

Did American Welfare Capitalists Breach Their Implicit Contracts? Preliminary Findings from Company-level Data, 1920-1940

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Abstract

This paper studies the dynamic evolution of the HRM practices of American corporations during the 1920s and 1930s. It has been claimed that private welfare capitalism – employers’ provision of non-wage benefits, greater employment security, and employee representation to their blue-collar workers – collapsed during the Great Depression and was replaced by the welfare state and industrial unionism under the New Deal regime. Recent literature, however, has revealed considerable firm-level heterogeneity, adding complex nuances to a simple story of discontinuation. Using data of fourteen elite manufacturing firms, this paper tests the implications of implicit contract theory and investigates the impact of the depression on welfare capitalism and the subsequent development in corporate HRM practices. It identifies positive relations between the severity of the depression and the degree of repudiation, but also finds that firms with a higher commitment were less likely to repudiate and more likely to remain unorganized and retain implicit contractual relations. A comparative case study provided in the paper complements the findings by documenting internal dynamics.

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1 Introduction

Recent studies have documented that human resource management (HRM) practices pertaining to blue-collar employees have a significant impact on labor productivity (Jones & Kato (1995); Ichniowski, Shaw & Prenzushi (1997)). Personnel policies, including compensation plans, training and education, job design and assignments, promotion, and more, thus can have important implications for economic efficiency and industrial performance.¹ The objective of this paper is to document the dynamic evolution of HRM practices in leading American firms from 1920 to 1940 and explore its long-run implications for the nation's industrial relations system.

Historians have traced the development of personnel policies 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 (also known as company unionism) 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.² In this view, an extraordinary economic shock and ensuing legal reforms 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.³ Berkowitz & McQaid (1988) emphasize the continuing influence of welfare capitalists into the postwar period,

¹See also Brown & Reich (1989); Nucor; Southwest.

²Bernstein (1960); Brandes (1970); Brody (1980).

³Berkowitz & McQaid (1980); Zahavi (1988); Cohen (1990); Tone (1997); Jacoby (1997); Bordo, Goldin & White (1998).

which shaped a “mixed” social welfare system built upon private welfarism precedents. Jacoby (1997) observes that not all corporations abandoned their innovative personnel 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 maintain their personnel programs and nonunion status (Chapter 1). Kaufman (2000) further argues that corporate welfarism that had survived the Depression laid a foundation for today’s “nonunion model” of HRM practices (Kaufman & Taras (2000), Chapter 2).

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. First, it substantiates Jacoby’s hypothesis using a game-theoretic framework and derive testable implications. Second, it compiles company-level data of fourteen welfare capitalists to empirically examine the implications. Third, to supplement quantitative data and investigate internal dynamics, it conducts a comparative case study of two companies.

Recent applications of game theory to economic institutions highlight the merit of modelling an institution as a self-enforcing equilibrium rather than the rules of the game (Greif (1993); Greif, Milgrom & Weingast (1994)). As elaborated in Moriguchi (2001), implicit contract theory captures the essential feature of private welfare capitalism and provides a useful tool in examining strategic interactions between management and workers. The theory indicates that, since the contracts were generally contingent on unverifiable variables (therefore “implicit”), they would require internal enforcement mechanisms to be an equilibrium. It also indicates that there exists a threshold time discount factor below which it is no longer profitable for a firm to maintain its implicit contracts. The theory thus predicts the decision of repudiation as a function of the severity of the depression and the effectiveness of internal enforcement. The implicit contract

theory also implies multiple equilibria, the situation in which expectations of management and workers can play a critical role in equilibrium selection. In particular, once the reputation of management breaks down and labor-management relations become adversarial, the theory predicts that implicit and discretionary contracts would likely be replaced by explicit and legally-enforceable contracts.

To test the theoretical implications, the paper constructs company-level data combining several sources. Since the primary goal is to measure the impact of the Great Depression on corporate welfarism and the subsequent development in HRM practice, the sample is intentionally biased toward “elite employers” who were leading proponents of private welfare capitalism in the 1920s. The paper reports preliminary findings from the data of fourteen manufacturing companies that reveal substantial variation in their experiences during and after the depression.⁴

Although the sample size is too small to test for statistical significance, the preliminary analysis identifies patterns of behavior that are consistent with the implications of the implicit contract theory. First, holding the effectiveness of internal enforcement constant, a company that was hit harder by the depression was associated with the greater breach of 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 higher employees’ support for industrial unions and the development of more explicit union contracts. The case study analysis complements the above findings by providing qualitative details and the internal dynamics. In particular, a comparative analysis of two firms, GE and GM, highlights a subtle but important role the internal enforcement mechanisms played in maintaining managerial reputation, confirming the intuition behind the implicit contract theory.

⁴The 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.

The rest of the paper is organized as follows: Section 2 provides historical background, Section 3 lays out a conceptual framework, Section 4 presents company-level data and main findings, Section 5 provides a case study analysis, and the final section concludes.

2 Historical Background

Historians have traced the development of American private welfare capitalism to the beginning of the twentieth century with the rise of big business. In search of greater employee morale, loyalty, and stability, a number of employers began offering non-wage benefits and services to their blue-collar employees. The early movement, however, was often characterized by its paternalism, piecemeal formulation, and erratic implementation. Labor shortage and high corporate profit during WWI gave rise to a personnel boom during which numerous firms introduced a variety of programs to attract workers and preempt labor discontent, but many of them abandoned their programs once the postwar recession reversed the economic conditions. Among the employers who had continued to experiment, however, private welfare capitalism matured into more substantive and sophisticated HRM policies, to which this paper refers to as *corporate welfarism*.⁵

Corporate welfarism was found among large employers mainly in capital-intensive industries, such as manufacturing, public utilities, transportation, and communications. Although the movement was confined to a minority of employers in the economy, it was a sizable minority representing a growing trend (see **Table 1** and **Table 2**). According to contemporary surveys by the Bureau of Labor Statistics (BLS) and the National Industrial Conference Board (NICB), there were approximately 400 to 600 large establishments in the U.S. that implemented a set of comprehensive HRM practices in the late 1920s.⁶ These establishments employed roughly

⁵BLS (1913); Brandes (1970); Nelson (1975), pp.100-7; Slichter (1929); Hicks (1941), p.43 and p.108; Berkowitz & McQuaid (1980), p.56; Jacoby (1985), p.159.

⁶E.g., BLS (1919); BLS (1928); NICB (1929); NICB (1934).

1.5 to 2 million or 15-20% of production workers, spending approximately 6% of annual factory payroll on personnel programs.⁷

What exactly was corporate welfarism? Employers instituted a wide variety of HRM practices pertaining to wage earners, extending from compensation and benefits, to training and education, health and safety, housing and dining, social and recreational activities, and employer-employee relations. As emphasized by contemporary management, the provision of these programs were voluntary and beyond legal obligation. These personnel programs can be divided into three categories: (a) long-term incentive contracts, (b) human capital investment, and (c) internal enforcement mechanisms (Moriguchi (2001)).

First, management instituted pecuniary incentive contracts contingent on employees' firm-specific tenure and other characteristics, such as merit, workmanship, and loyalty. The programs that shared this contractual feature constituted the core of corporate welfarism: retirement pensions, profit sharing, employee stock ownership, supplementary bonuses, group insurance, disability benefits, paid vacations, housing loans, and savings plans. In these programs, management offered benefits and allowances that increased with the length of service of employees, but retained discretion to qualify or disqualify employees on an individual basis. Management also reserved the right to modify or discontinue the plans altogether if it so desired with legal impunity. In other words, even if these contracts were explicitly written, they were not legally enforceable and thus "implicit" contracts. In the words of contemporary economist John R. Commons, although employers often made pledges not to renege on the plan once it was granted, that promise "rested on the integrity of the company alone" (Commons, Lescohier & Brandeis (1935), pp.338-9).

While offering long-term incentive contracts, management also invested in fostering human capital of production workers by instituting formal training programs, providing technical, safety,

⁷See Moriguchi (2001) for a detailed discussion on the survey data.

and health education, disseminated practical information through employee magazines and pamphlets, and setting up libraries for employees. In typical corporate training programs, management instituted two- to five-year courses combining on-the-job training and in-class instructions. The corporate training was closely tied to a policy of internal promotion that offered career prospects to production workers based on their merits, skills, and tenure.

To establish credible commitment and gain employees' trust, management instituted various programs, to which I refer as *internal enforcement mechanisms*. To inform employees, management formalized personnel policies and announced their rules and operations through bulletin boards, employee handbooks, and employee magazines. To ensure fair and consistent implementation, personnel administration was centralized at a personnel department that kept employee records. Management set up benefit funds for welfare programs and committed corporate resources ex ante to meet future obligations. To build employee loyalty and corporate identity, employers sponsored a variety of socialization and recreational activities involving employees and their families. To facilitate bilateral communication and encourage employee participation, management set up suggestion systems, joint committees, and employee meetings. In particular, management introduced various forms of joint administration in operating personnel programs, the most formal expression of which was the establishment of an *employee representation plan* (ERP), also known as "company union." In an ERP, employee representatives were elected from among blue-collar employees and regularly met with management representatives to discuss matters of mutual concern. Although ERPs were by no means collective bargaining units comparable to trade unions, as correctly criticized by labor historians, they nevertheless provided regular forums for information sharing and mutual consultation that previously had been non-existent.

Company-specific evidence suggests that, at least in a number of instances, corporate welfare became a *mutually binding* commitment between an employer and employees as a result

of their strategic interactions. For example, Zahavi (1988) describes the corporate welfarism at Endicott Johnson as follows (p.105):

Welfare capitalism at E.J. was built on mutual loyalties. Although the workers expressed loyalty to the corporation, they repeatedly demonstrated that their loyalty has limits and it had to be reciprocated by management. Workers developed formal and informal strategies for extracting and expanding managerial obligations. Ultimately, the loyalty was a negotiated allegiance. The [welfare capitalism] became an autonomous reference point and an independent code of just behavior, which allowed workers to judge corporate policies and actions and which entrapped management.

3 Conceptual Framework

Based on the above observations, I develop a conceptual framework which characterizes corporate welfarism as an implicit contract equilibrium. 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.⁸

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 result of human capital investment, which materializes as high employee quality (e.g., merit, loyalty) is assumed to be *non-contractable*, i.e., observable within the firm but unverifiable to a third-party. The level of employees' output is also assumed to be non-contractable.⁹ Suppose that high human capital investment is efficient. To induce human capital investment, an employer can design a contract that provides a young worker with an employment guarantee for two periods and promises extra compensation in the

⁸A theoretical appendix is available from the author upon request; see Moriguchi (2001) for a formal model.

⁹That is, 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.

second period contingent on his human capital acquisition. The contract is implicit since it is contingent on unverifiable variables. 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 which conditions can the implicit contract be self-enforcing?

Historical evidence suggests that employers were generally concerned about the negative impact on employee morale, the possibility of labor disputes, and the consequences for future recruitment that the termination of corporate benefits might trigger.¹⁰ Therefore, I assume reputation as a primary mechanism of enforcement in which the employer's breach of the contract will cause current and future employees to withdraw cooperation by choosing the low level of effort, not investing in human capital, and joining outside unions. As is well-known, 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.¹¹

I examine two particular subgame perfect Nash equilibria of the repeated employment game, which resemble spot contracting and corporate welfarism. The Spot Contract Equilibrium (SCE) is characterized by (1) short-term employment relations, (2) low human capital investment, (3) basic wage paid in every period, and (4) low labor productivity. By contrast, the Implicit Contract Equilibrium (ICE) is characterized by (1) corporate provision of employment security, (2) extra compensation paid in addition to basic wage in the second period, (3) higher human capital investment, (4) higher labor productivity, and (5) internal enforcement based on reputation. Note that the ICE is supported by a set of reciprocal expectations in which an employer expects workers to acquire human capital and workers expect the firm to reward such investment.

¹⁰Management argued that the best way to prevent labor conflicts was to build up a corporate reputation for fair dealing and consideration of the interest of employees (NICB (1931), p.13). At Kodak, a famous profit-sharing plan was maintained despite changes in business conditions, as management was afraid that "employees would misunderstand such a change and feel that Kodak had reneged on a deal" (Jacoby (1997), p.79). At Endicott Johnson, managers felt that they could not abandon their corporate welfarism "for fear of violating the explicit and implicit expectations" it had created among employees (Zahavi (1988), p.143).

¹¹E.g., Baker, Gibbons & Murphy (1994).

The model generates the following testable (and non-testable) 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 ICE unravels and degenerates to the spot contracting outcome, self-fulfilling the workers’ original expectations. Therefore, the coordination of expectations and the establishment of mutual trust can be crucial in implementing the ICE.

2) *Complementarity*: The theory indicates that internal enforcement mechanisms are an integral part of the ICE, suggesting complementarity among a variety of seemingly unrelated programs listed in Table 2. Observe, for example, that an effective reputation mechanism requires not only workers’ ability to monitor management behavior but also sufficient information transmission among workers to coordinate their actions within an establishment. In contrast to a common view that management always benefits when it can “divide and conquer” workers, in this model, the firm may have an incentive to facilitate information sharing and empower employees to a certain 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 would move the firm’s discount factor below the threshold determined 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 (a) a firm is *more likely* to repudiate if the depression is *more severe* holding the effectiveness of internal enforcement constant, and that (b) a firm is *less likely* to repudiate if internal enforcement is *stronger* holding the magnitude of the depression constant.

4) *The Rise of the Explicit Contract Equilibrium*: The model can be extended to show that after the breakdown of the ICE and the reversion to the SCE, management and labor may advance an alternative contractual arrangement based on 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 or output and write a detailed and legally-enforceable contract contingent on these proxies (e.g., seniority rule, job grades). The resulting equilibrium, the Explicit Contract Equilibrium (ECE), can achieve higher efficiency than the SCE.

5) *The Impact of Welfare State*: The Great Depression was accompanied by the New Deal social welfare legislation that instituted compulsory state unemployment insurance and federal pensions financed by payroll taxes. Since these benefits were provided to workers unconditional on their firm-specific tenure and non-verifiable characteristics, in the model, their impact can be captured as a uniform increase in workers' outside option. If workers' utility function is strictly concave, the extra compensation required to induce the same level of human capital investment increases with the outside option. If the new level of extra compensation violates the self-enforcement condition, the firm will discontinue the implicit contract upon the introduction of state welfare programs. Therefore, state welfare provision may *replace* private welfare provision.

4 Evidence from Company-level Data

4.1 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 historical evidence is predominantly descriptive and qualitative with the exception of the BLS and NICB surveys. These survey data, however, are aggregated to the industry or national level, and to my knowledge,

the original questionnaires of these surveys did not survive. The difficulties of using the survey data are multiple. First and foremost, the aggregation hides firm-level heterogeneity, which could be substantial judging from recent company studies. Second, the survey data contain little information on the number of personnel programs adopted by individual firms or the quality of the programs. Third, since the surveys cannot be linked, one cannot create time-series data to assess the impact of the depression controlling for the nature of corporate welfarism.

To test the implications of the implicit contract theory, the paper compiles company-level data. 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 intentionally biased towards “elite employers” on the assumption that if there were any employers who were able to maintain corporate welfarism during the Great Depression, these firms were most likely to be able to do so. **Table 3** reports basic company characteristics, such as products, technology, capital intensity, and skill composition. Nine of them were the members of the Special Conference Committee (SCC), which was formed by ten business leaders in 1919 to study industrial relations policies and exchange related information.

For each company, the paper measures 1) the nature 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 mainly from corporate publications (e.g., annual reports, employee magazines, benefit pamphlets), trade journals, Moody’s manual, CRSP financial data, and NLRB publications. The

informational content of annual reports varies substantially from company to company: in addition to income statement and balance sheet, some firms reported their personnel programs in detail including qualitative and quantitative information.¹² 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 in collecting establishment-level data, the paper instead uses company-level data and assumes that the within-firm heterogeneity was smaller than the inter-firm heterogeneity. This assumption is partially supported by the fact that most HRM practices were designed at the corporate level and introduced to its establishments.

4.2 Preliminary Findings

Table 4 presents the proxy variables for the nature of corporate welfare programs prior to the Great Depression. In Section I, I select 17 representative HRM practices and divided into the three categories: a) incentive contracts, b) human capital investment, and c) internal enforcement mechanisms. I report whether or not a company had a given program in 1929, and if “yes,” I also record the number of years the program had been in operation. If a company had had a plan but abolished it before 1929, it is recorded as “no (past).” If a plan was exclusively for white-collar employees, it enters as “no.” A blank cell indicates a lack of data. The comprehensiveness of corporate welfarism is measured by the total number of personnel programs in operation in 1929. In addition to the comprehensiveness, I also measure the “quality” of corporate welfarism by estimating corporate expenditures on welfare programs based on annual reports and other corporate documents. Although incomplete, in Section II of Table 4, I report the substantiveness of corporate welfarism measured by 1) total corporate welfare expenditures

¹²Even before the 1933 federal regulation, the annual reports of the sample firms were audited by a third party and thus assumed to be reasonably reliable. For most firms, the format and content of their annual reports show no notable change before and after the SEC regulation.

in 1929, 2) welfare expenditures per employee, and 3) welfare expenditures as a percentage of annual factory 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 the 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.

According to 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 In terms of the substantiveness of corporate welfarism, most firms annually spent several million dollars in their personnel programs pertaining to blue-collar workers.¹⁴ The welfare expenditures at WE, GE, P&G, SONJ, EJ and KODAK were particularly high, exceeding 5% of annual factory 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 mechanisms including ERP 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) the price of common stock. The data show substantial inter-firm variation. The companies that were hardest hit by the

¹³FORD 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)).

¹⁴Due to the difficulty of obtaining data, presently relatively complete estimates are obtained only for GE, GM, USS, and WE. All figures are preliminary and subject to further revisions. Details of the estimation are available upon request. For GE and GM, see also Tables 7 and 8.

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, as their sales declined by 60 to 70% and their profit by more than 90%. By contrast, the companies that suffered less during the depression are DP, P&G, SONJ, EJ and KODAK, experiencing 20 to 50% decline in sales. IBM was untouched by the depression as it received a steady stream of rental revenues from business and government offices (Engelbourg (1976), p.239).

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 cut, 2) employment reduction, 2) the discontinuation, suspension, and curtailment of welfare programs, and 4) the absence of relief effort by management during the depression. All the firms in the sample instituted worksharing and maintained the employment level, as well as hourly wage, 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, curtailing 50 to 80% of their workforce.¹⁵ In addition to the dismissals, most firms cut back their welfare programs. I use the word “discontinuation” when a plan was discontinued or was suspended indefinitely. The “suspension” refers to the case in which a plan was inactivated by 1934 but subsequently reinstated. Management also “curtailed” their programs by reducing benefits, restricting eligibility, cutting back operations, or increasing employee contribution. The data show that a majority of the stock ownership plans, profit-sharing plans, and housing loans were discontinued. As firms often covertly terminated or revised their programs, Table 5 likely understates the extent of these incidents. I nevertheless find a high rate of discontinuation and suspension at FORD, GM, USS and WE, and a low rate at GTR, P&G, KODAK and IBM. Some companies, however, instituted emergency relief plans during the depression to

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

mitigate the consequences of the repudiation. 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, discontinued a significant fraction of their programs, but engaged in extensive relief efforts.

Since the Wagner Act of 1935 outlawed any employer-sponsored labor organizations including ERPs, employers dissolved their ERPs in compliance with the law. Many ERPs, however, were subsequently reconstituted as *independent local unions* (ILU) unaffiliated to any national unions. Between 1935 and 1941, the National Labor Relations Board (NLRB) found 1,200 cases of company-dominated ILUs in violation of the Wagner Act and ordered their disestablishment. A majority of ILUs were either disestablished or lost against industrial unions in representation elections. The number of ILUs declined from more than 1,500 in 1935 to less than 300 in 1947.¹⁶ Section III of **Table 5** documents the change in the labor-management relations under the New Deal regime. The change is measured by 1) union status and the timing of unionization, 2) the percentage of votes received by ILUs in representation elections, and 3) the nature of union contracts.

I distinguish two types of union status. The first group of firms was organized by industrial unions (CIO or AFL) 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,

¹⁶Mills & Montgomery (1945), p.523 and pp.852-3; Jacoby (2000).

BS, IHC and GTR took more combative stance, but their major plants were unionized by the CIO by 1941. The second group of firms, by contrast, remained largely unorganized by outside unions. At major establishments at WE, DP and SONJ, the ILUs received employees' majority support throughout the 1940s despite the repeated challenges by the CIO and AFL. All of the establishments in P&G, KODAK, EJ and IBM remained nonunion well into the postwar period. Since ILUs were by and large the reconstitution of ERPs, employees' continuing support of the ILUs after the passage of the Wagner Act is an indication of their approval of corporate welfarism. As 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.¹⁷ 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 first contracts signed between management and unions (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, detailed, and legalistic, 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.¹⁸

¹⁷The results of NLRB certified representation elections after 1935 are reported in *The Decisions and Orders by the NLRB*. For example, in the GM Chevrolet plant election in 1938, 3% of total ballots cast went to the ILU, 39% to the CIO, and 58% to the AFL, whereupon the NLRB awarded a certification of representation to the AFL. In the DuPont Belle Works election in 1941, 57% of total ballots cast went to the ILU, 21% to the CIO, and 16% to the AFL, and the ILU received a certification of representation.

¹⁸Vallas (1993); Retzler (1963); Larson, Knowlton & Popple (1971); Feis (1928); Procter & Gamble Co. (1937); Jacoby (1997); Zahavi (1988).

4.3 Interpretation

Although the above data are incomplete and subject to further revisions, the paper finds considerable heterogeneity among the fourteen elite welfare capitalists. **Table 6** summarizes the findings and ranks the companies according to a) the level of prior managerial commitment, b) the severity of the depression, c) the degree of the repudiation, and d) the change in labor-management relations under the New Deal. Although the sample size is too small to test for statistical significance, the table indicates three qualitatively distinct patterns of experience. First, there is a set of firms, such as P&G, DuPont and Standard Oil of New Jersey, that implemented corporate welfare programs with strong internal enforcement, experienced a relatively mild impact of the depression, and exhibited a low degree of the repudiation. Second, there is a set of firms, such as GE, International Harvester and Bethlehem Steel, 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 the repudiation. Third, there is a set of firms, such as GM, U.S. Steel and Ford, that instituted corporate welfare programs with weak internal enforcement, suffered serious consequence of the depression, and showed a high degree of the repudiation.¹⁹ In other words, the degree of the repudiation of implicit contract is *positively* correlated with the severity of the depression and *negatively* correlated with the effectiveness of internal enforcement mechanisms.

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 legalis-

¹⁹There is the fourth set of firms, IBM and possibly Endicott Johnson, who had relatively weak internal enforcement and experienced a mild impact of the depression, but the data are too incomplete to draw any conclusion.

tic. Taken together, the data identify positive correlations between the degree of the repudiation during the depression and the change in labor-management relations under the New Deal. In summary, the preliminary findings from the company-level data are consistent with the implications of the implicit contract theory, confirming Jacoby's original insights.

5 Case Study Analysis

To supplement the quantitative data and investigate the causal relations implied by the implicit contract theory, this section presents a comparative case study of General Electric and General Motors. Both GE and GM were the 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 (approximately 70% sales decline). Yet, as shown above, they differed considerably in their responses to the depression as well as in the subsequent development in labor-management relations. Did the "internal enforcement mechanisms" really matter? Did the "repudiation" by management have a significant impact on employees' beliefs? The following analysis documents an internal dynamics that led to the divergent outcomes and confirms a subtle but important role of the internal enforcement mechanisms.

5.1 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, light, 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 for free of charge (Duncan (1932), p.81).

After experiencing the 1921 recession, GE undertook some measures to increase financial stability of the existing plans. In 1922, it set up a pension reserve financed by company contributions. In the same year, the company replaced the employee stock ownership plan by a savings and investment plan and established the GE Employees Securities Corporation (GEESC) to centralize investment management. In the new plan, an employee could purchase ten-year bonds issued by the GEESC bearing 6% of interest, to which the company promised to add 2% as long as the original purchaser remained employed and retained the bonds (AR 1930). The 8% interest was considerably higher than a risk-free interest rate that was below 4%. The GEESC invested its funds in GE stocks and securities of major public utilities, and it soon became the largest single holder of the GE common stocks. 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 revised plant-level home ownership plans and adopted a uniform plan to assist employees to purchase homes (AR 1925).²⁰ In 1928, to further consolidate the financial basis, 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, to which employees with more than five years of service were required to participate. By

²⁰The detail of this plan is 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.

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 in electrical products both in capital goods (industrial motors, turbines, generators) and 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.²¹ 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, requiring knowledge and experience, and the emphasis was on product quality rather than quantity. Management emphasized the importance of retaining not only skilled but also semiskilled employees, as the latter obtained most of their skills through on-the-job training. In fact, a study at the Lynn Works found that the cost of turnover was higher among the semiskilled than among skilled craftsmen.²² In general, "employees long in the service have acquired experience and greater skill and consequently have more value" to the company, observed management (AR 1928). In other words, GE management viewed the returns from human capital investment relatively high.

The company had operated a formal apprenticeship system to train skilled mechanics, draftsmen, designers, and engineers since 1902. At Schenectady and Lynn, a separate apprentice department oversaw extensive training courses offered at the Apprentice School for grammar-school graduates and the Engineering School for high-school graduates. As early as in 1912, there were 400 apprentices enrolled in four-year training courses at Schenectady alone (BLS (1913)). The system combined practical training in the shop and classroom instruction given by full-time company instructors. Each apprentice was paid relatively low wages during the program and awarded a bonus at the end of completion contingent on satisfactory performance.²³ Graduated

²¹Schatz (1979), p.588.

²²Alexander (1914); Alexander (1916).

²³The bonus was, if paid in full, \$100 for the four-year courses and \$75 for the three-year courses in 1924.

apprentices were encouraged to remain in the service of GE. Upon graduation, the company offered jobs to well-qualified graduates as far as business conditions permitted.²⁴ 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 apprentice graduates of 1903-17 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 a 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. The company also provided a number of educational loan funds and scholarships for employees.²⁵

At GE, employees were actively involved in personnel activities. To enlist employees' cooperation in promoting safety, the company instituted a safety committee at every shop by the late 1910s. A formal suggestion system was put in place in 1922, accepting suggestions for improving working conditions and the greater safety or 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 total \$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 the summary of ERP meetings and even reprinted the balance

²⁴The Apprentice System, West Lynn (1924); Nelson-Rowe (1991), pp.36-8.

²⁵Duncan (1932), pp.41-53.

sheet and income account of the GEESC.²⁶ The company distributed employee handbooks and benefit pamphlets that clearly laid out the rules and regulations of welfare plans, notifying any revisions. In a characteristic manner, the company pension pamphlet tabulated expected pension benefits according to weekly earnings and years of service for a clear exposition.²⁷ 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 basic principle, the details of 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 plan and elections, 2) mutual adjustment of wages and working conditions, 3) efficiency, economy and suggestions, 4) safety, 5) athletics, health and entertainment, and 6) education. The plan thus facilitated joint employer-employee administration in major welfare programs. Regular meetings of the ERP were held monthly and the minutes of meetings were posted on bulletin boards (Plans of Representation of Employees, Erie Works (1920)). 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 against the decisions concerning transfers, layoffs, or discharges in case of workforce reductions. The industrial service department kept suitable records to protect employees' continuity of service.²⁸

Interviewing managers and workers at Lynn two years after the introduction of the ERP, Morrow (1921) reported that, although various criticism and concerns were voiced, there was

²⁶GE Schenectady News (1928).

²⁷Group Life Insurance Plan; Pension Plan; Additional Pension Plan, GE (1929).

²⁸Plan of Representation, Lynn Works (1923); Information and Rules for Employees, GE (1922).

a shared opinion that the Plan had provided intercommunication 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).²⁹ Based on his first-hand observations at Schenectady, Derber noted that initially the plan was simply a “sounding board” for management policy, but “as realization grew that no more effective means of representation was near, efforts were made to utilize and extend the plan.”³⁰ During the 1920s, employee representatives played an increasingly active role in communicating employees’ viewpoints to management, which resulted in the adoption or modification of several welfare programs upon employee initiative.³¹

Table 7 reports GE’s annual welfare expenditures estimated based on annual reports and other sources. These expenditures include the cost of providing pensions, supplementary compensation, and group life insurance, the cost of operating the savings and investment plan and the suggestion system, and the cost of publishing employee magazines. The expenditures reported are net of employee contributions, and any plans exclusively for white-collar employees are noted as such. Due to the lack of data, the expenditures relating to training and education, ERPs, medical services, recreational activities, and administrative costs are not included. Therefore, these numbers should be considered as a lower bound of the actual expenditures. In 1929, the company spent approximately \$10 million or 6.4% of annual payroll on major welfare programs, which amounted to \$118 per employee. 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

²⁹This number is not necessarily high compared to that of Bethlehem Steel, where out of 2,316 cases handled between 1918-23 73% were settled in favor of the employee (Calder (1923)).

³⁰Chapter 14 by Derber in Millis (1942), p.749.

³¹Morrow (1921); Millis (1942), p.750; AR 1927; Hirao, T. et al. (1998), Chapter 6.

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 1914-26 (Wise (n.d.), p.283).

The electrical industry was hard hit by the Great Depression, recording 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 1929-1934; Schatz (1983), p.60). 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), p.58). 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 ambitious program of employment stabilization. At its core was an unemployment pension plan, which operated under the principle of equal contribution and joint administration between management and employees (GE Unemployment Pension Plan (1930)). Accordingly, the level of employment and corporate welfare expenditures remained relatively unchanged during the first two years of the depression.

In 1931, however, the company cut wages by 10% breaking its earlier pledge to President Hoover. By the end of 1932, GE factory workers lost large part of their welfare benefits: the company suspended the 5% supplementary compensation, discontinued the home-mortgage assistance, and cancelled the paid vacations (Schatz (1983), p.60). The savings and investment plan was revised, reducing interest for newly issued bonds from 6% to 5%. Most importantly, despite the fact that extensive worksharing, transfers, hiring freeze, and other methods to main-

tain employment were tried, 53% of GE employees lost their jobs by 1933. According to the company rules, employees who had been laid off for more than 12 months lost their continuous service records (Information and Rules for Employees (1922)). Workers were deeply disturbed by curtailed benefits, decreased work, reduced earnings, and depression layoffs (Millis (1942), p.751). In addition, as the depression deepened, personnel policies 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 flared discontent 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 by 30% during the depression.

Stimulated by these concerns, a small group of workers at Schenectady secretly started a union in 1932. With the passage of the NIRA in 1933, the union openly came out and began organizing GE employees in earnest. In response, management renamed the ERP “workers council” and withdrew management representatives, creating a formidable competition for the union. As the business conditions recovered, the company gave increasing concessions to workers through workers council, including wage increase, new overtime pay, and the restoration of supplementary compensation in 1934. Upon the passage of the Wagner Act in 1935, management made further modification to workers council, which received 86% of votes at Schenectady in a company-held election. In 1936, the union, which had become the Local 301 of the United Electrical and Radio Workers of America (UE) by then, filed a petition with the NLRB for an election. Despite the widely-held expectations that workers council would win, the final vote was 5,111 to 4,033 (56% to 44%) in favor of the UE. Workers council was disbanded three days after the NLRB certified election. The top management of GE then decided to voluntarily accept the

UE on a corporate basis to the surprise of union officials (Millis (1942), p.751; Schatz (1983), p.63).

Despite the management's decision, the subsequent organization at GE proved difficult. By 1938, the UE had organized seven plants employing about 30,000 workers, but more than 45,000 workers remained unorganized. After the Supreme Court's decision in 1937 to validate the Wagner Act, workers councils became independent local unions (ILUs) and kept challenging the UE in NLRB certified elections. Contemporaries noted employee loyalty to the company as the major obstacle to unionization. The extensive welfare plans, performed 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.³² In fact, even though the corporate welfare expenditure declined by 40% between 1929 and 1933, at the bottom of the depression the company still spent \$6 million on welfare programs or impressive \$145 per employee. As the company restored some and instituted new plans, by 1937 the level of corporate welfare expenditures surpassed that of 1929 (see **Table 7**).

Even though the economic crisis and the unionization process strained the labor-management relations at GE, they showed remarkable continuity before and after the depression. The first GE-UE contract signed in 1938 was, in principle, the *restatement* of existing corporate HRM practices. During a contract negotiation, the UE proposed management to convert a company booklet into a one-year national contract with minor changes, to which management agreed.³³ 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.³⁴ The corporate welfare programs pertaining to blue-collar workers, such as group insurance, paid vacations, and supplementary compensation,

³²Chapter 14 by Derber in Millis (1942), p.759.

³³The booklet, GE Q105A, written in 1934 by management, had stipulated corporate personnel policies covering wages, hours, overtime, procedures on layoffs and promotions, and various benefits plans.

³⁴Matles & Higgins (1974), pp.83-8.

continued to exist with little or no modification. One important change was seen 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 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.

5.2 General Motors

To the eyes of contemporaries, GM was a nation's leading welfare capitalist as well as auto manufacturer. The company operated a large-scale housing program for its employees 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 some of the plans. 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 the amount equivalent of 50% of the employee's savings to a separate investment fund, which would be

invested in GM common stocks. 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 company 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 the minimum benefits equal to 50% of their original savings, and the benefits were 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 the savings made in the early 1920s regularly surpassed 300%. Accordingly, the number of employees participated 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 the payments of on average \$435 for the initial savings of \$124. Of the deposits made in 1925, one-third was 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 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 policy. 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).

GM's main products were automobiles. In 1930, 24% of wage earners in the U.S. automobile industry were skilled and 74% were semiskilled or unskilled (U.S. Census of Manufacturing (1930)). Contrary to popular belief, less than 20% of the workers in the industry were engaged

in assembly-line operations.³⁵ Since the early 1920s, GM was involved in training autoworkers at 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).

In sharp contrast to GE, GM adopted few policies to facilitate labor-management communication and employee involvement during the 1920s. The company did not adopt any ERPs 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 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).

Table 8 reports GM’s annual welfare expenditures estimated based on annual reports and other sources. These expenditures include the cost of operating the S&I plan, stock ownership plan, group insurance plan, in addition to the expenditures on medical and health services. Due to the lack of data, the expenditures relating to the housing program, training and education,

³⁵In 1935, 24% of GM employees in Flint were skilled mechanics, machinists, and blacksmiths, 55% were semiskilled operators, 9% unskilled laborers, and the rest were white-collar employees, such as clerks and officers (Fine (1969), p.54).

recreational activities, and administrative costs are not included. GM did not have a pension plan, paid vacation plan, or ERPs during the 1920s. In 1929, GM spent approximately \$9 million, which was 2.3% of annual payroll or \$39 per employee. The reasons for the lower corporate welfare expenditures per employee at GM compared to GE are twofold: first, the number of welfare programs was smaller and, second, many of them were joint-contributory, that is, employees shared the cost.

The automobile industry was as hard hit by the Great Depression as the electrical industry, recording 74% decline in the level of production. At GM, total sales declined by 71% and stock price by 90% during 1929-33. Like GE, GM also remained in the black throughout the depression, but dividend payments far exceeded the net income in 1931 and 1932. In 1932, the company paid no executive bonuses and cut back its dividends on the 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. GM reduced its workforce relatively 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 stock price, the company dropped the clause in the S&I plan that guaranteed the payments at maturity equal to 50% of the original deposits (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, the amount of total withdrawals reached \$78 million, at which point management 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.³⁶ 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 withdrew 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 1928-33). 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.³⁷

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 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).

³⁶By 1939 GM completely divested from the subsidiary housing companies.

³⁷Fine (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, the congressional hearings led by the La Follette Committee discovered illegal antiunion practices conducted by GM management since 1933.³⁸ As the findings were widely publicized, the reputation of GM as a welfare capitalist fell apart. Even though the sit-down strike was widely deemed 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. 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 in layoff and rehiring. In the 1938 NLRB certified election held at the Chevrolet plant, only 3% of GM employees voted against trade 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 practices 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 (see **Table 8**). The S&I plan was discontinued as of 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

³⁸ 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 in espionage, strikebreaking, and munitions (Committee on Education and Labor (1937)).

than five years of service who were affected by business conditions, and the advances were to be deducted from employees' future wages. In the next two years the average amount of advances made per employee was only \$40, and the plan was discontinued in 1942. 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.

5.3 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 employees' monitoring, GM 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. GM introduced ERPs in haste after the NIRA which received little support from employees during unionization process, whereas ERPs at GM 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 adoption of more implicit and discretionary contracts.

The case study analysis also provides new insights that merit further theoretical and empirical investigation. The analysis so far takes 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 Sloan – 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. Anecdotal evidence suggests that the skills and knowledge possessed by blue-collar workers at GE might have been more firm-specific and more indispensable than those at GM. In other words, the nature of the human capital and its importance may explain the difference in a mix of HRM programs and the level of commitment chosen by employers. In future empirical work, among other things, the paper will further examine this hypothesis by developing appropriate measures for employee human capital.

6 Concluding Remarks

Did American welfare capitalists breach their implicit contracts during the Great Depression? This paper documents that some did but *some did not* and investigates the reasons for the disparate outcomes. The paper substantiates Jacoby's hypothesis based on implicit contract theory and examines its implications using company-level data and a comparative case study. The preliminary findings indicate that, in addition to the severity of the Great Depression, the level of managerial commitment to corporate welfarism was an important factor in explaining the observed heterogeneity, confirming the predictions of the implicit contract theory.

In interpreting the findings in a broader historical context, it must be noted that the fourteen companies studied in this paper were among the largest and most resourceful employers in the U.S. economy. Therefore, the firms, such as DuPont, Procter & Gamble and Standard Oil of New Jersey, who maintained their corporate welfare 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 the U.S. employers who had experimented in corporate welfarism: management breached implicit promises facing an unprecedented depth and duration of 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 an increasingly popular view that corporate welfarism was mere antiunionism that had little implication for efficiency improvement.

As the government instituted collective bargaining laws and social welfare policies prompted by the depression crisis, it became harder for the welfare capitalists who had survived the depression to continue their HRM practices based on implicit contracts and internal enforcement mechanisms. The failure of private welfare capitalism, or the perception thereof, and the shift in the legal framework together created path dependence in the course of institutional development, which eventually led to the postwar American industrial relations system characterized by explicit contracts and third-party enforcement (Moriguchi (2000)). This is not to say that private welfarism had disappeared, as large unionized firms provided even greater welfare benefits and job security based on seniority rights to their blue-collar employees during and after WWII. Instead, the paper shows that the nature of private welfare capitalism was *transformed* from implicit to explicit contractual relations after the Great Depression in major unionized establishments. Only in the last two decades, the nonunion model of HRM practices characterized by implicit contracts and discretionary corporate benefits have begun to spread again in U.S. manufacturing establishments.

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Table 1. Growth of Corporate Welfare Programs, 1917 and 1926

Corporate Welfare Programs	Plants Adopting Program	
	In 1917 (431 plants)	In 1926 (430 plants)
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%)
Legal Aid for Employees	48 (11%)	300 (70%)
B. Human Capital Investment		
Employee Classes	72 (17%)	140 (33%)
Company Libraries	99 (23%)	127 (30%)
C. Internal Enforcement Mechanisms		
Picnics or Outings	140 (33%)	177 (41%)
Social Gatherings	239 (56%)	316 (74%)
Athletic Teams	142 (33%)	223 (52%)
Recreational Facilities	152 (35%)	235 (55%)
Mutual Benefit Association	80 (19%)	214 (50%)
Joint Administration	200 (46%)	343 (80%)

Source: BLS Bulletin No.250 (1919); BLS Bulletin No.458 (1928).

1) The 1917 sample consists of 431 large establishments with 1.66 million employees; the 1926 sample consists of 430 large establishments, many of which were revisited since 1917, with 1.98 million employees.

2) All the programs were for blue-collar workers.

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) Saving plans included saving & loan funds, saving & investment funds, building & loan funds.

6) Social gatherings included dances, parties, and banquets.

7) Recreational facilities included clubhouses, bowling alleys, gymnasiums, and others.

8) Mutual benefit associations listed here were all partially or wholly supported by the employer and provided sickness, accident, and death benefits.

9) Joint administration includes employee participation in welfare administration through ERP, mutual benefit associations, employee committees, and other employee organizations.

Table 2. Prevalence of Corporate Welfare Programs in 1928

Corporate Welfare Programs	Small Plants (4,409 plants)	Large Plants (1,676 plants)	Total (6,085 plants)
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
Group Meetings	300 (6.8%)	251 (15%)	551
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
Mutual Benefit Association	198 (4.5%)	498 (30%)	696
ERP	110 (2.5%)	146 (8.7%)	256

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

- 1) The number of plants adopting each welfare program is shown. All the programs were for blue-collar workers and were not required by law.
- 2) The survey covered 4,409 "small plants" employing 250 workers or less and 1,676 "large plants" employing more than 250 workers.
- 3) Saving plans included saving & loan funds, saving & investment funds, building & loan funds.
- 4) Housing plans included company housing programs 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
Main Products	automobile	automobile	steel & iron	steel & iron	agricultural machinery	rubber tire	telephone equipments	electrical machinery	explosives	soap, oil	petroleum	leather shoes	film, camera	business machinery
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
Labor Cost	Low	Low	Low	Low	Middle	Middle	Low/Middle	Low/Middle	Low	Low	Low	High	Middle	Middle
% of Skilled Employees	Low	Middle	Middle	Middle	Middle	Middle	High	High/Middle	High	Middle	High	High	Low	Middle
Market Share	30%	30%			over 90%		over 90%						over 90%	over 90%
SCC Membership	no	1919-	1934-	1919-	1919-	1919-	1925-	1919-	1919-	no	1919-	no	no	no

TABLE 4: CORPORATE WELFARE PROGRAMS 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 ownership	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		
Exp. per employee		\$40	\$40	at least \$65			\$90	\$120		at least \$90	at least \$80	\$100		
Exp. 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%	n.a.	-51%	-49%	-37%	-25%	-5.6%
Net income change	-122%	-100%	-99%	-97%	-110%	-95%	-115%	-94%	-66%	-45%	n.a.	-79%	-77%	-11%
Stock price change	n.a.	-90%	-93%	-95%	-92%	-96%	-70%	-91%	-90%	-78%	-68%	n.a.	-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%	n.a.	-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 suspended	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	legalistic	legalistic	legalistic					implicit		implicit	implicit			

TABLE 6: SUMMARY OF COMPANY-LEVEL DATA			
A. Level of Managerial Commitment	B. Severity of Great Depression	C. Degree of Repudiation	D. Change in L-M Relations
<i>High</i>	<i>Severe</i>	<i>High</i>	<i>Large</i>
IHC	Ford	GM	GM
GE	Western Electric	Ford	US Steel
P&G	IHC	US Steel	Ford
Goodyear T&R	GM	<i>Intermediate</i>	<i>Intermediate</i>
DuPont	US Steel	Western Electric	Bethlehem Steel
Standard Oil NJ	Bethlehem Steel	GE	Goodyear T&R
Bethlehem Steel	GE	Bethlehem Steel	IHC
<i>Intermediate</i>	Goodyear T&R	IHC	GE
Western Electric	<i>Intermediate</i>	Goodyear T&R	<i>Low</i>
Kodak	DuPont	Endicott Johnson	Western Electric
<i>Low</i>	P&G	<i>Low</i>	DuPont
Ford	Standard Oil NJ	DuPont	Kodak
US Steel	Endicott Johnson	Standard Oil NJ	Standard Oil NJ
Endicott Johnson	Kodak	Kodak	P&G
GM	<i>Mild</i>	P&G	Endicott Johnson
IBM	IBM	IBM	IBM

