industry or national level and, to my knowledge, the original questionnaires did not survive.

In order to test the implications of implicit contract theory, I construct company-level data combining extensive primary and secondary sources. The sample presently consists of 14 manufacturing companies: Bethlehem Steel (BS), Eastman Kodak (KODAK), Du Pont (DP), Endicott Johnson (EJ), Ford Motor (FORD), General Electric (GE), General Motors (GM), Goodyear Tire & Rubber (GTR), International Business Machines (IBM), International Harvester Company (IHC), Procter & Gamble (P&G), Standard Oil of New Jersey (SONJ), U.S. Steel (USS), and Western Electric of AT&T (WE). These firms were not only well-known proponents of corporate welfarism in the 1920s, but also the largest and most resourceful corporations in their industries. The sample is deliberately biased towards elite firms on the assumption that if there were any that could maintain corporate welfarism during the Great Depression, these firms were most likely to have done so. Table 3 reports basic company characteristics, such as firm age, size, and capital intensity. Nine of the sample firms were the members of the Special Conference Committee (SCC) which was formed by ten business leaders in 1919 to study HRM practices and exchange information.

For each company, I measure (1) the extent of corporate welfarism at the end of the 1920s; (2) the severity of the Great Depression; (3) managerial responses to the depression; and (4) the changes in labor-management relations under the New Deal. The data are collected from corporate publications (annual reports, employee magazines, benefit pamphlets) and archives, trade journals, Moody's manual of investments, CRSP financial data, and NLRB publications.[11] Clearly, an ideal unit of observation is an establishment or plant rather than a company, as each company operated multiple plants and delegated the implementation of HRM practices to plant managers. Due to the difficulty of collecting establishment-level data, I instead use company-level data and assume that intra-firm heterogeneity was less than inter-firm heterogeneity. This assumption is partially supported by the fact that most HRM programs were designed at the corporate level and introduced to its establishments.

[11] All corporate annual reports are available in microfilm. Their informational content varies substantially from company to company. In addition to income statement and balance sheet, some firms reported their personnel programs in detail including quantitative data. Most of other corporate publications are located in the Baker Library at Harvard Business School and the New York Public Library.

### 3.1 Preliminary Findings

Table 4 documents the extent of corporate welfarism prior to the Great Depression. The first section of the table lists 17 representative HRM practices divided into (a) incentive contracts, (b) human capital investment, and (c) internal enforcement mechanisms. Each cell reports whether or not a company had a given program in 1929, and if "yes," the number of years the program had been in operation is also reported. If a company had a plan but abolished it before 1929, the cell reports "no (past)." If a plan was exclusively for white-collar employees, it enters also as "no." The symbol "?" indicates a lack of data: a firm might or might not have had a program. The comprehensiveness of corporate welfarism is measured by the total number of personnel programs in operation in 1929. I also measure the substantiveness of corporate welfarism by estimating corporate expenditures on welfare programs based on annual reports and other sources.[12] Although incomplete, Section II of Table 4 reports (1) total corporate welfare expenditures in 1929, (2) welfare expenditures per employee, and (3) welfare expenditures as a percentage of annual payroll. Finally, the effectiveness of internal enforcement is measured by (1) the number of programs categorized under the internal enforcement mechanisms and (2) the average years of operating major programs (as a proxy for reputation). I refer to the effectiveness of internal enforcement mechanisms also as the level of "managerial commitment," since the presence of stronger internal enforcement through bilateral communication and mutual monitoring makes it more difficult for management to deviate from the implicit contract.

To summarize Table 4, BS, IHC, WE, GE, SONJ, and KODAK instituted the most comprehensive welfare programs, whereas less comprehensive programs were found at FORD, GM, USS, EJ, and IBM.[13] Most firms annually spent several million dollars in their personnel programs pertaining to blue-collar workers. The welfare expenditures at WE, GE, P&G, SONJ, EJ, and KODAK were particularly high, exceeding 5% of annual payroll or $80 per employee. With respect to the effectiveness of internal enforcement mechanisms, I categorize IHC, GTR, GE, DP, and P&G into the "high commitment" group, as they instituted several internal enforcement

[12] Details of the estimation are available from the author upon request. All numbers are subject to further revisions.

[13] FORD was an early adopter of corporate welfarism but also an early quitter (e.g., its famous profit sharing plan, the five dollar day, was introduced in 1914 and abandoned in 1921), whereas IBM was a latecomer that adopted comprehensive programs in the late 1930s (Meyer (1981); Engelbourg (1976)).

mechanisms including ERPs and had relatively long experience in operating corporate welfarism. BS and SONJ are also in this group as they instituted a complete set of internal enforcement mechanisms. By contrast, FORD, GM, USS and IBM belong to the "low commitment" group as they instituted fewer internal enforcement mechanisms and had relatively short experience in corporate welfarism.

Section I of Table 5 documents the severity of the Great Depression measured by the peak-to-trough decline in (1) net sales, (2) net income to surplus, and (3) common stock price. The data reveal substantial inter-firm variation. The companies that were hardest hit by the depression are FORD, IHC, and WE, as their sales declined by approximately 80% and their profit turned negative at the trough of the depression. GM, USS, BS, GTR, and GE were the close second with a 60 to 70% decline in sales and more than a 90% decline in profits. By contrast, the companies that suffered less during the depression are DP, P&G, SONJ, EJ, and KODAK, experiencing less than a 50% decline in sales. IBM was untouched by the depression.[14]

Section II of Table 5 documents managerial responses to the depression. The degree of the "repudiation" of corporate welfarism is measured by a composite of (1) wage cuts, (2) employment reductions, (2) the curtailment of HRM programs, and (4) the lack of relief efforts by management during the depression. All the firms in the sample instituted worksharing and maintained the employment level, as well as hourly wages, relatively intact until early 1931. By 1932, however, most firms launched wage and employment reductions. In particular, FORD, GM, BS, IHC, GTR, WE, and GE resorted to massive dismissals, cutting 50 to 80% of their workforce.[15] In addition, most firms discontinued, suspended, or curtailed their HRM programs. In Table 5, the "discontinuation" refers to the case where a plan was discontinued at once or permanently suspended, while the "suspension" refers to the case in which a plan was inactive as of 1934 but reinstated by 1937. The "curtailment" includes a reduction of benefits, tighter restrictions on eligibility, or increased employee contributions. As firms often covertly inactivated or revised their programs, Table 5 likely understates the extent of these incidents. Nevertheless, the data show that a majority of stock ownership plans, profit-sharing plans, and housing loans were discontinued. The rate of discontinuation/suspension was particularly

[14]IBM received a steady stream of rental revenues from business and government offices during the depression (Engelbourg (1976), p.239).

[15]IBM was the only company whose employment rose during the depression.

high among FORD, GM, USS, and WE. There were employers who instituted emergency relief plans during the depression, however. Most notably, BS, GTR, WE, DP, and SONJ provided dismissal compensation extended to their blue-collar workers, and IHC, GE, P&G, and KODAK set up private unemployment benefit funds. From the four measures, the "high repudiation" group consists of GM, FORD, and USS, which are characterized by both the high rate of discontinuation and the lack of relief effort. The "low repudiation" group consists of P&G, KODAK, and IBM, which maintained both their programs and employment relatively intact, as well as DP and SONJ, which discontinued some programs but maintained their workforce and instituted relief measures. Intermediate cases are BS, IHC, GTR, GE, and WE, which resorted to mass layoffs and discontinued a significant fraction of their programs, but engaged in extensive relief efforts.

The last section of Table 5 documents the change in labor-management relations under the New Deal labor laws. When the National Industrial Recovery Act (NIRA) of 1933 recognized workers' collective bargaining right, a large number of employers introduced ERPs to meet the letters of the law. The Wagner Act of 1935 subsequently outlawed ERPs or any employer-sponsored labor organizations and created a powerful enforcement agency, the National Labor Relations Board (NLRB). Employers dissolved their ERPs in compliance, but some were reconstituted as *independent local unions* (ILU) unaffiliated to any national unions. A fierce rivalry between ILUs and industrial unions ensued in major companies. Eventually, a majority of ILUs were either disestablished by the NLRB or lost against industrial unions in elections, and the number of ILUs declined from more than 1,500 in 1935 to less than 300 in 1947.[16] I measure the change in employment relations by (1) union status, (2) the percentage of votes received by ILUs in representation elections, and (3) the nature of union contracts.

The samples firms can be divided into two groups by their union status. The first group was organized by industrial unions by the early 1940s. Within this group, the management of GE, GM and USS made early and voluntary recognition of the industrial unions in 1936-37. FORD, BS, IHC, and GTR took more combative stance, but their major plants were unionized by the CIO by 1941.[17] The second group of firms, by contrast, remained largely

[16]Mills & Montgomery (1945), p.523 and pp.852–53; Jacoby (2000).
[17]Harris (1982); Schatz (1979, 1983); Fine (1969); Ozanne (1967); Nelson (1988, 1989).

unorganized by outside unions. At major establishments at WE, DP, and SONJ, their ILUs received employees' majority support throughout the 1940s despite the repeated challenges by the industrial unions.[18] All establishments of P&G, KODAK, EJ, and IBM remained nonunion well into the postwar period.[19] Since ILUs were almost always the successors of ERPs, employees' continuing support of the ILUs after the passage of the Wagner Act can be seen as an indication of their approval of corporate welfarism. To obtain a finer measure of the employee support, I report the percentage of votes received by ILUs in the earliest representation elections held by the NLRB.[20] The data show that, even though the industrial unions won a majority, a sizable proportion of employees (26 to 45%) in BS, IHC, GTR, and GE voted for the ILUs.

The last row of Table 5 reports the nature of the early contracts signed between management and unions (the CIO or ILU) at major establishments. Reflecting the relatively cooperative nature of union-management relations, early union contracts at GE, P&G, and SONJ were implicit and discretionary, restating much of the existing corporate personnel policies. By contrast, reflecting adversarial union-management relations, the contracts at FORD, GM, and USS were explicit and detailed, introducing third-party arbitration in case of disputes. According to the above measures, FORD, GM, and USS underwent a drastic change in their labor-management relations. WE, DP, P&G, SONJ, EJ, KODAK, and IBM, by contrast, experienced a minimum change, maintaining their establishment-wide employee representation and other HRM practices. BS, IHC, GE, and GTR exhibit an intermediate case.

### 3.2 Interpretation

The above data, though incomplete, reveal considerable heterogeneity among the elite welfare capitalists. Table 6 summarizes the findings and ranks the fourteen firms according to (a) the effectiveness of internal enforcement mechanisms (or the level of managerial commitment), (b) the severity of the depression, (c) the degree of repudiation, and (d) the change in labor-management relations under the New Deal. The rank order correlation coefficient between the degree of repudiation and the change in labor-management relations is 0.87, showing a strong

[18] Vallas (1993); Retzler (1963); Larson, Knowlton & Popple (1971).

[19] Feis (1928); Company (1937); Jacoby (1997); Zahavi (1988).

[20] The results of all NLRB certified representation elections after 1935 are reported in *The Decisions and Orders by the National Labor Relations Board.*

positive correlation between the two. By contrast, the correlation between the severity of the depression and the change in labor-management relations is positive but weaker ($r$=0.73). The correlation coefficient between the level of managerial commitment and the degree of repudiation is -0.14, indicating that higher commitment *per se* did not imply less repudiation.[21]

The data exhibit three distinct patterns (see Table 7). First, there is a set of firms, P&G, DuPont, Standard Oil of New Jersey, and Kodak, that implemented corporate welfare programs with strong internal enforcement, experienced a relatively mild impact of the depression, and exhibited a low degree of repudiation. Second, there is a set of firms, GE, International Harvester, Bethlehem Steel, and Goodyear, that also had strong internal enforcement mechanisms in place, but experienced a serious deterioration of business conditions during the depression, and exhibited an intermediate degree of repudiation. Third, there is a set of firms, GM, U.S. Steel, and Ford, that instituted corporate welfare programs with weak internal enforcement, suffered serious consequences of the depression, and showed a high degree of repudiation.[22] Furthermore, the first set of firms is associated with ILUs and the continuation of implicit contractual relations, whereas the third set of firms is associated with industrial unions and the adoption of explicit union contracts. The second set of firms exhibits an intermediate case: although these firms were organized by industrial unions, their ILUs received higher employee support in representation elections, and resulting union contracts were less explicit and legalistic.

To summarize, the data show that, for a given level of commitment, the degree of the repudiation of implicit contracts was greater if the depression was more severe, and for a given magnitude of the depression, the degree of repudiation was smaller if the level of managerial commitment was higher. The greater degree of the repudiation of implicit contracts during the depression was associated with the greater change in labor-management relations under the New Deal. In summary, the company-level data are consistent with the implications of implicit contract theory, confirming Jacoby's original insights.

[21]One may worry that the effectiveness of internal enforcement might be endogenous: i.e., firms in cyclical industries may choose a low degree of managerial commitment anticipating downturns. Table 6, however, shows little correlation between the effectiveness of internal enforcement and the severity of the depression ($r$=0.15).

[22]There is a fourth set of firms, IBM and possibly Endicott Johnson, which had relatively weak internal enforcement and experienced a mild depression, but the data are too incomplete to draw any conclusions.

# 4 Case Study Analysis

To supplement the quantitative data and investigate the causal relations implied by implicit contract theory, this section presents a comparative case study of General Electric and General Motors. Both GE and GM were founding members of the Special Conference Committee, an exclusive committee specialized in the research of industrial relations policies. Contemporaries in the 1920s viewed the two companies as leading welfare capitalists, and the severity of the Great Depression experienced by the two was comparable. Yet, as shown above, they differed considerably in their responses to the depression and their subsequent experiences in personnel management. Did the "internal enforcement mechanisms" really matter? Did the "repudiation" by management affect employees' beliefs? The following analysis documents internal dynamics that led to the divergent outcomes and confirms the subtle but important role of internal enforcement mechanisms.

## 4.1 General Electric

Among the fourteen welfare capitalists, GE implemented one of the most comprehensive welfare programs. At the Schenectady Works, its largest plant, management introduced a non-contributory pension plan in 1912, a supplementary compensation plan in 1915 (in which 5% of annual wages were paid to an employee with five or more years of service), a paid vacation plan for blue-collar workers in 1917 (which was liberalized in 1929 to give employees one week of vacation after 3 years of continuous service and two weeks after 10 years of continuous service), a stock ownership plan and a non-contributory group life insurance plan in 1920 (in which the company provided an employee with free insurance starting from $500 up to $1,500 depending on an employee's length of continuous service). In their visit in 1912, BLS officials found spacious, well lit, well ventilated, and clean workrooms as well as a "splendidly equipped" restaurant at Schenectady (BLS (1913)). The company also maintained a hospital division at each plant, providing surgical and medical services to their employees free of charge (Duncan (1932), p.81).

The experience of the 1921 recession prompted GE to increase the financial stability of welfare plans. In 1922, GE set up a pension reserve financed by company contributions. It also replaced the employee stock ownership plan by a savings and investment plan and established the GE Employees Securities Corporation (GEESC) to centralize investment management. Under the

new plan, an employee could purchase ten-year bonds issued by the GEESC paying 6% interest, to which the company promised to add 2% as long as the original purchaser remained employed and retained the bonds (Annual Report 1930).[23] The GEESC invested its funds in GE stocks and the securities of major public utilities, and it soon became the largest single holder of GE common stock. In the late 1920s, consistently over 40% of employees participated in the savings and investment plan, holding on average $800 to $1,000 worth of bonds (AR 1925-30). In 1924, the company adopted a corporate-wide housing plan to assist employees to purchase homes (AR 1925).[24] In 1928, the company created a pension trust with an initial contribution of $5 million. In addition, it established a contributory pension plan with a lower retirement age, in which employees with more than five years of service were required to participate. By 1929, GE had accumulated more than $12 million in the pension trust fund, which helped the company keep its pension plan during the Great Depression without any revisions (AR 1929).

GE was a leading manufacturer of electrical products both in capital goods (industrial motors, turbines, generators) and in consumer goods (candescent lamps, refrigerators). At GE's main factories in 1930, approximately 25% were skilled workers, 60% were semiskilled workers, and the rest were unskilled laborers.[25] At Schenectady, except for the refrigerator department, the major divisions that manufactured heavy-current products did *not* use mass production technology. In these divisions, work was highly skilled, and emphasis was placed on product quality rather than quantity. The retention of semiskilled workers was as important as that of skilled craftsman for GE management. According to a study at the Lynn Works, the cost of turnover could be higher for the semiskilled than for the skilled, because semiskilled machine tenders obtained most of their skills through on-the-job training.[26] Management believed that "employees long in the service have acquired experience and greater skill and consequently have more value" to the company, recognizing a firm-specific component of human capital (AR 1928).

The company had operated formal apprenticeship programs to train skilled mechanics, draftsmen, designers, and engineers since 1902. At Schenectady and Lynn, the Apprentice School for grammar-school graduates and the Engineering School for high-school graduates offered exten-

[23]The 8% interest rate was substantially higher than the risk-free interest rate of 4% at that time.

[24]The details of this plan are not clear, but it was not large-scale: by 1929 only 2,500 homes had been financed through this plan and 3% of employees had been assisted.

[25]Schatz (1979), p.588.

[26]Alexander (1914); Alexander (1916).

sive training courses.[27] They combined practical training in the shop with classroom instruction given by full-time company instructors. Each apprentice was paid low wages during the program and awarded a bonus at its completion contingent on satisfactory performance.[28] Upon graduation, the company offered jobs to qualified graduates as far as business conditions permitted.[29] The company viewed the apprentice system as a means not merely to increase supply of skilled labor, but also to foster favorable employer-employee relations, instill diligence and loyalty, reduce labor turnover, and identify potential foremen and supervisors. According to Nelson-Rowe (1991), GE retained 38% of its 1903-17 apprentice graduates as its employees in 1921, and 28% of them in 1931. Almost 75% of the apprentice graduates subsequently moved into skilled occupations and supervisory positions at GE and other companies. Notably, the graduates who remained at GE in 1931 were 3.5 times as likely to be promoted to foreman and beyond than those who worked for other employers (pp.40-1). In addition to the apprenticeship system, there were electrical courses and business training courses for high school graduates, business and factory training for college graduates, and foremen training courses.[30]

At GE, employees were actively involved in personnel programs. The company instituted a safety committee at every shop by the late 1910s. A formal suggestion system was introduced in 1922, accepting suggestions for improving working conditions and the safety and efficiency of manufacturing. Monetary awards were given to the suggestions that led to "tangible savings" to the company, and to ensure fairness, employee representatives were present when suggestions were reviewed. In a typical year, GE employees made more than 16,000 suggestions, and management adopted 30% of them and awarded a total of $60,000 (AR 1928-1930, 1942). To facilitate employer-employee communication, the company issued a monthly employee magazine, *General Electric News,* at each plant since the 1910s. The magazine reported a summary of ERP meetings and even reprinted the balance sheet and income account of the GEESC.[31] The company distributed employee handbooks and benefit pamphlets that clearly laid out the rules and regulations of welfare plans, notifying workers of any revisions. In a characteristic manner, the company pension pamphlet tabulated expected pension benefits according to weekly earnings

[27] In 1912, 400 apprentices were enrolled in four-year training courses at Schenectady alone (BLS (1913)).

[28] The bonus was, if paid in full, $100 for the four-year courses and $75 for the three-year courses in 1924.

[29] The Apprentice System, West Lynn (1924); Nelson-Rowe (1991), pp.36-8.

[30] Duncan (1932), pp.41-53.

[31] *General Electric News*, April 6, 1928, Schenectady, GE.

and years of service for a clear exposition.[32] At each plant, employees sponsored recreational activities, such as athletic teams and social gatherings, with company assistance.

At GE, the first ERP was introduced at Lynn in 1918 under the auspices of the War Labor Board. At Schenectady no ERP was introduced until 1924 due to employees' opposition. While they shared the same basic principle, the details of the ERPs differed from plant to plant. At the Erie Works, the ERP consisted of six joint committees with equal numbers of employee and management representatives in (1) administration of the ERP and elections, (2) mutual adjustment of wages and working conditions, (3) efficiency, economy and suggestions, (4) safety, (5) athletics, heath and entertainment, and (6) education. The plan thus facilitated joint employer-employee administration in major HRM programs. Regular meetings of the ERP were held monthly and the minutes of meetings were posted on bulletin boards.[33] Since most welfare benefits were determined based on the length of continuous service, a policy concerning discharge and layoff became an important issue. While giving foremen full authority, the ERP at Erie explicitly protected employees' right to appeal to the joint committee decisions concerning transfers, layoffs, or discharges in case of workforce reductions. The industrial service department kept suitable records to protect employees' continuity of service.[34]

Interviewing managers and workers at Lynn two years after the introduction of the ERP, Morrow (1921) reported that, although various criticisms and concerns were voiced, there was a shared opinion that the ERP provided communication channels between employees and management; trained employee and company representatives to base their judgments on fact; acquainted management with actual conditions in the plant; educated employees along economic lines; and increased production. Although management retained the final say, out of 476 cases handled by the joint committees during 1919-25, 205 cases or 43% were settled in favor of employees (Burton (1926), p.270). Based on his first-hand observations at Schenectady, Milton Derber noted that initially the plan was simply a "sounding board" for management policy, but "as realization [among workers] grew that no more effective means of representation was near, efforts were made to utilize and extend the plan."[35] During the 1920s, employee representatives played an

[32] *GE Group Life Insurance Plan* (1929); *GE Pension Plan* (1929); and *GE Additional Pension Plan* (1929).
[33] *Plans of Representation of Employees, Erie Works* (1920).
[34] *The Lynn Plan of Representation* (1923); *GE Information and Rules for Employees* (1922).
[35] Chapter 14 written by Derber in Millis (1942), p.749.

increasingly active role in communicating employees' viewpoints to management, which resulted in the adoption or modification of several programs upon employee initiative.[36]

Reflecting the comprehensive HRM programs in place, GE's welfare expenditures were non-trivial. According to my estimate, in the late 1920s, the company annually spent $7 to $10 million or 5.3 to 6.4% of total payroll on these programs, which amounted to more than $100 per employee.[37] During the 1920s, the company reported low employee turnover and no labor disputes, which management attributed largely to its HRM policies. At the end of the 1910s, turnover was over 50% at major GE plants; as the layoffs of the 1921 depression cut back the workforces to core employees, turnover fell by half in 1922, and it *remained low for the rest of the decade.* In 1928, 58% of GE employees had more than five years of continuous service and 26% had more than *twenty years* of service at the company (AR 1928). The company also experienced a decline in accident rates during the 1920s: at Schenectady, the number of lost-time accidents per man-year fell by a factor of ten between 1914 and 1926 (Wise (n.d.), p.283).

The electrical industry was hard hit by the Great Depression, recording a 76% peak-to-trough decline in production. At GE, between 1929 and 1933, total sales declined by 67%, net income by 80%, and stock price by 91%. Although GE managed to remain in the black throughout the 1930s, after paying dividends to stockholders the company recorded deficits every year from 1931 to 1934 (AR 1929-34). During the depression, management tried to protect the "corps of skilled and loyal employees" in which the company had invested during the previous decades (Schatz (1983), pp.58-60). Management instituted worksharing to prevent large-scale layoffs and engaged in an extensive relief effort. In 1930, after conferring with employee representatives, the company announced an employment stabilization program. At its core was an unemployment pension plan, which operated under the principle of equal contribution and joint administration between management and employees.[38] For the first two years of the depression, despite a 50% decline in sales, GE maintained 75% of its workforce using extensive worksharing and intrafirm transfers as well as its wages and benefits.

[36] Morrow (1921); Millis (1942), p.750; AR 1927; Hirao (1998), Chapter 6.

[37] The estimate is based on GE annual reports, company magazines, and benefit pamphlets. It includes corporate expenses for pensions, supplementary compensation, group life insurance, savings and investment plan, paid vacation, suggestion plan, and employee magazines. I find no data for training and education, ERPs, medical services, recreational activities, and administrative costs. The expenditures are net of employee contributions, and any plans pertaining only to white-collar employees are excluded.

[38] *GE Unemployment Pension Plan* (1930).

In late 1931, however, the company announced a 10% wage cut breaking its earlier pledge to President Hoover. By 1933, the workforce was reduced to less than one half the 1929 size. According to the company rules, employees who had been laid off for more than 12 months lost their continuous service records.[39] Moreover, GE discontinued the home-mortgage assistance and suspended the 5% supplementary compensation for blue-collar employees, while keeping extra compensation for salaried employees, and cancelled paid vacations (AR 1932-33; Schatz (1983), p.60). The company also revised the savings and investment plan to lower its interest payments. Accordingly, estimated welfare expenditures at GE declined from $10 million in 1931 to $6 million in 1933. Workers were deeply disturbed by reduced earnings, depression layoffs, and discontinued benefits (Millis (1942), p.751). In addition, as the depression deepened, HRM plans that had satisfied employees in the expansive economy began to invite resentment. For example, the policy that weighed merit and family need as well as seniority in determining layoffs caused little difficulty in the 1920s, but discontent flared during the depression (Schatz (1983), p.61). Similarly, employees with more than five years of service were required to enroll in the additional contributory pension and group life insurance plans. Although the employees largely welcomed these arrangements in the 1920s, premium payments became a burden as their earnings declined 30% during the depression.

Stimulated by this discontent, a group of workers at Schenectady and other plants secretly started unions around 1932. With the passage of the NIRA in 1933, these unions came out and began organizing GE employees in earnest. In response, management renamed the existing ERPs "Workers Councils" and withdrew management representatives. As the business recovered, the company gave increasing concessions to workers through Workers Councils, such as wage increases, new overtime pay, and the restoration of supplementary compensation for blue-collar workers. Even after the passage of the Wagner Act in 1935, the Schenectady Workers Council received 86% of employees' votes in a company-held representation election. The union at Schenectady, a local of the CIO-affiliated United Electrical and Radio Workers of America (UE), challenged the election result and filed a petition with the NLRB in 1936. Contrary to wildly-held expectations, the UE local won the election against the Workers Council with 5,111 to 4,033 votes (56% to 44%). The Workers Council was disbanded three days later. Top

[39] *GE Information and Rules for Employees* (1922).

management of GE subsequently decided voluntarily to accept the UE at the corporate-level, which took even union officials by surprise (Millis (1942), p.751; Schatz (1983), p.63).

Despite the corporate acceptance, the UE had difficulty organizing GE workers. By 1938, seven establishments employing about 30,000 workers were unionized, but more than 45,000 workers remained nonunion. After the 1937 Supreme Court's decision validating the Wagner Act, Workers Councils at GE became independent local unions (ILUs) and kept challenging the UE in representation elections. Contemporaries noted employees' loyalty to the company as the major obstacle to unionization. The extensive benefit plans, provided with "a minimum of paternalistic spirit" and combined with a variety of social and recreational facilities, had made "unusually difficult the union task of binding its membership into a cohesive unit," observed Derber.[40] In fact, although GE's welfare expenditures declined by 40% from 1929 to 1933, according to my estimate, the company still spent $6 million every year between 1933 and 1936, $2 million of which were unemployment benefit disbursements. As GE management restored supplementary compensation in 1934 and paid vacations in 1935, and introduced a cost-of-living adjustment plan in 1937, corporate welfare expenditures at the end of the 1930s surpassed the pre-depression level.

Even though the economic crisis and unionization process strained labor-management relations at GE, its HRM policies showed strong continuity before and after the depression. The first GE-UE contract signed in 1938 was, in principle, a *restatement* of existing corporate HRM practices. During contact negotiations, the UE proposed that management convert a company booklet into a one-year national contact with minor changes, to which management agreed. The contract was drafted without the aid of lawyers on either side, as "neither party had the slightest intention of going to court to seek interpretation or enforcement of the contract," and was simple and short, only six-page long.[41] The corporate welfare programs pertaining to blue-collar workers, such as group insurance, paid vacations, and supplementary compensation, continued with little or no modification. One important change was in the application of seniority: as the union pressed for seniority preference to protect union officials, the seniority principle was applied with growing strictness at GE, and the burden of proving that ability and other factors

[40] Millis (1942), p.759.
[41] Matles & Higgins (1974), pp.83-8.

outweighed the length of service fell increasingly upon management (Millis (1942), pp.752-5). Another significant change was brought about by the Social Security Act. As the Act instituted federal pensions and state unemployment insurance, the company *de facto* discontinued its non-contributory pension plan for blue-collar employees and also terminated the unemployment pension plan (AR 1935-36). These changes notwithstanding, corporate welfarism based on implicit contracts and cooperative employer-employee relations continued to characterize GE throughout the 1930s.

### 4.2 General Motors

To contemporaries, General Motors was also a leading welfare capitalist in the 1920s. The company operated a large-scale housing program as early as in 1910. Through subsidiary companies, GM built and sold houses to employees at cost less a liberal allowance. The company's annual investment in these subsidiary companies exceeded $10 million in the late 1920s (AR 1925-30). The company introduced a bonus plan in 1918 (under which a fixed percentage of profit was set aside to reward employees for "conspicuous service") and a savings and investment (S & I) plan in 1919. The 1921 recession, during which GM recorded a loss of $38 million, however, led to the curtailment of the programs. Management limited the eligibility of the bonus plan to employees with annual salary of $5,000 and above, excluding all blue-collar employees, and reduced the employer contribution to the S & I plan by one half.

Under the amended S & I plan, an employee could make an annual deposit up to $300 into a savings fund that would bear 6% interest. The corporation would contribute an amount equal to 50% of the employee's savings to a separate investment fund, which would be invested in GM common stock. The entire amount in the investment fund was credited to the employee after five years if he remained employed and kept his savings undisturbed. Employees could apply their savings to home mortgage payments under the GM housing plan without losing any benefits. Forfeitures in the investment funds due to withdrawals before maturity or separation from the company would revert to the company. To reduce financial risk, the company guaranteed to employees a minimum benefit equal to 50% of their original savings, and the benefit was paid in cash and common stocks. During the 1920s, the plan proved to be highly profitable for both the employer and employees thanks to capital appreciation. The returns to savings made in the

early 1920s regularly surpassed 300%. Accordingly, the number of employees participating in the S & I plan increased dramatically, exceeding 70% of the GE workforce at the end of the 1920s. The percentage of employees receiving benefits at maturity was much smaller but also increasing: in 1930 approximately 12% of employees received average payments of $435 for the initial savings of $124. Of the deposits made in 1925, one-third were withdrawn before maturity and two-thirds remained intact (AR 1920-30). In addition to the S & I plan, GM established an employee stock ownership plan in 1924 under which the company paid $2 per share purchased by employees for five years as a special inducement. In 1927, management introduced a joint-contributory group insurance plan that assisted employees with more than three months of service to purchase $1,000 life insurance policies. After 1929 the plan was expanded to include increased death benefits and health and non-occupational accident benefits. In 1929, 99% of eligible employees participated in the plan, receiving on average $18 of insurance payments for death, permanent disability, sickness, and injury (AR 1924-29).

Since the early 1920s, GM was involved in training autoworkers in Flint. In sponsoring education programs for blue-collar workers, the company emphasized two objectives: to offer practical courses and to identify and train "promising young men" for future leadership positions. In 1922, the company began offering four-year apprenticeship programs at the Flint Institute of Technology, in addition to executive and sales training courses. By 1926, the Institute was renamed the General Motors Institute of Technology (GMI) and incorporated as a nonprofit educational institution, extending its service to other GM divisions. The number of students enrolled in the GMI reached 11,477 in 1928, and the school continued to operate throughout the Great Depression, although its total registration fell from 9,933 in 1930 to 2,150 in 1932 (Young & Tuttle (1969), pp.26-33 and p.61). It is worth noting that less than 20% of the workers in the U.S. automobile industry were engaged in assembly-line operations in the late 1920s. According to the 1930 Census of Manufacturing, 24% of wage earners in the industry were skilled and 74% were semiskilled or unskilled. In 1935, 24% of GM employees in Flint were skilled mechanics, machinists, or blacksmiths, and 55% were semiskilled operators (Fine (1969), p.54).

In sharp contrast to GE, GM adopted few policies to facilitate labor-management communication and employee involvement during the 1920s. The company adopted no ERP prior to the passage of the NIRA, and foremen assumed the primary responsibility for adjusting individual

grievances at each plant before 1933. The company's first employee magazine was published in 1930. It was only in 1934 when the first director of the industrial relations department was appointed in the central office, and not until 1937 were personnel programs centralized in a single department at GM (Fine (1969), p.28). Although management claimed that it had been a corporate policy to encourage suggestions from employees, a formal suggestion system comparable to GE's was established only in 1942 (AR 1942-43). According to my estimate, in the late 1920s, GM spent annually $4 to $9 million on HRM programs, which was on average 2% of its annual payroll or $40 per employee.[42] The reasons for the lower corporate welfare expenditures per employee at GM compared to GE are twofold. First, GM instituted fewer programs pertaining to blue-collar employees. For example, the company did not have pension or paid vacation plan, and its supplementary compensation plan was restricted to higher-income employees. Second, many of the programs were joint-contributory, in which employees shared part of the cost.

The automobile industry was as hard hit by the Great Depression as the electrical industry, recording a 74% decline in the level of production. At GM, total sales declined by 71% and the stock price by 90% during 1929-33. Like GE, GM also remained in the black throughout the depression, but dividend payments far exceeded net income in 1931 and 1932. In 1932, the company paid no executive bonuses and cut back its dividends on common stock from $3.00 to $1.25 (AR 1932). During the first year of the depression the company laid off one-fourth of its workers, and, by the end of 1932, 50% of GM workers lost their jobs. Compared to GE, GM reduced its workforce more quickly without resorting to extensive worksharing and instituted no corporate-wide relief programs.

In 1930, management discretely discontinued the stock subscription plan, although it kept paying the special inducement for those who had already subscribed. In the same year, facing the collapse of its stock price, the company dropped the clause in the S & I plan that guaranteed the payments at maturity equal to 50% of the original deposit (AR 1930-35). In 1931, management emphasized that the S & I plan was serving as an emergency reserve for employees, observing that employees had withdrawn $35 million from the S & I funds during 1930-31 (AR 1931; Fine (1969), p.26). By 1932, total withdrawals reached $78 million, at which point management

[42]The estimate is based on GM annual reports and includes the cost of operating the S & I plan, stock ownership plan, group insurance plan, and medical and health services. No data is available for the housing program, training and education, recreational activities, and administrative costs.

announced the suspension of the S & I plan. In the same year, reporting an increasing number of cancellations of housing contracts and employees' inability to maintain payments, the company stopped building houses and began to liquidate its housing investment.[43] The S & I plan was resumed in August 1933, but the corporation contribution was curtailed to 25% from 50% and interest was lowered to 5% from 6%. In the early 1930s, forfeitures in the investment fund rose dramatically. For instance, 82% of employees who had participated in the plan in 1928 did *not* receive benefits because they either made early withdrawals or were laid-off. Since all forfeited benefits reverted to the company, ironically the corporation made a profit from the S & I plan in 1933 and 1935 (AR 1928-36). Reflecting these changes, estimated welfare expenditures at GE fell from over $9 million in 1931 to less than $2 million (or 0.7% of its annual payroll) on average during 1933-36. According to Fine (1969), during the depression years there were increasingly bitter complaints from workers: some lost their GM homes because they could not maintain their payments; others felt that the S & I plan was a "big detriment" to them because the principal benefit was lost when they lost their jobs; and, above all, employees resented the fact that they had no say in the administration of welfare programs and that management could *unilaterally* change or abandon them whenever it saw fit.[44]

The process of unionization at GM was bitter and confrontational. Management decided to introduce ERPs immediately after the passage of the NIRA in 1933. The plan was drafted and distributed to its divisions, and modified according to divisions' needs. The ERPs, named "Employee Associations," were then inaugurated without submitting them to workers for approval. In his careful assessment, Fine (1969) observes that the ERPs established a mechanism through which management was made aware of employee grievances for the first time, contributing to some improvements in working conditions (p.44). Management also developed a foremen course at the GMI to help implement the ERPs. The company's effort to facilitate bilateral communication and encourage employee involvement, however, came too late: a majority of GM employees deemed the ERPs managerial instruments; for many supervisors, the concept of employee representation was "difficult to accept wholeheartedly" as it was a drastic departure from traditional methods (Young & Tuttle (1969), p.63).

[43]By 1939 GM completely divested from the subsidiary housing companies.
[44]Fine (1969), p.26, citing workers' testimony at the Congressional Hearings.

In the meantime, the United Automobile Workers of America (UAW) began organizing GM plants. Before 1936, however, the union had little success meeting managerial opposition. In December 1936, GM workers at Flint occupied plant production facilities, which developed into the famous sit-down strike that lasted for six weeks. In a concurrent development, congressional hearings led by the La Follette Committee discovered illegal antiunion practices conducted by GM management since 1933.[45] As the findings were widely publicized, the reputation of GM as a welfare capitalist fell apart. Even though the sit-down strike was effectively an illegal seizure of private property, state government officials did not intervene despite the company's request. In February 1937, GM finally agreed to recognize the UAW as a bargaining agency in 17 plants, and the first GM-UAW contract was signed in March 1937. The principal feature of the contract was an elaborate grievance procedure that was spelled out in great detail.[46] Through this formal grievance mechanism, workers secured their voice in wages, hours, job analysis, and production speed. UAW officials also won a stricter application of seniority rules in layoff and rehiring. In the 1938 NLRB certified election held at the Chevrolet plant, only 3% of GM employees voted against industrial unions. In 1940 alone, the UAW won representation at 48 GM plants employing 120,000 workers (Fine (1969), pp.323-9).

The Great Depression and New Deal legislation brought about a discontinuous change in HRM policies and employer-employee relations at GM. After 1935, the only welfare program pertaining to blue-collar employees in operation at GM was the group insurance plan. The S & I plan was discontinued in 1935 due to "uncertainty concerning legal requirements under the Social Security Act and the Securities Act" (AR 1935-36). A notable exception was the introduction of an income security and layoff benefit plan for factory workers in 1939. Despite its promising name, the plan merely provided interest-free advances to employees with more than five years of service who were affected by business conditions, and the advances were to be deducted from employees' future wages. The plan was discontinued in 1942.[47] Accordingly, welfare

[45] According to the findings of the Committee, GM employed 14 detective agencies for extensive labor espionage against unions; between 1933 and 1936 the company spent more than $1 million on espionage, strikebreaking, and munitions (U.S. Senate, Committee on Education and Labor (1937)).

[46] *Agreement between General Motors Corporation and the International Union of United Automobile Workers of America,* February 11, 1937, and March 12, 1937, Box 9, Non-current Collective Bargaining Agreements Files 6030, Labor-Management Documentation and Archives, Cornell University.

[47] During the two years of its operation, the average amount of annual advances received by qualified employees was a mere $40.

expenditures at GM remained below the pre-depression level throughout the late 1930s and the early 1940s. By contrast, GM established a pension plan and a separation allowance plan in 1940 both *exclusively* for salaried employees (AR 1940-42). In other words, there was a growing difference between the treatment of white-collar workers and blue-collar workers within the company. While GM maintained implicit contractual relations with its white-collar employees, labor-management relations at the shopfloor evolved towards explicit contracts and industrial jurisprudence in the 1940s.

### 4.3 Discussion

The comparative analysis of General Electric and General Motors confirms the role of internal enforcement mechanisms implied by the implicit contract theory. In the absence of effective labor-management communication and monitoring mechanisms, GM management could and did unilaterally revise or discontinue its major pecuniary programs during the depression. By contrast, at GE, most changes in personnel programs were made upon consultation with employees. Similarly, GM's ERPs were introduced in haste after the NIRA and received little support from employees during the unionization process. ERPs at GE, by contrast, were in place since the 1920s and continued to receive substantial employee support throughout the 1930s. By the early 1940s, adversarial labor relations at GM resulted in the development of detailed and explicit union contracts, while relatively cooperative labor-management relations at GE led to the continuing adoption of more implicit and discretionary contracts.

The case study analysis also provides new insights that merit further theoretical and empirical investigations. The analysis so far takes an initial commitment to corporate welfarism as given. Why did GE and GM choose a different degree of corporate commitment in the 1920s? Was GE management simply benevolent, while GM management was opportunistic? Although difference in CEOs' personality – Gerard Swope and Alfred P. Sloan Jr. – is a plausible hypothesis, economic theory provides an alternative hypothesis. The implicit contract theory indicates that, if a firm is motivated by long-run human capital investment that is non-contractable, management has an incentive to adopt comprehensive corporate welfarism including internal enforcement mechanisms. If a firm provides benefits and services motivated primarily by immediate economic opportunities arising from incomplete markets, however, management would

not invest in internal enforcement mechanisms.

Observe that skill compositions of production workers at the two companies were similar (24-25% skilled and 55-60% semi-skilled in 1930) and their capital-labor ratios were comparable (see Table 3). Anecdotal evidence, however, suggests that the skills and knowledge possessed by GE workers might have been more firm-specific and more indispensable than those of GM workers. In other words, the nature of the human capital and its substitutability may explain the difference in the mix of HRM programs and the level of commitment chosen by employers. Further examination of this hypothesis is left to future work.

# 5 Concluding Remarks

Did American welfare capitalists breach their implicit contracts during the Great Depression? In this paper, I document that some did but some *did not* and investigate the reason for the disparate managerial responses. The company-level data and comparative case study show that, in addition to the severity of the Great Depression, the effectiveness of internal enforcement mechanisms was an important factor in explaining the observed heterogeneity, confirming the predictions of implicit contract theory.

In interpreting the findings in a broader historical context, recall that the fourteen companies studied in this paper were among the largest and most resourceful employers in the U.S. Therefore, the firms, such as DuPont, Procter & Gamble, and Standard Oil of New Jersey, which maintained their HRM practices throughout the depression, were exceptions rather than norms. In other words, it was General Motors and U.S. Steel that represented the experience of a majority of large American firms during the depression. After the La Follette Committee investigation and the sit-down strike, GM in particular came to symbolize the "collapse" of private welfare capitalism, reinforcing a popular belief that corporate welfarism was mere antiunionism that had little to do with the improvements of employees' welfare.

After the Supreme Court's decisions to uphold the Wagner Act and the Social Security Act, it became harder even for the welfare capitalists who had endured the depression to continue their HRM policies. The fall of private welfare capitalism, or the perception thereof, and the ensuing shift in the legal framework together created path dependence in the course of institutional

development (Moriguchi (2000)). By the 1960s, the American industrial relations system was characterized by legalism and adversarial labor-management relations commonly referred to as industrial jurisprudence. This is not to say that corporate welfarism had disappeared, as large unionized firms reintroduced the provision of welfare benefits and job security based on finely defined seniority rights after WWII. The nature of private welfare capitalism, however, was transformed from implicit to explicit contractual relations during the process. Only in the 1980s and 1990s, did "innovative" HRM practices characterized by implicit contracts, employment security, discretionary corporate benefits, and joint labor-management committees, spread again among American manufacturing firms.

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Table 1. Growth of Human Resource Management Programs, 1917 and 1926

| HRM Program | Establishments with Program (% of total) | |
|---|---|---|
| | In 1917 | In 1926 |
| A. Incentive Contracts | | |
| Retirement Pension Plan | 75 (17) | N.A. |
| Disability Benefit Plan | 80 (19) | 214 (50) |
| Group Insurance Plan | 32 (7.4) | 186 (43) |
| Savings Plan | 188 (44) | 196 (46) |
| Stock Ownership Plan | N.A. | 123 (29) |
| Profit Sharing Plan | N.A. | 50 (12) |
| Paid Vacation Plan | 16 (3.7) | 133 (31) |
| B. Human Capital Investment | | |
| Employee Classes | 72 (17) | 140 (33) |
| Company Libraries | 99 (23) | 127 (30) |
| C. Internal Enforcement Mechanisms | | |
| Company Picnics | 140 (33) | 177 (41) |
| Social Gatherings | 239 (56) | 316 (74) |
| Athletic Teams | 142 (33) | 223 (52) |
| Recreational Facilities | 152 (35) | 235 (55) |
| Joint Administration | 200 (46) | 343 (80) |
| Total Number of Establishments | 431 (100) | 430 (100) |

Source: U.S. Department of Labor, Bureau of Labor Statistics, *Bulletin No. 250* (1919) and *Bulletin No. 458* (1928).

Notes:

1) The 1917 sample consists of 431 establishments with 1.7 million employees; the 1926 sample consists of 430 establishments, many of which were revisited since 1917, with 2.0 million employees.

2) All programs were for blue-collar workers. Employers bore a part or all of the cost of each program.

3) Disability benefits covered sickness and accident injury cases that were not covered by the workmen's compensation laws.

4) Group insurance plans included life, sickness, and accident insurance.

5) Savings plans included savings and loan funds, savings and investment funds, building and loan funds.

6) Joint administration included employee participation in welfare administration through ERPs, mutual benefit associations, employee committees, and other employee organizations.

Table 2. Prevalence of Human Resource Management Programs in 1928

| HRM Program | Small Establishments | Large Establishments | Total |
|---|---|---|---|
| A. Incentive Contracts | | | |
| Retirement Pension Plan | 121 (4.8) | 474 (28) | 685 |
| Group Life Insurance Plan | 1,600 (36) | 774 (47) | 2,374 |
| Stock Ownership Plan | 163 (3.7) | 287 (17) | 450 |
| Profit Sharing Plan | 168 (3.8) | 80 (4.8) | 248 |
| Savings Plan | 168 (3.8) | 328 (20) | 496 |
| Housing Plan | 264 (6.0) | 386 (23) | 650 |
| Length-of-Service Bonus | 384 (8.7) | 183 (11) | 567 |
| Paid Vacation Plan | 926 (21) | 427 (25) | 1,353 |
| B. Human Capital Investment | | | |
| Apprenticeship Training | 683 (16) | 499 (30) | 1,182 |
| Training Unskilled or Semi-skilled | 472 (11) | 330 (20) | 802 |
| General Education | 35 (0.8) | 119 (7.1) | 154 |
| Internal Promotion | 176 (4.0) | 401 (24) | 577 |
| C. Internal Enforcement Mechanisms | | | |
| Picnics or Outings | 666 (15) | 657 (39) | 1,323 |
| Athletic Teams | 454 (10) | 717 (43) | 1,171 |
| Employees' Club | 106 (2.4) | 288 (17) | 394 |
| Employee Magazine | 97 (2.2) | 303 (18) | 400 |
| Centralized Employment | 273 (6.2) | 701 (42) | 974 |
| Centralized Discharge | 194 (4.4) | 401 (24) | 595 |
| Foreman Training | 216 (4.9) | 322 (19) | 538 |
| Personnel Department | 110 (2.5) | 575 (34) | 685 |
| Suggestion System | 212 (4.8) | 389 (23) | 601 |
| Group Meetings | 300 (6.8) | 251 (15) | 551 |
| Employee Representation Plan | 110 (2.5) | 146 (8.7) | 256 |
| Total Number of Establishments | 4,409 (100) | 1,676 (100) | 6,085 |

Source: NICB (1929), *Industrial Relations Programs in Small Plants*, Chapter II.

Notes:

1) The survey covered 4,409 small establishments (employing 250 or fewer workers) and 1,676 large plants establishments (employing more than 250 workers). The number of establishment adopting each HRM program and its percentage of total is reported.

2) All programs were for blue-collar workers and were not required by law. Employers bore a part or all of the cost of each program.

3) Savings plans included savings and loan funds, savings and investment funds, building and loan funds.

4) Housing plans included company housing and home ownership plans.

TABLE 3: COMPANY CHARACTERISTICS

| | FORD | GM | US STEEL | B-STEEL | IHC | GTR | WE | GE | DUPONT | P&G | SO of NJ | EJ | KODAK | IBM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year of Establishment | 1903 | 1908 | 1901 | 1904 | 1902 | 1898 | 1887 | 1892 | 1802 | 1837 | 1870 | 1890 | 1880 | 1911 |
| Year of incorproation | 1903 | 1908 | 1901 | 1904 | 1902 | 1898 | 1915 | 1892 | 1903 | 1890 | 1882 | 1919 | 1901 | 1918 |
| SCC Membership | never | 1919- | 1934- | 1919- | 1919- | 1919- | 1925- | 1919- | 1919- | never | 1919- | never | never | never |
| Main Products | automobile | automobile | steel & iron | steel & iron | agricultural machinery | rubber tires & tubes | telephone equipments | electrical machinery | explosives, dye | soap, oil | petroleum | leather shoes | film, camera | business machines |
| Technology | mass production | mass production | continuous process | continuous process | mass production | continuous process | mass production | mass production | continuous process | continuous process | continuous process | | continuous process | job lot system |
| Total Employment | 170,000 | 233,000 | 225,000 | 64,000 | 48,000 | 47,000 | 84,000 | 88,000 | 35,000 | 12,000 | 57,000 | 17,000 | 27,000 | 6,000 |
| Total Assets (million dollars) | 760 | 1,230 | 2,280 | 800 | 380 | 240 | 370 | 490 | 540 | 130 | 1,060 | 51 | 160 | 44 |
| Capital-Labor Ratio | 4,470 | 5,280 | 10,130 | 12,520 | 7,920 | 5,170 | 4,440 | 5,590 | 15,490 | 11,080 | 18,600 | 3,000 | 6,040 | 7,330 |

Source: *Moody's Manual of Investments*
Notes: Total employment and total assets are in 1929. Capital-labor ratio is the ratio of total assets to total employment.

| TABLE 4: CORPORATE WELFARE RPOGRAMS IN 1929 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FORD | GM | US STEEL | B-STEEL | IHC | GTR | WE | GE | DUPONT | P&G | SO of NJ | EJ | KODAK | IBM |
| I. Corporate Welfare Programs in 1929 & the Number of Years in Operation | | | | | | | | | | | | | | |
| a. Incentive Contracts | | | | | | | | | | | | | | |
| Disability benefits | yes 23 | no | no (past) | yes 3 | yes 19 | yes 20 | yes 16 | yes 27 | no | yes 14 | yes 11 | yes 11 | yes 18 | yes 18 |
| Group insurance | no | yes 3 | yes 2 | yes 3 | no | yes 15 | no | yes 19 | yes 10 | no | no | no | yes 1 | no |
| Retirement pension | no | no | yes 18 | yes 6 | yes 21 | yes 15 | yes 23 | yes 17 | yes 25 | yes 35 | yes 11 | yes 11 | yes 1 | no |
| Stock onwership | no | yes 5 | yes 16 | yes 5 | yes 9 | no (past) | yes 8 | no (past) | yes 20 | yes 26 | yes 8 | no | no | no |
| Savings & investment | yes 8 | yes 9 | no | ? | ? | ? | yes 3 | yes 8 | ? | no | no | yes 7 | yes 8 | ? |
| Profit-sharing | yes | no (past) | no | yes 18 | yes 20 | ? | no | yes 14 | yes 25 | no | | yes 10 | yes 17 | ? |
| Paid vacation | no | no | no | no | yes 1 | yes 15 | yes 3 | yes 12 | no | no | yes 7 | yes 10 | no | no |
| Housing loan | no | yes 19 | yes 9 | yes 5 | ? | yes 17 | yes 7 | yes 4 | yes 11 | ? | yes 11 | yes 7 | yes 9 | ? |
| b. Human Capital Investment | | | | | | | | | | | | | | |
| Training & education | yes 13 | yes 3 | yes | ? | yes 22 | yes 26 | yes 11 | yes 28 | ? | ? | yes 11 | ? | yes 9 | yes 11 |
| Internal promotion | | yes | ? | ? | ? | yes | yes | yes | yes | yes | yes 7 | yes | ? | ? |
| Employment guarantee | no | no | no | no | no | no | no | no | no | yes 6 | no | no | yes | no |
| c. Internal Enforcement Mechanisms | | | | | | | | | | | | | | |
| Recreation | ? | yes | yes | yes | yes | yes 6 | yes 10 | yes | yes | yes | yes | yes | yes | yes |
| Employee magazine | yes 13 | no | no | yes 5 | yes 20 | yes 17 | yes 17 | yes 12 | no | no (past) | yes 11 | yes 10 | no | yes 10 |
| Personnel department | yes 15 | ? | ? | yes | yes 11 | yes 17 | yes | ? | yes 10 | yes 10 | yes 11 | ? | yes 10 | ? |
| Suggestion system | no | no | ? | yes 3 | yes 3 | yes | ? | yes 7 | yes 15 | yes 3 | yes 11 | ? | yes 32 | ? |
| ERP | no | no | no | yes 11 | yes 9 | yes 10 | no | yes 11 | yes 10 | yes 11 | yes 11 | no | no (past) | no |
| Employee benefit fund | no | no | yes 18 | yes 2 | yes | ? | yes 23 | yes 7 | yes 10 | yes 35 | yes 2 | ? | yes 1 | no |
| | | | | | | | | | | | | | | |
| No. of programs instituted | 6 | 7 | 7 | 12 | 12 | 12 | 12 | 14 | 11 | 10 | 13 | 9 | 12 | 4 |
| Average no. of years | 10.4 | 5.6 | 10.5 | 6.1 | 12.7 | 16.9 | 11.0 | 12.8 | 15.1 | 17.5 | 9.5 | 8.4 | 9.7 | 7.8 |
| | | | | | | | | | | | | | | |
| II. Corporate Welfare Expenditures in 1929 | | | | | | | | | | | | | | |
| Total expenditures | | $9 million | $9 million | at least $4 million | | | $7 million | $10 million | | | at least $4 million | $1.3 million | | |
| per employee | | $40 | $40 | at least $65 | | | $90 | $120 | | at least $90 | at least $80 | $100 | | |
| as % of payroll | | 2.3% | 2.0% | at least 3% | | | 5.8% | 6.4% | | at least 6% | at least 5% | 6% | at least 10% | |

TABLE 5: THE IMPACT OF THE GREAT DEPRESSION

| | FORD | GM | US STEEL | B-STEEL | IHC | GTR | WE | GE | DUPONT | P&G | SO of NJ | EJ | KODAK | IBM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I. The Severity of the Great Depression (peak-to-trough) | | | | | | | | | | | | | | |
| Net sales change | -79% | -71% | -66% | -71% | -74% | -57% | -83% | -67% | | -51% | -49% | -37% | -25% | -5.6% |
| Net income change | -122% | -100% | -99% | -97% | -110% | -95% | -115% | -94% | -66% | -45% | | -79% | -77% | -11% |
| Stock price change | N. A. | -90% | -93% | -95% | -92% | -96% | -70% | -91% | -90% | -78% | -68% | | -82% | -70% |
| | | | | | | | | | | | | | | |
| II. Managerial Responses | | | | | | | | | | | | | | |
| a. Wage Change | -30% | | -20% | | -25% | | -10% | | | | | -10% | -5% | 0% |
| b. Employment Change | -72% | -50% | -30% | -53% | -58% | -53% | -80% | -53% | -20% | -28% | -20% | | -24% | 18% |
| c. Welfare Programs in Operation as of 1934 | | | | | | | | | | | | | | |
| Disability benefits | yes | … | … | yes | yes | yes | yes | yes | curtailed | yes | discont. | yes | yes | yes |
| Group insurance | … | yes | curtailed | yes | … | yes | discont. | yes | yes | … | curtailed | … | yes | … |
| Retirement pension | … | … | curtailed | yes | yes | ? | yes | yes | curtailed | yes | curtailed | curtailed | yes | … |
| Stock ownership | … | discont. | discont. | discont. | suspended | … | discont. | … | discont. | yes | discont. | … | … | … |
| Savings & investment | suspended | suspended | … | … | … | … | discont. | curtailed | … | … | … | yes | yes | … |
| Profit-sharing | discont. | … | … | discont. | ? | … | … | suspended | … | curtailed | … | curtailed | yes | … |
| Paid vacation | … | … | … | … | ? | ? | yes | suspended | … | … | yes | suspended | … | … |
| Housing loan | … | discont. | discont. | ? | … | yes | ? | discont. | discont. | … | ? | suspended | ? | … |
| Employee magazine | yes | … | … | curtailed | yes | yes | discont. | yes | … | … | yes | ? | … | yes |
| No. of discontinuation | 1 | 2 | 2 | 2 | | | 4 | 1 | 2 | 0 | 2 | 0 | | 0 |
| No. of suspension | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| % discontinued or suspenc | 50% | 75% | 50% | 33 to 50% | 17 to 50% | 0 to 33% | 50 to 63% | 38% | 40% | 0% | 29 to 43% | 29 to 43% | 0 to 17% | 0% |
| d. Emergency Relief Effort | | | | | | | | | | | | | | |
| Relief assistance | no | no | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | ? |
| Dismissal allowance | no | no | no | yes | no | yes | yes | yes | yes | ? | yes | no | ? | ? |
| Unemployment benefit | no | no | no | no | yes | no | no | yes | no | yes | no | no | yes | no |
| | | | | | | | | | | | | | | |
| III. Change in Labor-Management Relations | | | | | | | | | | | | | | |
| Union Status | 1941- CIO | 1937- CIO | 1937- CIO | 1939- CIO | 1941- CIO | 1941- CIO | ILU | 1936- CIO | mostly ILU | ILU | mostly ILU | ILU | ILU | ILU |
| Votes Received by ILU | | 3% | | 26% | 33% | 27% | | 44% | 57% | | 80% | 82% | 75% | |
| The Nature of Contract | explicit | explicit | explicit | | | | | implicit | | implicit | implicit | | | |

| TABLE 6: SUMMAY RANKING | | | |
|---|---|---|---|
| | | | |
| A. Effectiveness of Internal Enforcement Mechanisms | B. Severity of Great Depression | C. Degree of Repudiation | D. Change in L-M Relations |
| *High* | *Severe* | *High* | *Large* |
| IHC | Ford | GM | GM |
| GE | Western Electric | Ford | US Steel |
| P&G | IHC | US Steel | Ford |
| Goodyear T&R | GM | *Intermediate* | *Intermediate* |
| DuPont | US Steel | Western Electric | Bethlehem Steel |
| Standard Oil NJ | Bethlehem Steel | GE | Goodyear T&R |
| Bethlehem Steel | GE | Bethlehem Steel | IHC |
| *Intermediate* | Goodyear T&R | IHC | GE |
| Western Electric | *Intermediate* | Goodyear T&R | *Low* |
| Kodak | DuPont | Endicott Johnson | Western Electric |
| *Low* | P&G | *Low* | DuPont |
| Ford | Standard Oil NJ | DuPont | Kodak |
| US Steel | Endicott Johnson | Standard Oil NJ | Standard Oil NJ |
| Endicott Johnson | Kodak | Kodak | P&G |
| GM | *Very Mild* | P&G | Endicott Johnson |
| IBM | IBM | IBM | IBM |

Table 7. SUMMARY

| | Mild Depression | Severe Depression |
|---|---|---|
| High Commitment | I: P&G, DuPont, Standard Oil of NJ, Kodak | II: GE, International Harvester, Bethlehem Steel, Goodyear |
| Low Commitment | | III: GM, US Steel, Ford |