The Evolution of Employment Systems in the United States and Japan, 1900–1960: A Comparative Historical and Institutional Analysis

By the early 1960s the employment relations pertaining to blue-collar workers observed in large unionized manufacturing firms in the United States and Japan offered an intriguing contrast.¹

The employment relations that had developed in American establishments tended to be based on explicit, elaborate, and legalistic contracts between employers and craft-industrial unions. Employment practices were characterized by narrow job definitions, finely graded wages explicitly linked to job titles, low investment in employee training and education, promotions and layoffs based on well-defined seniority rules, and contractually established fringe benefits. Disputes over implementation and interpretation of the contracts were typically brought before a legal third party through a formal grievance mechanism.

By contrast, the employment relations observed in Japan tended to be based on implicit, informal, and ambiguous contracts between employers and enterprise unions, which were internally enforced through long-term interactions and reputational concerns. Employment practices typically incorporated broadly and ambiguously defined jobs, high firm-specific human capital investment, periodic wage raises and promotions set crucially on the basis of subjective performance evaluations, provision of a variety of company welfare benefits beyond and above legal obligations, and implicit employment guarantees for regular workers. Joint labor-management councils were widely used among the Japanese manufacturing establishments in order to facilitate prior consultation, and most disputes over the agreements were settled informally by negotiation within the firm, without appealing to a legal third party.

Starting from these observations, this dissertation explores the origins of the distinctive employment relations in the two countries from a comparative historical and institutional perspective.² The dissertation consists of two parts. The first part develops a game-theoretic framework as a basis for a comparative historical analysis and proposes a hypothesis concerning the process of equilibrium selection. The second part offers an empirical analysis of the evolution of employment systems in the United States and Japan, and establishes consistency between this hypothesis and the historical evidence. In particular, the comparative historical analysis documents contractually similar initial conditions in the two economies around 1900, parallel institutional developments during the 1910s and 1920s, and a subsequent process of bifurcation in the early 1930s, followed by a process of institutionalization.

¹ This dissertation was completed in the Department of Economics at Stanford University under the direction and guidance of Professors Avner Greif, Gavin Wright, and John Pencavel.
² For the seminal work, see Jacoby, Employing Bureaucracy, for U.S. history; and Gordon, Evolution, for Japanese history of employment relations.
THEORETICAL FRAMEWORK

Recent applications of game and contract theories to the study of economic institutions have deepened our understanding of institutional diversity, by viewing distinctive institutions as different equilibria of an appropriately defined game. Following this literature, in this dissertation, I define “employment systems” as equilibrium outcomes of a game played by three players—management, labor, and government—who pursue their objectives as they strategically interact with one another. In other words, an employment system is defined as the set of mutual best responses, and the set of beliefs which support those best responses.

At the level of a firm, repeated interactions between an employer and workers shape employment relations, taking production technology, labor market conditions, government regulation, and labor law as given. Using a repeated-game framework, I characterize employment relations in American and Japanese firms in the 1960s as an explicit contract equilibrium and an implicit contract equilibrium, respectively. At the level of an economy, the government chooses a legal framework and social welfare programs to maximize its objectives. Government policies thus affect strategy sets and payoffs of private agents within firms. At the same time, firm-level employment relations impact government payoffs by changing the level of industrial production, the income distribution among constituents, and the demand for social welfare. The strategic interactions between private agents and the government give rise to equilibrium employment systems that consist of a set of mutually reinforcing institutions, where the presence of strategic interdependencies among the players often leads to a multiplicity of such systems.

If employment systems in the United States and Japan in the 1960s are viewed as two distinct equilibria of the same underlying game, understanding the evolution of employment systems is equivalent to understanding the dynamic process of equilibrium selection. The existing game and contract theories, however, provide only impartial insights on this issue. In conducting a comparative historical analysis, this dissertation introduces two empirically important factors relevant to the process of equilibrium selection. The first factor is the existence of “unanticipated shocks,” such as wars and depressions, that exogenously change the parameters of the game or the nature of strategic interaction. The second factor is what I call “institutional capital” (physical and human capital, reputations, coordination, organizational knowledge, legal expertise) that the players accumulate over time as they play particular equilibrium strategies.

Consider initial conditions in an economy, characterized by parameters of the game and institutional capital determined by prior history. When an unforeseen event occurs, it changes the parameters and induces endogenous strategic responses by management, labor, and government. Importantly, the players derive their best responses contingent on existing institutional capital that was formed without anticipating the event. Institutional capital accumulated in the past thus shapes and constrains today’s decisions, creating path dependence. As a particular equilibrium is realized in the economy, there is subsequent accumulation of institutional capital associated with this equilibrium, which, in turn, forms new initial conditions for the next unforeseen event, upon which further institutional development will be built.

What is crucial in determining the direction of institutional development is the relative size of the two factors—an unanticipated shock and institutional capital. There is continuity

3 See, among others, Williamson, North, and Greif, Economic Institutions.
4 An implicit contract is defined as a contract contingent on variables that are not enforceable by court. See MacLeod and Malcomson, “Implicit Contracts,” for modeling an implicit contract in a repeated-game framework.
in an institutional trajectory due to the cumulative nature of institutional capital: As the players accumulate institutional capital that reinforces and stabilizes the existing institutional structure, an employment system tends to converge to a given equilibrium. This is what I call the self-reinforcing process of institutional development. A possibility of institutional change, however, arises from an unanticipated shock that triggers a shift in the strategic responses of the players. When the size of the shock is sufficiently large relative to the amount of institutional capital, the institutional trajectory may shift its course, diverging towards a new equilibrium. This is what I call the process of bifurcation. A temporary shock may have a lasting impact on the subsequent institutional development by initiating an endogenous process that amplifies the initial effect of the shock through the accumulation of institutional capital.

**EMPIRICAL FINDINGS**

Based on the foregoing hypothesis, the empirical part of my dissertation traces institutional trajectories in the United States and Japan from the beginning of this century to the early 1960s. The main findings and interpretations can be summarized as follows.

At the beginning of the twentieth century, the employment relations in large American and Japanese manufacturing firms were relatively similar in their contractual nature. Employment contracts were simple, short-term, and individualized, and "employment-at-will" was a prevailing norm in both societies. In both countries, there were competitive labor markets in which wages were determined according to workers' general skills and experience, and production workers—skilled or unskilled—frequently moved among factories seeking higher wages or better working conditions. Employers, in response, invested little in their employees and resorted to dismissal whenever business conditions deteriorated. Personnel management was delegated to foremen who relied on direct monitoring and often coercive methods to induce work effort. As a result, employment relations in manufacturing establishments were characterized by high job turnover, low work commitment, and a low level of trust both in the United States and Japan.

Starting from similar initial conditions, the institutional paths of the two countries evolved in parallel during the 1910s and 1920s. In particular, the First World War (1916 to 1918) created similar economic, political, and social conditions in the United States and Japan. In response to the expansion of firm size, surging labor movements, and the increasing demand for social legislation, business leaders in both countries began to seek industrial peace, higher labor productivity, and better working conditions. Progressive employers voluntarily introduced a variety of corporate welfare programs (such as health insurance, pensions, profit sharing, and housing loans) and employee representation plans for blue-collar workers; this was the movement known as "employer paternalism." It was essentially a long-term and implicit contract, contingent on noncontractable variables such as loyalty, reliability, and work commitment.

During the 1920s the proponents of employer paternalism in the United States and Japan gradually won trust from their employees and the public. When the Great Depression unexpectedly hit both economies in 1929, major employers in both countries instituted work sharing and made considerable effort not to layoff workers. As the Depression deepened in the United States, however, a majority of large American manufacturing firms repudiated their implicit contracts, resulting in a decline of the workers' welfare, a loss of

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5 The empirical analysis is based on primary published sources (including company pamphlets, journals, and government documents) in English and in Japanese as well as on extensive secondary sources.
firm-specific human capital, and collapse of employers' reputations. By contrast, the shorter and less severe Depression in Japan did not induce most employers to renege on their promises.

This initial bifurcation triggered the endogenous formation of labor laws in the two countries during the 1930s. In response to the economic and social conditions set off by the Great Depression, the governments in the United States and Japan attempted to facilitate economic recovery through legalization of business cartels and trade unions. In the United States, trade unions sharply increased their membership and political voice under the NIRA (1933 through 1935). By contrast, union legislation was repeatedly blocked in Japan by business leaders who maintained better reputations compared to their American counterparts. While the Japanese government gradually developed labor policies that were complementary to employer paternalism, the U.S. government eventually established a new legal framework during the New Deal period that seriously undermined the viability of corporate welfarism. Subsequently, American employers and unions developed collective agreements based on the assumption of adversarial labor-management relations and third-party enforcement.

The Second World War (1939 to 1945) induced the United States and Japanese governments to enact stringent labor regulations to maximize wartime production. The respective governments designed laws and orders building largely on the employment practices and legal frameworks that had developed prior to the war. In addition, the strategic reactions and selective compliance of private agents made regulations that were compatible with ongoing employment relations more effective. Consequently, wartime government regulations contributed greatly to the institutionalization and diffusion of existing employment practices in the respective economies. The emerging difference between the employment systems in the United States and Japan in the late 1930s was reinforced during the Second World War, leading to further divergence of the two institutional paths. Consequently, by the mid-1940s, two distinctive sets of employment practices were taking shape in major manufacturing firms in the United States and Japan. Employment relations in U.S. establishments were based on explicit and detailed contracts between employers and trade unions, whereas employment relations in Japanese establishments were based on implicit and long-term contracts between management and employees' councils.

While the United States more or less continued down the same institutional path after the war, the postwar U.S. occupation of Japan (1945 through 1953) was a potential bifurcation point for Japan's institutional trajectory. While Japan went through a serious recession and a drastic labor-law reform a la New Deal, Japanese workers and employers essentially re-established employment relations based on implicit and informal employment contracts that were enforced through reputation mechanisms and joint consultation. This persistence reflected the institutional capital, such as mutual trust, firm-specific skills, and workplace norms, that had been accumulated throughout the prewar and wartime periods.

The empirical findings emphasize the dynamics and complexity of the historical processes that eventually brought about distinctive employment systems in the United States and Japan. It was strategic interdependency that created a multiplicity of possible employment systems, while it was the role of history to select a particular system among other possibilities. The dissertation therefore contributes to the literature in institutional diversity and path dependence by providing an empirical investigation and a promising line of theoretical exploration.

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REFERENCES


