

The State, the Labor Process, and the Diffusion of Managerial Models

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This study examines the autonomous goals of state actors and their administrative and cultural capacities to pursue them. Analyzing qualitative and quantitative data from Palestine/Israel during the years 1940–1960, we study the diffusion of joint productivity councils that use scientific management principles (scientific JPCs). We assess explanations for the diffusion of managerial models offered by theories of state autonomy, efficiency, labor control, and professionalization. We demonstrate that the actions of state leaders interested in stabilizing the economy and financing nation-building projects were a necessary condition for the diffusion of scientific JPCs, which were initially rejected by labor, capital, and industrial engineers. State actors used public policy to foster national and plant-level agreements between labor and capital and launched a moral discourse that framed productivity as a precondition for national survival. This case study brings insights from political sociology and the framing literature to organizational research and offers a new set of factors for understanding the nexus between the state, the labor process, and the diffusion of managerial models. ●

That the state has a role in shaping organizations is hardly controversial. We cannot understand the development of large corporations (Roy, 1997), the rise of internal labor markets (Baron, Dobbin, and Jennings, 1986), or the international diffusion of management models (Guillén, 1994) without studying the state. Still, the mechanisms by which states affect organizations remain narrowly defined in organization theory. The state is usually invoked as part of a passive regulative or cultural arena, which constrains or enhances other social actors (employers, workers, professional groups), but without interests or agency of its own. Taking stock of the role of the state is especially important given growing evidence about the effect of autonomous states on industrial transformations (Evans, 1995; Weiss, 1998) and the rise in tripartite agreements between labor, capital, and the state (Djelic, 1998; Katz, Lee, and Lee, 2004). If states transform industries and shape the macro-political relations between labor and capital, it is likely that they also have a more dynamic effect on organizations and management than previously recognized.

The state hardly featured in organization studies until the 1980s, and initial formulations of the role of the state neglected politics altogether. Neo-institutional theory in sociology has made the most systematic effort to bring the state into organization theory (Meyer and Rowan, 1977; DiMaggio and Powell, 1983; Baron, Dobbin, and Jennings, 1986; Dobbin and Sutton, 1998). Recent studies have sought to understand the state's actions by integrating, more or less consciously, political and institutional approaches. Researchers have examined the effect of social groups on state regulations (Fligstein, 1990; Ingram and Inman, 1996; Amenta and Halfmann, 2000; Stevenson and Greenberg, 2000; Schneiberger and Bartley, 2001; Ingram and Rao, 2004) and the effect of state policies on the goals of interest groups, which in turn affect state policy (Dobbin, 1992; Edelman, 1992). Another strand of research explains state policies as a reflec-

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tion of national policy traditions (Dobbin, 1993) or cultural norms of the world society (Meyer et al., 1997). States are now recognized as sources of change in organization studies, but the independent agenda of state actors, that is, the goals of state managers that cannot be reduced to the interests of other social groups, have not been examined in these studies (but see Baron, Dobbin, and Jennings, 1986). This is where advances in political sociology can inform research on organizations.

In the mid-1980s, political sociologists began to work out the theoretical leap currently required from organizational researchers. Moving away from views of the state as reflecting the interests of capital or of multiple interest groups, political institutionalists began examining state managers as autonomous actors who can pursue their own goals, such as economic solvency, domestic order, and military strength, independently of other social actors and of the party in power (Trimberger, 1978; Krasner, 1984; Evans, Rueschemeyer, and Skocpol, 1985; Skocpol, 1985; Prechel, 1990). Studying industrial transformation in Brazil, India, and Korea, Evans (1995: 12) introduced the term "embedded autonomy," whereby state leaders' and bureaucrats' ties to society are not seen as a source of dependence and lack of agency but as "sources of intelligence and the ability to rely on decentralized private implementation" of state actors' goals. Though most research has focused on state actors' ties to capital, the ties of autonomous state actors to both labor and capital can help them pursue their goals in the economy by forming tri-partite bargains (Evans, 1995: 242; see also Shalev, 1992; Weiss, 1998). Given that such national agreements have gained new life during the 1990s in countries like Ireland, Italy, the Netherlands, Korea, and Australia (Katz, Lee, and Lee, 2004), understanding the autonomous role of state actors in shaping the relations between labor and capital and the implications for organizational change becomes all the more vital. A key arena for exploring the relations between states and organizations is therefore the labor process, which faded away from organization theory after a short-lived renaissance between the mid-1970s and the mid-1980s (Braverman, 1974; Burawoy, 1985) but is relevant to understanding how the autonomous interests of state actors affect managerial innovation.

We studied the diffusion of joint productivity councils (JPCs) in industry in Palestine/Israel between 1940 and 1960, which brought together representatives of workers and management in each plant to discuss ways to improve production. These councils embodied two main features of the labor process devised to extract more labor from workers: the scientific redesign of work and the implementation of a piece-rate wage system. Early attempts to establish JPCs during the 1940s failed, owing to fierce opposition from both workers and employers. In the early 1950s, their diffusion accelerated, and they became widespread and gained new features. Though in the 1940s, JPCs were little more than a few forums for discussing group-pay incentives, during the 1950s, a scientific version of JPCs diffused, whereby council members—workers and managers—were to endorse industrial

engineering principles. These councils were effective in increasing productivity in the firms that adopted them, and perhaps more important, JPCs were the main vehicle through which time and motion studies and the piece-rate wage system were institutionalized in Israeli industry (Tabb, Ami, and Shaal, 1961: 267, 320; Tabb and Goldfarb, 1970: 92). Our goal was to document how state actors, seeking to advance their own interests, promoted diffusion of this managerial change in the labor process.

THE STATE, THE LABOR PROCESS, AND MANAGERIAL MODELS

The two managerial models at the heart of joint productivity councils, scientific management principles and worker participation, have been studied extensively as part of the labor process, or "the task of extracting labor from workers" (Edwards, 1979: 13). Labor process research has traditionally focused on plant-level processes such as the division of labor, job design, deskilling (Braverman, 1974; Marglin, 1974), bureaucratization (Edwards, 1979; Clawson, 1980), worker participation (Fantasia, Clawson, and Graham, 1988; Ezzamel and Willmott, 1998; Sewell, 1998; Barker, 1999), and strategies of labor resistance (Burawoy, 1979; Biernacki, 1995; Smith, 2001; Vallas, 2003). Only a handful of studies have looked at state policy (Burawoy, 1985) or corporatism, in the form of national tripartite agreements between labor, capital, and the state (Cameron, 1978; Katzenstein, 1984), as macro factors affecting the labor process (Strinati, 1990; Hancke, 1993). And, as is the case with organization studies, labor process research has overlooked the interests and agency of state actors, which were assumed to reflect capitalists' interests.

To be sure, the state features in many organization studies that implicitly address the labor process. Those studies have shown that states participate in promoting the labor process either through regulations or corporatist agreements. Institutionalists have pointed to the effect of the American state on the diffusion of labor-control personnel systems during World War II and after the 1964 Civil Rights Act, through public policy (Jacoby, 1985; Baron, Dobbin, and Jennings, 1986; Edelman, 1990, 1992; Dobbin, 1993; Sutton et al., 1994; Dobbin and Sutton, 1998) and by providing institutional templates (Roy, 1997). Others have shown how property rights and antitrust law affect organizational bureaucratic structures (North, 1990; Campbell, Hollingsworth, and Lindberg, 1991; Dobbin and Dowd, 2000). Comparative researchers have explored the role of corporatist alliances between the state, labor, and capital in the diffusion of managerial models. Guillén (1994) found that state collaboration with labor unions was necessary for the adoption of scientific managerial models in Germany, Britain, and Spain (see also Djelic, 1998; Guillén, 2001). In his research on the diffusion of worker participation models, Cole (1985, 1989) found that the labor union in Sweden pushed for state legislation to overcome management's objection to team work in organizations (see also Tomlinson, 1996). Despite extensive evidence that the state plays a role in the labor process in the U.S. and in other societies, there has been no attempt in organization studies and

in labor process research to examine the interest that state actors may have in shaping the managerial field and their ability to act on it. This oversight compromises our understanding of industrial and organizational changes (Ingram and Simons, 2000).

As we discuss below, in the case of the new Israeli state, leaders were interested in quelling labor strife, avoiding wage increases, and increasing productivity as means for achieving political stability, increasing exports, and financing the state-building goals of militarization and immigrant absorption. In the eyes of state leaders in that period, the managerial innovation they sponsored, scientific joint productivity councils, embodied the means to achieve these goals (as in other societies at the time; see Djelic, 1998). Neither labor nor capital was a full partner. Workers feared JPCs would undermine unions and collective bargaining (see also Cole, 1985), while employers objected to workers' participation and, in many cases, to giving industrial engineers a foothold in their plants (see also Shenhav, 1999). Engineers, too, objected to these models, refusing to subsume their scientific inquiries to collective consultation. To achieve their goals in the labor process despite the objections of labor, capital, and engineers, state officials used the state's administrative and cultural capacities to devise public policies and a moral discourse that would transform an initial rejection into broad diffusion.

The State and Normative Framing of Management Change

Weber defined the autonomous state not by its goals but, rather, by its means and its capacity to use them (Weber, 1968). States act as "coercion wielding organizations" (Tilly, 1992: 1), because, by virtue of their redistributive capacities, they have a distinct position over other societal entities (Steinmetz, 1999: 8). Organization scholars and political sociologists have focused on the administrative and redistributive capacities of the state as it shapes the economy and organizations, and we show below that this was the case with Israeli state leaders as well: they sponsored a national tripartite agreement on JPCs, provided tax reductions to workers in plants with JPCs, and gave priority in raw material allotment to their employers. But we also explore state actors' cultural capacity to promote their interests. We show that another channel through which state leaders sought to legitimize JPCs was by promoting a moral cultural frame that equated productivity and JPCs with a well-entrenched public sentiment, the survival of the new Israeli nation.

The role of cultural framing in shaping management innovations has not escaped researchers of organizations, who have generally found that "practices that accord with cultural understandings of appropriate and effective action tend to diffuse more quickly than those that do not" (Strang and Soule, 1998: 278; see also Bendix, 1974; Tolbert and Zucker, 1983; Hirsch, 1986; Dobbin, 1993; Scott and Meyer, 1994; Zbaracki, 1998). Culture is often defined in organization studies in cognitive terms as taken-for-granted schema, rather than as normative, value-laden discursive frames produced

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and maintained by partisan agents seeking legitimacy (DiMaggio, 1988; Fligstein, 2001; Campbell, 2004; Dobbin, 2005). The state is usually viewed as absorbing cultural norms from the world society (Meyer et al., 1997) or reflecting national cultures (Whitley, 1992; Dobbin, 1994). Similarly, the social movement literature once viewed social movements “merely as carriers of extant ideas” (Benford and Snow, 2000: 613). The framing literature that developed in the mid-1980s changed this view: in frame analysis, movement actors are seen “as signifying agents, actively engaged in the production and maintenance of meaning for constituencies, antagonists and bystanders or observers” (Benford and Snow, 2000: 613). We suggest that organization scholars should borrow a page from the framing literature. State actors should be viewed as actively embroiled in the politics of significance (Bourdieu, 1994), because they have the capacity to strategically produce and disseminate normative frames that provide keys for the definition of reality (Goffman, 1974: 119) and prescriptions for legitimate economic behavior for all parties involved: in our case, workers, managers, employers, and state politicians themselves (Caruthers, 1994; DiMaggio, 1997; Dobbin, 2004). This approach does not require the assumption that cultural frames offered by the state will be accepted by all participants; in fact, other groups may offer alternative frames. This approach does encourage a more dynamic analysis of the role of culture and state actors in shaping management models.

Nationalistic framing is a quintessential manifestation of the cultural capacity of the state. Nationalism consists of a normative claim that “obligations to nations should supersede other obligations” (Tilly, 1999: 416). The nationalistic framing of the labor process was evident in the United States during the Second World War, when President Wilson marshaled national sentiment in referring to efficiency as “the supreme test of the nation” (Haber, 1964: 118). Facing a labor shortage in 1941, the American government launched the Rosie the Riveter campaign, convincing women that it was their patriotic duty to enter the workforce despite countervailing norms, their family duties, and lower pay than men received. Similar normative discourses have existed in other countries, such as Germany (Nolan, 1994), France (Boltanski, 1990; Djelic, 1998), and England (Tomlinson, 1996).

As we show below, Israeli state leaders used public media and initiated public rituals to propagate a normative cultural frame equating productivity, and scientific JPCs in particular, with the survival of the Jewish people and the prevention of a second holocaust (see also De Vries, 1997; Frenkel, 2005). We show that this rhetoric was a key player in constructing the context within which the managerial change to JPCs flourished during the 1950s. It was widespread, endorsed by all opposing parties involved in the labor process, and became integrated into the formulation of economic policy.

Alternative Explanations for the Diffusion of Managerial Models

In addition to the role of the state, we assess three alternative explanations for the diffusion of managerial models. Effi-

ciency theorists argue that organizational structures and managerial models reflect rational reactions to market and industrial conditions, such as uncertainty and complexity (Williamson, 1975). Considerations of efficiency, productivity, and coordination of technology in mass production industries advanced the diffusion of scientific management in manufacturing in the U.S. at the turn of the twentieth century (Chandler, 1977). Accordingly, factors such as organizational size, scale of manufacturing, and growth in industrial productivity will explain the adoption of modern management techniques. From the labor control perspective, management models are means for shaping the labor process and appeasing workers. Similar to efficiency theory, here too, mass production plays a role, but because of an increased need to control labor rather than to coordinate complex technology. Labor control theorists also look at labor militancy as causing employers to adopt technocratic solutions, such as scientific management and joint consultation programs (Bendix, 1974; Braverman, 1974; Edwards, 1979; Shenhav, 1995). Labor militancy can be reflected in strikes, though unions may show strength and promote policies that increase their voice even without striking (Jacoby, 1985). Finally, according to neo-institutional theory, professionals and professional ideologies are the carriers of managerial change (DiMaggio and Powell, 1983; Fligstein, 1990; Guillén, 1994; Djelic, 1998; Dobbin and Kelly, 2007). This view is consistent with the new class thesis that identifies technocrats and experts as the new agents of economic order, replacing private owners (Szelenyi and Martin, 1988; Boltanski, 1990). Using a comparative analysis, we examined what role these factors have played in the diffusion of JPCs in relation to the role of the state in bringing about a managerial change.

METHODOLOGY

We conducted a comparative analysis of the period when JPCs were rejected and the period when scientific JPCs diffused widely. We used historical data in a macro-causal analysis (Skocpol and Somers, 1980). In this type of analysis, the researcher selects aspects of the historical cases to “set up approximations to controlled comparisons . . . in relation to a particular explanatory problem” (Skocpol and Somers, 1980: 182). We compared two consecutive decades: 1940–1948, when the colonial British regime was in place, and 1949–1960, the first decade of national sovereignty. Although the first JPC was established in 1945, the first period in our analysis begins in 1940, to make sure that the measures of independent variables precede the measurement of the outcome variable. The unique condition of transition to national sovereignty in 1948 and the quasi-experimental comparative design permits a systematic analysis of the effects of the state, net of factors suggested by efficiency, control, and professionalization explanations. Variables whose values remain similar across periods may have affected the proliferation of JPCs, but they alone do not provide sufficient conditions for this outcome. Had they been sufficient, the outcome would have changed in the first period. Our comparison shows that the state was the only variable that significantly changed

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between the two periods, suggesting that it was a necessary condition for changes in the outcome variable.

Based on a similar analytic logic, we present a supplemental international comparison of indicators of the three alternative explanations for managerial innovation in Palestine in the 1940s (the period of no adoption of scientific JPCs) and in the periods when scientific management was adopted in the U.S., Germany, and England. If indicators of other theories are similar across countries, this will strengthen our conclusion that other theories are insufficient to explain the adoption of scientific management in Israeli industry.

Archival Data and Measures

The study is based mainly on primary archival data, compiled from the Lavon Labor Movement Archive (LLMA), the Israeli State Archive (ISA), and the archive of the Israeli Institute of Productivity (IIOP). The historical materials include reports and minutes from meetings of political parties, workers, engineers, employers, and JPCs; firms' internal productivity reports; correspondence between officials, bureaucrats, politicians, the Industrialists Association (IA), and engineers; daily newspaper reports between 1940 and 1960 from the Hebrew-language newspapers, *Davar*, *Mishmar*, *Haboker*, and *Haaretz*; and Hebrew-language publications issued by industrial engineers and their associations, including *Hamiphah*, the monthly journal of the Israeli Institute of Productivity (IIOP) for 1950–1960.

Joint productivity councils. The outcome variable, the diffusion of joint productivity councils, was measured by the number of JPCs adopted every year between 1945 and 1955. These data were compiled from diverse reports of the National Productivity Council. Some scientific JPCs remained decoupled from formal structures, especially in plants in which labor resistance was strong. Labor resistance existed also in the first period, but in the second period, the state was successful in bridging the gap between labor and capital. In these isolated cases, workers generally refused to forego the collectively bargained raises in lieu of the scientifically based pay incentives imposed by scientific JPCs. Our outcome variable counts only those councils that were actively operating, according to these reports. JPCs changed their features during the period under study, so we collected data both on JPCs that cooperated with industrial engineers and agreed to individual wage incentives and those that did not. Data were not available for all years, and missing data were linearly interpolated. One caveat of the data is that our time series of the number of JPCs ends in 1955 due to limited archival resources. As we show below, however, JPCs' diffusion up to 1955 was rapid enough, more rapid than the parallel growth in industrial employment, to substantiate the claim that their growth in the second period was significantly different from the first period.

Quantitative measures for the explanatory variables were compiled from secondary sources and state statistics collected by the British government and the Israeli Central Bureau of Statistics. Our research focuses solely on Jewish industry in Palestine and afterwards in Israel. The best source of data

on Jewish industry in Palestine was assembled by Jacob Metzger (1998), who merged and adjusted several sources of pre-state statistics to compile a longitudinal series. Because of the limited availability of data, there is some asymmetry in time series data between the two periods. Notes to tables in the findings section detail the years of data available for each variable. For the period prior to 1948 (pre-sovereignty period), we have data mainly for the earlier years, while for the post-sovereignty period, we have data mainly for the later years. These missing data do not compromise our claim that the two periods were similar in terms of our control variables. Because there are more data points at the beginning of the early period and the end of the later period, the interrupted time series probably exaggerates the differences between the two periods. Our data hence provide a conservative estimation of the similarities between them. The absence of significant differences between the two periods, then, would likely be more robust with continuous data.

To test the alternative argument offered by efficiency theory, we used several indicators of industrial development: the *Proportion of the workforce employed in industry* and *Growth in the net product of manufacturing* were measured with data adapted from Metzger (1998) for the pre-state period and from the *Statistical Abstract of Israel* (Central Bureau of Statistics, 1956). We obtained data on *Number of plants* in three labor-intensive manufacturing industries (textile, leather, and steel) from Avitsur's (1989) study of Israeli industry. Finally, we calculated data on *Average plant size* from Nathan, Gass, and Creamer's (1946) study of Palestine industry, the *Statistical Abstract of Israel* (Central Bureau of Statistics, 1956), and the *Industry and Crafts Surveys* (Central Bureau of Statistics, 1964).

To assess the labor control explanation, we used two indicators of labor strength, strikes and union size. For strikes, we used three measures: *Average days per strike*, the *Annual number of strike days*, and the *Percent strikers from total labor force*, adapted from Tabb, Ami, and Shaal (1961). Data on *Percent union membership from total labor force* were adapted from Metzger (1998: 219) and Tabb, Ami, and Shaal (1961).

To test the explanation from neo-institutional theory that professionals are carriers of managerial change, we assessed indicators of professionalization. We compiled data on the *Number of engineering graduates* from the Israeli Institute of Technology's (Technion) records. We also collected archival data on the presence of *Engineers' professional associations*, an *Institute for standardization*, and *Organized engineers' lobbying in industry*. Data for the United States, England, Germany, and Spain used in the cross-national analysis were taken from Guillén (1994: 308–310).

FINDINGS

Our comparative analysis shows that the only significant difference between the two periods lies in the administrative and cultural efforts of state leaders to promote the spread of the controversial managerial model, scientific joint productivity councils, in Israeli industry.

Figure 1. Number of joint productivity councils in Israeli industry, 1945–1955.*

* *Source:* the Israeli National Productivity Council, the Lavon Labor Movement Archive. Data for the number of JPCs exist for years 1945, 1949–52, and 1955; no data for after 1955. Missing years were interpolated.

The Spread of Joint Productivity Councils

Figure 1 presents the growth in the number of JPCs in years for which data are available between 1945 and 1955. From 1945 to 1948, the first period of attempts to establish JPCs, there was almost no change in their prevalence. A fast diffusion of JPCs occurred only in the second period (1949–1955), from almost none in 1949 to 139 in 1955. In these years, JPCs were mainly implemented in manufacturing plants, from steel to textile to leather.

Data from the Israeli National Productivity Council show that the differences between the implementation of JPCs in the two periods were not only quantitative but also substantive, indicating a more thorough implementation in the second period.¹ First, early JPC deliberations did not involve industrial engineers. Rather, JPC members (managers and workers) debated among themselves about the methods that would “enable workers to perform tasks with no disruptions” and about production quotas.² In one plant, for example, JPC workers and managers continuously renegotiated the daily quota of shoes.³ Beginning in 1949, industrial engineers were gradually incorporated into the labor process and became an integral part of JPCs’ activities to form “scientific JPCs.” Although no productivity council worked with industrial engineers prior to 1949, by 1953 nearly 50 percent of the councils relied on the work of industrial engineers. This portion rose to 88 percent of the councils in 1955. The incorporation of industrial engineers was also accompanied by a change in the type of wage incentives offered. Early JPCs in the 1940s established collective wage incentives, sometimes called “automatic premiums.” In the second period, the

¹ LLMA/250-72-3-158.

² Report from a JPC meeting in Vulkan, no date; LLMA/250-27-5-83.

³ Report from a JPC meeting, February 25, 1953; LLMA/250-27-5-224.

incentive structure changed, and by 1953, two-thirds of the councils established individual wage incentives (Globerzon, 1955).

Finally, in the 1940s, there was a consensus that productivity councils did not improve productivity (e.g., Sh'aari, 1954). By the 1950s, this had changed as well. Reports published by the Israel Institute of Productivity (IIOIP) indicate that through "organizational and technical arrangements" and individual wage incentives, industrial engineers "re-designed the work process so as to increase productivity, on average, by up to 50%."⁴ An example is redesigning the job description of the doorman in a leather factory: instead of simply watching the door, the doorman's work was extended to include finishing work on products.⁵ In this factory, industrial engineers reported increases in production by 129–150 percent in various jobs. Another scientific JPC reported that, over a five-month period, workers saved 2482.3 working days.⁶ Such reports may have overlooked lower productivity in plants in which workers' resistance to JPCs was high. Yet observers of the period, including international consultants and researchers who came to Israel in the early 1950s, agreed that scientific JPCs were effective in increasing productivity in most of the factories that adopted them (Sha'ari, 1954; Sobel, 1959; Tabb, Ami, and Shaal, 1961; Tabb and Goldfarb, 1970).

The data indicate that the diffusion of JPCs was not linear in pace and content; these divergent trajectories suggest a significant difference in the factors shaping attempts to establish JPCs and their diffusion in the first and the second periods. During the first period, up to 1948, Jewish industry was under the rule of the British Mandate in Palestine. In the second period, it was under the rule of the newborn nation-state of Israel. The two states took different approaches toward the labor process.

Managerial Innovation and the Two States

JPCs in the 1940s. There were ardent attempts to implement JPCs in the 1940s, primarily by leaders of the General Federation of Workers (GFW), also known as the Histadrut. The GFW was both a central labor union and an owner of industrial plants that grew dramatically during the Second World War. The federation had been governed since the early 1930s by the centrist labor party, Mapai, which faced active opposition within the GFW by parties from both the left and the right. During the 1940s, GFW leaders from Mapai sought to establish JPCs. Abba Hushi, a prominent figure in the GFW leadership, couched these councils in scientific terms in a speech to workers in 1945:

The area of re-structuring of work and making sure the right man stands in the right place has been developing in the world. An entire scientific field has been established. This country has not yet mobilized science for industry but we need to do so, and this is only one of the roles of the productivity councils that we will have to establish very soon.⁷

In 1945, the GFW founded a Central Productivity Council common to the GFW and the Industrialists Association (Kantor, 1977: 175), industry-specific JPCs, and the first plant-

⁴ Report by engineer Itzhak Ben-Tov, August 1953; LLMA/250-778.

⁵ Report from a JPC meeting, February 25, 1953; LLMA/250-27-5-224.

⁶ Report from a JPC meeting, July 3, 1950; LLMA/250-27-5-84.

⁷ GFW council meeting in Haifa, June 27, 1945; LLMA/250-27-5-42.

level JPC in a GFW-owned steel plant. Neither used scientific methods. The GFW's push for JPCs in the 1940s was part of a larger effort to appease internal discontent with the Mapai's leadership of the GFW and mounting labor strife that threatened the labor union's authority in negotiations with employers (Shalev, 1992). JPCs were to promote a class compromise by linking wage increases to higher productivity. For example, in the midst of collective bargaining in the strike-ridden steel industry, the GFW offered to establish an industry-wide joint productivity council (*Mishmar*, September 21, 1945). The opening remark of Chairman David Ben-Gurion in the sixth meeting of the GFW national assembly in 1945 illustrates this agenda: "... only by increasing labor productivity we will prevail" (General Federation of Workers, 1945), referring to workers' demands for higher wages. Unlike GFW leaders, grassroots workers objected to JPCs, arguing that these councils would extract more labor from them without adequate remuneration and weaken their position in wage negotiations.⁸ On their end, employers objected to workers' participation.

The British semi-colonial state did not attempt to promote the labor process through technocratic solutions. Although it established an elaborate system of modern bureaucratic governance and economic infrastructure (Metzer, 1998; Gross, 1982, 1999; Shamir, 2000), the British government saw in Palestine a market for goods from the empire and was not interested in local productivity increases (Shalev, 1992: 146; Gross, 1982, 1999: 174). The colonial regime did not develop labor and industrial policy; it used military force to quell labor unrest. Even during the Second World War, which had a significant effect on the local economy and on the interest of the British Mandate in the labor process and in efficiency, the colonial government did not mount efforts to promote managerial innovations. Most often, local British officials pursued "industrial peace" by tying wage increases to the standard of living index (Nathan, Gass, and Creamer, 1946: 237; Gross, 1985; see also Mitchell, 1988).

Without the support of a powerful institutional actor that could bridge the gap between workers and employers, attaching wages to productivity, even under the framework of joint consultation, was not a viable historical option. Instead, the class compromise that Mapai leaders promoted in 1945 was joint productivity councils, which established collective productivity premiums that were determined through negotiations. These early councils remained narrow in scope, but in terms of the labor process, they were the first step in institutionalizing a discourse on productivity. As one observer noted insightfully, introducing a discourse on productivity was more important than productivity itself (Sha'ari, 1954). Similarly, Boltanski (1990: 345) concluded when studying the French productivity drive, "Importing social technology had priority over transferring material technology."

JPCs and state building. In the second period, however, an active state, headed by former GFW Chair David Ben-Gurion, stepped in to bridge the gap between labor and capital and push for the rapid and widespread adoption of scientific JPCs. The newly established Israeli state had new interests

⁸ Minutes of a GFW council meeting in Haifa, June 27, 1945; LLMA/250-27-5-42.

in the labor process. The transition to sovereignty in 1948 entailed exposure to the global trade economy, as well as costly national projects such as building military strength and absorbing massive immigration. This led to high inflation and a scarcity of foreign currency, raw materials for production, and basic consumption goods (Gross, 1982, 1999: 325). At the same time, labor strife threatened to weaken the economy. State leaders, many of whom were previously GFW leaders, viewed scientific JPCs as the means for coping with these state-building challenges by advancing the labor process, increasing productivity, and appeasing labor dissent (Frenkel, 2005). Scientific managerial techniques and national productivity drives were part of the institutionalized repertoire of solutions to economic challenges in the world society (Meyer et al., 1997) at that time, largely due to the United States' relentless campaign under the Marshall Plan (Carew, 1987; Djelic, 1998), whose influence spilled over to Israel after sovereignty (Troen, 1994; Urofsky, 1995).

Neither capitalists nor workers and engineers were partners to state leaders' goals to implement scientific JPCs in industry. The interests of the state in the labor process only partially overlapped with those of industrialists. Though industrialists were certainly concerned over labor strife, productivity increases were not their top priority. Their profits were guaranteed by state subsidies and tariffs protecting local industry (Gross, 1982, 1999). Employers were unwilling to submit to joint consultation with workers, seeing these councils as "an area for workers to request improvements and to challenge management authority."⁹ And many hesitated to relinquish authority to professional managers, including industrial engineers, and allow "a stranger to call the shots in their plants" (*Hamiphal*, October–November 1953; see also Sha'ari, 1954; Sobel, 1959; Tabb, Ami, and Shaal, 1961; see Shenhav, 1999, for similar objections in the U.S.). The Industrialists Association objected to JPCs from 1945 until 1952, when the government threatened to pass a law mandating these councils, and a tripartite pact mandating JPCs was signed.

Scientific JPCs were not popular among workers either. As one dock worker put it, ". . . if we want to increase productivity we have to make sure that it will not come at the expense of increasing our sweat."¹⁰ GFW leaders were torn between the need to support their constituencies and their symbiotic relations with state leaders, many of whom were members of the same political party, Mapai. In 1949, GFW leaders announced a formal policy of promoting JPCs in all GFW plants, but they did not mandate scientific JPCs. Industrial engineers also resisted joint consultation with workers and managers, claiming that their scientific research could not be subject to negotiation. State actors' repertoire of capacities to bridge the gap between employers and workers and promote scientific JPCs in the face of such opposition included both administrative and cultural means.

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Report by a GFW representative, August 27, 1950; LLMA/250-27-5-84.

10

Memorandum, August 2, 1953; LLMA/250-778.

Administrative Capacity: A Corporatist Pact and Monetary Incentives

State leaders used macro and micro channels of public policy to promote a managerial innovation that institutionalized the

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labor process. At the national level, a tripartite agreement between the state, the GFW, and the Industrialist Association was signed in 1949, mandating wage freezes, and in 1952, mandating the establishments of JPCs in factories with more than 50 workers. These national agreements shaped the labor process, as they established the context in which plant-level negotiations between labor and management took place (Burawoy, 1985). It was now a matter of national policy that wage increases would not be provided outside the productivity framework and that scientific JPCs were to be established.

Achieving the union's agreement to withdraw wage demands was easier than achieving employers' consent to scientific JPCs. The tight personal connections between the GFW and the party governing the state and the GFW's weakness after sovereignty facilitated its cooperation with the state's agenda (Shalev, 1992). With the Industrialists Association, state officials negotiated for two and a half years to sign the pact. In January 1952, the minister of labor, Golda Meirson (Meir), declared the government's intention to pass a law that would mandate scientific JPCs. In May 1952, before the law was passed, the Industrialists Association signed the desired agreement and the proposed law was put on hold (see Tomlinson, 1996, for a similar dynamic in England). The new agreement reflected employers' gains in these negotiations: it did not include a commitment for investment in new manufacturing equipment, which union leaders sought to achieve, and it prohibited JPC members from sharing information with the GFW.

State leaders also devised tripartite institutions for employers, the GFW, and the state for advancing the implementation of scientific management and JPCs in industry. Prominent among these was the Israeli Institute of Productivity (IIOP), which was directed by a joint committee of the state, labor, and industrialists and had sponsored educational activities and efficiency studies since 1949 (Frenkel, 2005). IIOP engineers helped to monitor scientific JPCs in plants and determine eligibility for benefits, as discussed below.

At the factory level, the state provided administrative incentives using tax policy and allotment of raw material. In 1952, the finance minister, Eliezer Kaplan, began providing income tax breaks for workers in factories that used scientific methods in managing production, and the GFW instituted similar union membership tax breaks. State managers took steps to make sure that tax breaks encouraged the implementation of JPCs. They established an advisory committee composed of state, IIOP, GFW, and Industrialist Association representatives that directed the income tax commissioner to favor factories with scientific JPCs in the provision of state tax breaks (General Federation of Workers, 1952). Table 1 presents data obtained for 1952 and 1953, showing that the tax policy significantly favored firms using scientific JPCs over those using any other scientific managerial model. Of those factories that were approved for tax breaks in these two years, 79 percent had scientific JPCs; among those factories that were not approved, only 15 percent used scientific JPCs [Pearson $\chi^2(1) = 25.8476$; $p < .001$].

Table 1

Tax Cuts Approval Rates for Israeli Employers, 1952–1953*

| | Tax Cuts | | Total |
|------------------------|-----------|-----------|-------|
| | Rejected | Confirmed | |
| Scientific JPC present | 4 (15%) | 33 (79%) | 37 |
| No scientific JPC | 22 (85%) | 9 (21%) | 31 |
| Total | 26 (100%) | 42 (100%) | 68 |

* Data source: *Hamifal*, April 1956.

At the same time, the government passed a regulation that gave priority in the allotment of raw materials to employers who proved that they had made efforts to increase productivity (Frenkel, 2005: 282). This policy grew out of the dense social web in local industry. When representatives of the GFW visited plants, employers mentioned the scarcity of raw material as a reason why they did not implement JPCs. GFW representatives relayed this information to the minister of finance, who in turn advocated for the policy in the government.¹¹

Cultural Capacity: Productivity and National Survival

As figure 1 showed, the diffusion of JPCs grew following the introduction of policy initiatives to promote these councils in 1952. But these policies alone cannot explain the diffusion of JPCs. The spike in the diffusion of JPCs began before the pact was signed. And although the 1952 pact covered employers with more than 50 workers, in 1953, 25 percent of the establishments with JPCs were smaller than this.

In addition to using public policy, Israeli state leaders actively promoted a cultural frame that provided a common language for describing JPCs for capital, labor, and engineers. Capitalizing on prominent public sentiments, state leaders framed efficiency, work redesign, piece-rate wages, and JPCs as pre-conditions for national survival and the prevention of another holocaust (see also Frenkel, 2005). This frame was normative and moral: it provided clear precepts for action by demarcating good (productivity, scientific JPCs, national survival) from bad (labor strife, wage demands, resistance to JPCs, second holocaust). In the context of a newly gained sovereignty preceded by the Second World War and the 1948 war, the moral value of national survival was widely shared in the Jewish society in Israel.

Our conception of the role of normative framing is rooted in institutional theory. The frame that state leaders chose to promote provided a prescription for legitimate action for employers, workers, and engineers. Different groups offered different frames, or ways of understanding and dealing with the economic challenges. Grassroots labor framed JPCs in terms of the class struggle and suggested that employers should bear the responsibility for increased productivity; industrial engineers promoted a scientific frame that precluded joint consultation. But alternatives were framed as going against the grain and as immoral (Perrow, 1986). For example, when a representative of grassroots labor criticized JPCs as undermining the class struggle, he was accused of risking

¹¹

One example is a meeting between GFW member Uri Heller and Minister of Finance Kaplan on April 5, 1950; LLMA/250-27-5-83.

the existence of the national economy: "Some won't give up the clash between classes, even if it means that there will be no Jewish industry at all."¹² Similarly, industrial engineers' scientific rhetoric was portrayed as being alienated from the Zionist spirit. The nationalist frame sponsored by state leaders was the one that was ultimately widely endorsed. Our analyses below show that (1) the discourse on productivity as a national goal was pervasive and preceded the rapid diffusion of scientific JPCs; (2) opposing actors involved in the labor process (capitalists, workers, engineers, and state officials) adopted this discourse; and (3) it was reflected in economic policy.

In countless ways, political leaders spread the gospel of productivity, incentive pay, and their moral value. Starting in 1950, the state sponsored a series of national rituals, including annual scientific JPC conferences, annual efficiency prizes for plants with scientific JPCs, and "productivity missions" of JPC members to the U.S. and Europe. As was the case in other manifestations of a national productivity discourse, these events embodied and amplified the normative frame (Haber, 1964; Boltanski, 1990; Djelic, 1998) and provided forums for high-ranking state officials to relay the moral links between productivity and national survival, defining low productivity as "treason" (*Davar*, September 3, 1949). For example, in a conference greeting a returning JPC productivity mission, the supply minister, Dov Yosef, emphasized the moral responsibility of workers: "The secret of industry lies in the laborer. I know there is also management and other factors, but their importance is nothing compared to the laborers' . . . we may stand one day in front of a holocaust . . . and we have to fight the great economic battle to secure the destiny of our country" (*Davar*, July 25, 1950).

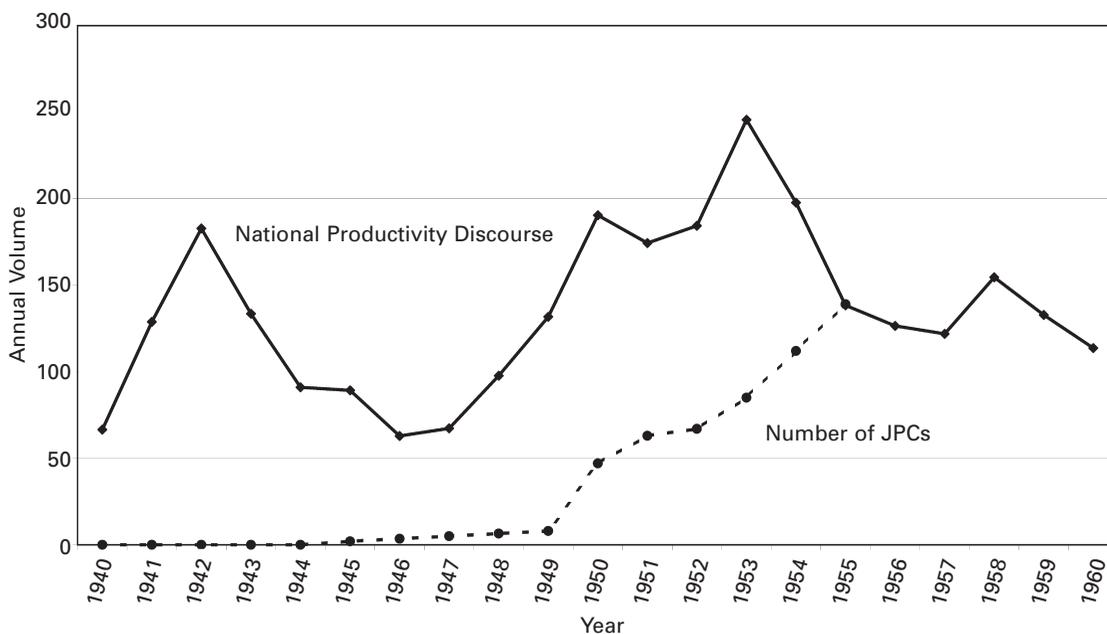
This statement places a heavy burden on workers, namely, saving the Jewish people from another holocaust. Prime Minister Ben-Gurion established a clear connection between national survival and workers' productivity: "Our economic future, as well as our political goals, and our military destiny are all dependent upon the organization of work and work itself."¹³ Clearly, then, as Minister of Finance Eliezer Kaplan stated, "Workers have no moral right to request wage increases without providing productivity increases in return" (*Davar*, July 25, 1950). In 1952, during the third national scientific JPC conference, the minister of labor, Golda Meirson (Meir), portrayed the role of laborers in national survival: "It is the duty of our army of laborers to protect our state's economic security just as it is the duty of the Israeli Defense Forces to protect our military security" (*Davar*, December 25, 1952). Three years later, in 1955, Prime Minister Moshe Sharet used a similar tone in the annual conference of scientific JPCs: "The whole nation stands on two fronts, the settlement front and the production front . . ." (*Hamiphah*, April 1955).

To get a broader picture of the extent of the national productivity discourse between 1940 and 1960, we examined the daily newspaper *Ha'aretz*, the local equivalent of the *New York Times* in terms of orientation and circulation. We sampled issues to cover every third day, choosing the first day for

12
Minutes from a GFW council meeting in Haifa, no date; LLMA/250-27-5-42.

13
Newspaper clipping from July 1950, with no additional detail; LLMA/250-27-5-84.

Figure 2. National productivity discourse, 1940–1960, and the number of JPCs, 1940–1955.*



* Source: *Ha'aretz* daily newspaper and the Israeli National Productivity Council, the Lavon Labor Movement Archive. Data for the number of JPCs exist for years 1940–1945, 1949–52, and 1955; no data after 1955. Missing years were interpolated.

each year randomly. We coded items if one of the following concepts appeared in the heading or subheading of the news pages: labor productivity, efficiency, production, norms, and premiums. Among those, items were coded for including nationalistic and moral justifications. We calculated the annual volume (number of square inches) of items published in relation to moral values in each sampled issue as a percentage of the general size of the newspaper's space.

The solid line in figure 2 represents trends in the national productivity discourse. The dotted line represents the diffusion of JPCs, based on the same data as figure 1. The figure shows that the normative discourse did not emerge out of nowhere in 1949. It existed throughout the 1940s with different degrees of salience. The peak in 1942 probably reflects the emphasis placed on productivity as part of the war effort. But this peak, which was not accompanied by the state's normative or regulatory activities to promote JPCs, did not have much effect on local managerial innovations. The discourse then sharply declined until it started to increase steadily around 1948, the year of British de-colonization. The peak in 1950 most likely reflects the effect of state sovereignty and the nationalistic discourse on productivity that preceded the adoption of JPCs; the peak in 1953 probably reflects a surge in the discourse that accompanied the national pact on the adoption of JPCs in 1952. These trends suggest that the productivity discourse preceded the implementation of JPCs and accompanied the process throughout.

Social actors embracing the state's discourse. The normative frame that accompanied JPCs was endorsed and reinforced by the GFW labor union, JPC members, employers,

and engineers alike. This is not to say that objections to JPCs ceased to exist. But the wide embrace of the normative framing suggests that its precepts were accepted at least as a source of legitimacy. For union leaders, the national importance of productivity served to justify wage freezes. As Aaron Becker, chair of the GFW Labor Union, stated in 1949, "Increasing productivity is a must for our economy . . . but it is also needed for increasing the workers' wage. . . . Workers cannot seriously expect wage increases without productivity increases" (Kantor, 1977: 166). The moral value of JPCs was explicated in a publication by the GFW:

Waste is sin and we cannot imagine how much our society has sinned in this area . . . we need to embed this in each worker. . . . Joint productivity councils have helped us save dozens of thousands of workdays. What a treasure it is. This is our nation's wealth. These are valuable resources for each worker, for the economy, the nation and all of humanity.¹⁴

It was not only labor leaders who espoused the discourse, workers did too. More than once, JPC members invoked the nationalistic discourse in their meetings. "Joint productivity councils have no mandatory power but they have a moral validity," said a workers' representative in a JPC meeting in a steel factory.¹⁵ Employers also called on national ideology as a common framework. For example, in a JPC meeting, the chief manager of a plant for producing electricity wires invoked cooperative and nationalistic rhetoric: "Each worker has to contribute his share to our task. *Otherwise we will fail.* . . . This is not a matter of class struggle; this is a matter of a survival struggle for all of us."¹⁶ Pinhas Ledrer, a manager in Koor, asked workers to take responsibility and "contribute to the survival of our national economy,"¹⁷ and the liberal newspaper *Haboker* used patriotic language, calling for "increases in productivity as part of our war to conquer new markets abroad" (*Haboker*, July 19, 1950).

The embrace of the nationalistic framing was facilitated by the dense social ties between the actors involved. There were strong personal and ideological ties between state and GFW leaders, and many private-sector employers belonged to the same social circles as the political elite. Also, managers of both private and GFW-owned plants were members of the same professional associations and often held formal and informal tripartite discussions with state and labor leaders (Sobel, 1959: 204; Tabb, Ami, and Shaal, 1961).

Another telling indication of the power of the normative frame is the fact that industrial engineers embraced it as a source of legitimacy. Many engineers refused at first to cooperate with JPCs, seeking to protect their scientific studies from JPCs' scrutiny.¹⁸ In turn, GFW representatives pressed factory owners not to permit engineers on their grounds unless a scientific JPC was present and called on workers not to abide by engineers' research if there was no JPC involved (Heller, 1955).¹⁹ Industrial engineers gradually got on the bandwagon, cooperated with JPCs, and endorsed the dominant normative frame as a source of legitimacy. For example, one leader of the engineers' professional community concluded, "In general the relationship [between industrial

14
Pamphlet distributed by the GFW council, August 27, 1950; LLMA/250-27-5-84.

15
Minutes from JPC meeting in Vulcan, December 22, 1945; LLMA/250-27-5-83.

16
January 10, 1950 (emphasis in original); LLMA/250-25-5-83.

17
In *Workers Bulletin*; LLMA/250-27-5-83.

18
Letter from engineer Tedi Winshel to Uri Heller, June 4, 1952; LLMA/250-27-4-778.

19
Letter from GFW to Engineer Litovski, June 9, 1954; LLMA/250-779; letter to the management of Hamegafer, January 12, 1953; LLMA/250-779.

engineers, workers, and employers] should be based on collaboration for the benefit of the public and the state. . . . The State of Israel will be the first to enjoy the fruits of our cooperation" (*Hamiphah*, October–November 1953). Also, the GFW employed industrial engineers, and these ties facilitated the communication of the two communities. For example, engineer Jacob Sanglaria, employed by the GFW, wrote an article about JPCs in the journal of the Israeli Institute of Productivity (IIOP): "Industrial engineering is merely a means to an end. We should not treat the piece rate system as a goal at the expense of our real goal of developing our national economy" (*Hamiphah*, September 1957).

Moral discourse incorporated into public policy. Beyond evidence of the wide embrace of the nationalistic frame, probably the best illustration of the institutionalization of a normative discourse on productivity is the fact that it was incorporated into public policymaking (see also Frenkel, 2005). Collective bargaining negotiations were imbued with nationalistic rhetoric, framing labor concessions in terms of "the supreme goal of building our country" (General Federation of Workers, 1949: 396). The government's wage freeze and economic policy in 1952 were deemed necessary "to strengthen our national standing in the challenge of independence" (Kantor, 1977: 166), while the tax breaks for JPC adopters were presented in moral terms as "healing the rotten habits of our industry" (*Hamiphah*, August–September 1953). The establishment of the Israeli Institute of Productivity was presented as a way to achieve the national goals of "increasing the competitiveness of our economy, absorbing immigrants and insuring our standard of living" (*Davar*, September 27, 1949). Perhaps most telling are the fingerprints of the nationalistic frame in the national agreement on the establishment of JPCs signed in 1952. The agreement opens by stating common national goals:

In order to guarantee cooperation between workers and management in finding ways and means for industrial development as an integral part of developing the national economy, for increasing production and export, for increasing the capacity to absorb massive immigration, for increasing efficiency and workers' productivity, for determining piece rates and for lowering product prices. . . .²⁰

The text blends national goals of developing the national economy and absorbing massive Jewish immigration with managerial and labor process goals, such as increasing workers' productivity and establishing a piece-rate system.

We have shown that union leaders, JPC participants, employers, and engineers embraced the official state rhetoric of nation-building that justified scientific JPCs and that this framing was registered in public policy. Whether or not the frames mobilized action, we cannot say, but their widespread and powerful moral valence rendered resistance costly. The endorsement of JPCs, as institutionalists would argue, became a matter of organizational legitimacy. And, as we discussed above, the state used public policy to encourage a thorough, rather than merely a symbolic, implementation of these councils. To strengthen our conclusion about the signif-

²⁰ National agreement on the establishment of JPCs, no date; LLMA/250-25-5-83.

icant role of the state in the diffusion of JPCs, our comparative analyses assessed alternative explanations as well.

Comparison of Alternative Explanations

We compared the two periods in which there were institutionalized attempts to establish JPCs in industry, 1940–1948 and 1949–1960, using measures of three theories on the spread of managerial models: efficiency, labor control, and professionalization. Lack of significant differences between the two periods does not mean a variable did not affect the diffusion of scientific JPCs, only that it did not provide a sufficient condition: additional conditions had to become true for the outcome to change. Our comparison was not designed to rule out the effects of economic and social factors other than the state but, rather, to find out whether the state had an effect independent of these variables. Table 2 presents comparative measures during the 1940s and the 1950s.

Efficiency theory. Table 2 indicates that levels of industrial development were similar in both periods, thus suggesting that it cannot provide a sufficient explanation of why JPCs

Table 2

Industrial Development, Labor Relations, and Level of Professionalization in Palestine and Israel in the 1940s and 1950s

| Indicators | 1940s | 1950s |
|--|--------------|-------|
| Industrial development* | | |
| Industrial employment | 34% | 22% |
| Growth in product in manufacturing | 360% | 230% |
| Average plant size | 16 | 16 |
| Plants in the textile industry | 404 | 559 |
| Plants in leather industry | 124 | 196 |
| Plants in steel industry | 1155 | 1441 |
| Percent working in plants larger than 50 workers | 41% | 46% |
| Labor relations† | | |
| Days per strike | 12.28 | 10.8 |
| Working days lost per employed | 0.5 | 0.14 |
| Percent strikers from total labor force participation | 6.6% | 4% |
| Union membership from total labor force participation | 49% | 56% |
| Engineering‡ | | |
| Certifying professional institutions | yes | yes |
| Number of engineering graduates | 660 | 940 |
| Active professional associations | yes | yes |
| Engineers lobbying for using their methods in industry | yes | yes |
| Institute for Standardization | yes | yes |
| Scientific management used in industry | yes (rarely) | yes |

* For employment, 1940s data pertain to 1945 (Metzer, 1998: 219, 240, table A.5, table A.20); 1950s data represent the mean value for 1950, 1952, 1955–1958 (Central Bureau of Statistics, 1956: 186). For growth in product, 1940s data are for 1941–1947 (Metzer, 1998: 240, table A.20); 1950s data are for 1950, 1955–1958 (Tabb, Ami, and Shaal, 1961: 60, table 16). For plant size, 1940s data are for 1939 and 1942 (Central Bureau of Statistics, 1956, Part A, 6, 79); 1950s data are for 1952, 1955, 1956, 1958, 1959 (Central Bureau of Statistics, 1964: 174, 272, 312, 330). For plants in textile, leather, and steel, data for the second decade are for 1960 (Avitzur, 1989). For plants larger than 50 workers, 1940s data are based on 1937 (Nathan, Gass, and Creamer, 1946: 223); data for 1950s are from the same source as plant size.

† For days per strike, working days lost, and percent strikers, period averages are based on annual data (Tabb, Ami, and Shaal, 1961: 222, 224, tables 25 and 26). For union membership, 1940s data pertain to 1945 (Metzer 1998: 219, table A.5; Tabb, Ami, and Shaal, 1961: 102, table 20); for the 1950s, the mean value is based on annual data, 1950–1959 (Tabb, Ami, and Shaal, 1961: 38, 102, table 10 and table 20).

‡ Data are from the archival sources described in text.

spread in the 1950s rather than in the 1940s. More specifically, percent employment in industry was lower in the second period, as was the growth in the net manufacturing product. The average plant size remained small in both periods, at 16 employees, with roughly 40 percent of all employees working in plants with more than 50 employees in both 1942 and 1956. The number of factories in the textile, leather, and steel industries was larger during the 1950s, yet their growth within each period was comparable during the 1940s and the 1950s (203 percent versus 158 percent, respectively; Avitsur, 1989). All in all, there seem to be no major differences in industrial development measures between the two periods.

The growth in the number of JPCs in the second period exceeded the growth in manufacturing employment in general and in plants with more than 50 workers, in which JPCs became mandatory in 1952. Between 1952 and 1955, manufacturing employment grew by 170 percent (from 53,552 to 92,859) and in plants with more than 50 employees by less than 150 percent (from 25,375 to 37,285). In the same period, the number of JPCs grew by almost 210 percent, from 67 to 139. This serves as an additional indication that industrial growth alone cannot explain the diffusion of these councils.

Labor control. As table 2 shows, both periods had turbulent labor relations, though strikes were slightly more severe in the first period and unionization was slightly higher in the second period. We have shown that in both periods there were attempts to reduce labor strife with JPCs. Labor control probably played a significant role, but the similarity across periods suggests that this was not a sufficient explanation for the spread of JPCs.

Professionalization. Based on qualitative archival data on professionalization, the results in table 2 suggest that in both periods industrial engineers were high priests of scientific management. In both periods, local certifying institutions trained industrial engineers; engineers were organized in professional associations, operated an institute for standardization, and campaigned for the incorporation of engineering as a means for industrial development and the appeasement of labor upheavals (see, for example, *Mishmar*, May 6, 1945; *Davar*, February 15, 1945; Tabb, Ami, and Shaal, 1961). The number of engineering graduates was higher in the second period. This was an outcome of the state's efforts to promote industrial engineering and a response to international pressure to professionalize management (De Vries, 1997; Frenkel, Shenhav, and Herzog, 1997).

The above comparison suggests that the proliferation of JPCs in Israeli industry was not simply a function of industrial development, turbulent labor relations, or the professionalization of industrial engineers alone. These factors certainly played an important role in motivating and shaping the new managerial model. But their salient presence in the first period, when no managerial change occurred, indicates that these were not sufficient factors. An additional factor had to come into play. We have shown that in the second period,

Table 3

Comparative Indicators of Industrial Development, Labor Relations, and Management Professionalization in Israel during the 1940s and in Selected Countries at the Respective Periods of Adoption of Scientific Management*

| Indicators | Pre-state Israel 1940–1949 | U.S. 1920–1929 | Germany 1920–1929 | U.K. 1950–1959 | Spain 1950–1959 |
|---|-------------------------------|-------------------|----------------------|-------------------|--------------------|
| Industrial employment | 34% [†] | 29% [‡] | 41% [‡] | 52% [§] | 27% [§] |
| GDP cumulative growth rate | 400% | 360% | 420% | 230% | 380% |
| Working days lost in strikes per worker | 0.5 | n/a | 0.48 | 0.13 | n/a |
| Percent administrative workers of all workers | 14% | 18% [‡] | 13% [‡] | 21% [§] | 9.5% [§] |

* Data for pre-state Israel are from Metzger (1998; tables A5, A20) and Tabb, Ami, and Shaal (1961; tables 25, 26); data for other countries are from Guillén (1994: 308–310). Data for the United Kingdom and Spain are only available for the decade after the adoption of scientific management.

[†] Data for 1945.

[‡] Data for 1929.

[§] Data for 1950.

state actors overcame the objections of employers, labor, and engineers to promote the spread of JPCs.

The results of our supplementary, cross-national, comparison are shown in table 3, which presents indicators of industrial development in Palestine in the 1940s and those from the United States, Germany, the United Kingdom, and Spain in the periods when scientific management techniques were first implemented in each of those countries. Data for those four nation-states were adapted from Guillén (1994: 308–310). The data in table 3 show that indicators of industrial development, labor relations, and management professionalization in Palestine in the 1940s were similar to those in other countries at the time when scientific management was adopted there. The fact that change did not occur in Palestine in the 1940s suggests that an additional factor was missing. For example, in 1945, industrial employment in pre-state Israel was 34 percent of total employment, compared with a range between 26 percent and 52 percent in the United States, Germany, the United Kingdom, and Spain in the periods in which they adopted scientific management. Also comparable is the cumulative growth rate in gross domestic product (GDP), days lost in strikes, and the percentage of workers in administrative occupations. In contrast to other countries, there is almost no record of modern managerial practices during the 1940s in Palestine (for an early exception, see Frenkel, Shenhav, and Herzog, 1997).

Additional methodological concerns. There are two remaining methodological concerns. First, the pattern of diffusion of scientific JPCs may be due to a lagged effect of the control variables. We are reassured that this is not the case because a time-lag dynamic would have been reflected in one of two ways: some indication of a linear progression and an internal consistency in the content of the diffused model. Both are absent in this case. As figure 1 showed, the diffusion of JPCs was not linear. It remained relatively unchanged from first inception in 1945 until 1950 and experienced a rapid and abrupt increase thereafter. We have also shown that this increase was larger than the growth in industrial employment, again indicating a rapid diffusion. Also, as dis-

cussed above, the substance of JPCs changed between their inception and implementation.

Second, it is possible that the adoption of scientific JPCs is due to some unobserved heterogeneity. For example, we have argued that the Second World War did not have an effect on the diffusion of managerial models. This is apparent in the lack of implementation during the war years. It is plausible, however, that the war stimulated unobserved changes, such as cultural shifts among employees or new engineering know-how. In that case, we would expect unobserved heterogeneity to act very much like a lagged effect of the control variables, and so we rule out this problem on similar grounds. Further, we are quite confident that the role of the state in the diffusion of scientific JPCs cannot be reduced to missing variables: our comparative methodology, the pattern of the diffusion of scientific JPCs across the two periods, and our analysis of the state's cultural and administrative capacities all indicate that it was not until an active state stepped in that the managerial innovation took place.

DISCUSSION

We compared two periods in the institutionalization of joint productivity councils: the failed attempt to implement JPCs in industry in the 1940s and the rapid diffusion of scientific JPCs in the 1950s. Using qualitative and quantitative historical data, we found that the only significant difference between the periods was in the actions of state leaders, who only stepped in to bridge the gap between labor, capital, and engineers and promote scientific JPCs in the second period. Though considerations of efficiency, labor control, and professionalization may have played a role in the advent of this managerial innovation, our analysis indicates that these factors were not sufficient causes. We demonstrated that the diffusion of JPCs was part of a broader impetus, led by the political elite, to rationalize production, placate industrial relations, and finance the nation-building projects of militarization and immigration absorption (Shalev, 1992). To this end, state actors launched a two-pronged campaign that defined the scope of shop-floor negotiations over the adoption of scientific joint productivity councils (Burawoy, 1985). State leaders used the state's regulative capacity to form national agreements on wage freezes and JPCs and to provide tax breaks and raw material benefits to adopting plants. They used the state's cultural capacity to popularize a normative frame constructing productivity as a moral virtue and a precondition for national survival. We showed that this normative discourse preceded the adoption of scientific JPCs, provided a rationale for public policy on JPCs, and was widely embraced, creating a common language among opposing parties and offering a recipe for legitimate action. Reconceptualizing the state through its socially embedded actors, their specified set of autonomous goals, and their administrative and cultural capacities to pursue them, rather than as an arena for other actors' struggles, helps to rectify the limited attention to agency and power in institutional organizational theory (DiMaggio, 1988).

Our analysis was not designed to determine whether administrative or cultural means were more effective in reducing workers', employers', and engineers' resistance to JPCs. Our view is that both played complementary roles in shaping the diffusion of the managerial model. Organizational theorists, such as Perrow (1986) and Barley and Kunda (1992), have acknowledged that rational and normative managerial ideologies are present side by side in the process of manufacturing consent in organizations. The same logic could be applied to rational and normative discourses offered by state actors as they attempt to shape industrial relations and organizational practices.

Our research moves both organization theory and labor process research beyond treating the state either as a disembodied carrier of cultural norms or as a regulative arena, captive to the interests of capitalists or other social groups. First, analyzing state actors' cultural capacity promises to correct common myopias in organizational research. Though it is well documented in organizational research that employers and managers attempt to gain legitimacy using normative discourses (Bendix, 1974; Barley and Kunda, 1992), observations at the organizational level are commonly detached from their origin in the wider social context. Ample evidence from historical studies points to national discourses on productivity in the U.S. and Europe (Haber, 1964; Carew, 1987; Nolan, 1994; Shenhav, 1995; Djelic, 1998), and careful examination of classical managerial ideologies has shown that they started as nationwide movements that blended with managerial practices brewing at the shop level (Bendix, 1974; Barley and Kunda, 1992; Guillén, 1994; Shenhav, 1999). The Israeli case is hardly unique. Most models were developed in the wider society before they became recipes and ahistorical managerial toolkits. Examining state actors' cultural frames, and other actors' resistance to these frames, also corrects the assumption of a cultural fit, whereby national differences in managerial or industrial models are seen as reflecting local or world cultures (Dobbin, 1994; Meyer et al., 1997). We show that the cultural framing of a managerial change is a contentious process, whereby different social groups attempt to affect the discourse to reflect their interests. In this sense, organization scholars can benefit from advances in social movements research and its analysis of cultural frames as discourses that are actively promoted and negotiated among interested actors (Benford and Snow, 2000). Studies of the framing processes surrounding civil rights and affirmative action legislation in the 1960s (Skrentny, 1996; Chen, 2007) and employers' compliance (Kelly and Dobbin, 1998; Edelman, Riggs Fuller, and Mara-Drita, 2001) have shed new light on the origins and internal contradictions of diversity management. This is one example in which an analysis of political origins and framing processes has greatly enhanced our understanding of a contemporary managerial model.

Second, our study bridges institutional approaches in organization studies and political sociology. Only rarely do organizational researchers consider the way state actors' interests and strategic actions affect organizational forms across the polity (Hamilton and Biggart, 1988; Ingram and Simons, 2000). As political sociologists have shown, the autonomy

and capacities of state actors are variable, and their impact in any historical moment should be considered empirically rather than assumed (Evans, 1995). Other theories of the state would fail to explain the state's intervention in the diffusion of scientific JPCs. Neo-Marxists, for example, might explain the state's actions in terms of employers' interest in avoiding wage increases and appeasing labor strife. As we have shown, employers objected to scientific JPCs and did not fully buy into scientific management. Employers' disinclination toward managerial innovations, even if they promise higher profits, is not unique to the Israeli case. Similar patterns were also seen in the United States (Shenhav, 1999). A pluralist theory of the state would suggest that scientific JPCs represent the unique collectivist character of Jewish Israeli society at the time. In this model, the state-led campaign would reflect the workers' struggle to transform an American managerial model (scientific management) into a collectivist one. Although this version of events dominates the historiography of the period (e.g., Galin and Harel, 1978), the historical record shows that workers objected to JPCs at the grassroots level and did not view these councils as loci for workers' participation but, rather, as a threat to their control over the work process. Others have also analyzed work participation programs as systems of labor control (Greiner and Raymond, 1991; Barker, 1999), but the effect of the state's interests in the labor process and the mechanisms for pursuing these interests have remained mostly unexplored. Because "states can become major actors in the generation, reception and application of organizational paradigms" (Guillén, 1994: 27), organizational researchers need to explore "why, when and how such distinctive policies are fashioned by states" (Skocpol, 1985: 15), to increase the explanatory and predictive power of their theories.

Third, our findings emphasize the need to reconnect industrial relations and organizational studies at the nexus of the state, where their disjuncture is most acute. Our case study illustrates how tightly connected these two fields of knowledge are. Labor process researchers have focused on plant-level dynamics and viewed the state as reflecting capital's needs. Yet state actors' interests were found to be one of the key determinants of the use of tripartite pacts during the 1990s (Katz, Lee, and Lee, 2004: 219; see also Djelic, 1998). Tripartite pacts in turn shape the context in which plant-level negotiations over new management models take place (Bura-woy, 1985). Ignoring state actors' interests can compromise our understanding of outcomes such as wages and job satisfaction. For organizational sociologists and students of organizational behavior, incorporating a dynamic analysis of the state will not only improve our understanding of the evolution, form, and diffusion of management models over time and in cross-national contexts (Ingram and Simons, 2000), but it could also help bring to light broader social implications of managerial practices, such as labor control and the macro-management of employment (Baron, Dobbin, and Jennings, 1986).

Finally, this study contributes to studies in the sociology of knowledge and the history of managerial thought. Most of the research on state formation and social scientific knowledge focuses on nineteenth-century state-building processes and on social sciences such as psychiatry, statistics, and political science (Wagner and Wittrock, 1991; Swidler and Ardit, 1994). Here we have shown how state actors use and shape managerial knowledge in the pursuit of state-building goals. To explore the role of modern management in state formation in the postcolonial era, management should be studied not only as a product of efficiency and control considerations, or of institutional processes of isomorphism, but also as a disciplinary means for managing the population to achieve national goals.

REFERENCES

- Amenta, E., and D. Halfmann**
2000 "Wage wars: Institutional politics, WPA wages, and the struggle for U.S. social policy." *American Sociological Review*, 65: 506–528.
- Avitsur, S.**
1989 *The Industrial Revolution in Eretz Israel on the Basis of its Energetic Processes*. (In Hebrew.) Tel-Aviv: Hakibutz Hameuchad.
- Barker, J. R.**
1999 *The Discipline of Teamwork: Participation and Concertive Control*. Thousand Oaks, CA: Sage.
- Barley, S. R., and G. Kunda**
1992 "Design and devotion: Surges of rational and normative ideologies of control in managerial discourse." *Administrative Science Quarterly*, 37: 363–400.
- Baron, J., F. Dobbin, and P. D. Jennings**
1986 "War and peace: The evolution of modern personnel administration in U.S. industry." *American Journal of Sociology*, 92: 350–383.
- Bendix, R.**
1974 *Work and Authority in Industry: Ideologies of Management in the Course of Industrialization*. Berkeley, CA: University of California Press.
- Benford, R. D., and D. A. Snow**
2000 "Framing processes and social movements: An overview and assessment." *Annual Review of Sociology*, 26: 611–639.
- Biernacki, R., Jr.**
1995 *The Fabrication of Labor: Germany and Britain, 1640–1914*. Berkeley, CA: University of California Press.
- Boltanski, L.**
1990 "Visions of American management in post war France." In S. Zukin and P. J. DiMaggio (eds.), *Structures of Capital: The Social Organization of the Economy*: 345–372. Cambridge: Cambridge University Press.
- Bourdieu, P.**
1994 "Rethinking the state: Genesis and structure of the bureaucratic field." *Sociological Theory*, 12: 1–18.
- Braverman, H.**
1974 *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*. New York: Monthly Review Press.
- Burawoy, M.**
1979 *Manufacturing Consent: Changes in the Labor Process under Monopoly Capitalism*. Chicago: University of Chicago Press.
1985 *The Politics of Production: Factory Regimes under Capitalism and Socialism*. London: Verso.
- Cameron, D.**
1978 "The expansion of the public economy: A comparative analysis." *American Political Science Review*, 72: 1243–1261.
- Campbell, J. L.**
2004 *Institutional Change and Globalization*. Princeton, NJ: Princeton University Press.
- Campbell, J. L., J. R. Hollingsworth, and L. N. Lindberg**
1991 *Governance of the American Economy*. New York: Cambridge University Press.
- Carew, A.**
1987 *Labor under the Marshall Plan: The Politics of Productivity and the Marketing of Management Science*. Detroit, MI: Wayne State University Press.
- Carruthers, B. G.**
1994 "When is the state autonomous? Culture, organization theory and the political sociology of the state." *Sociological Theory*, 12: 19–44.
- Central Bureau of Statistics**
1956 *Statistical Abstract of Israel*. Jerusalem: Central Bureau of Statistics.
1964 *Industry and Crafts Survey*. Jerusalem: Central Bureau of Statistics.
- Chandler, A. D., Jr.**
1977 *The Visible Hand: The Managerial Revolution in American Business*. Cambridge, MA: Harvard University Press.
- Chen, A. S.**
2007 "The party of Lincoln and the politics of state fair employment legislation in the North, 1945–1964." *American Journal of Sociology*, 112: 1713–1774.
- Clawson, D.**
1980 *Bureaucracy and the Labor Process: The Transformation of U.S. Industry 1860–1920*. New York: Monthly Review Press.
- Cole, R. E.**
1985 "The macro politics of organizational change: A comparative analysis of the spread of small group activities." *Administrative Science Quarterly*, 30: 560–585.

- 1989 *Strategies for Learning: Small-group Activities in American, Japanese, and Swedish Industry*. Berkeley, CA: University of California Press.
- De Vries, D.**
1997 "Productive clerks: White-collar productivism and state-building in Palestine's Jewish community, 1920–1950." *International Review of Social Theory*, 42: 187–218.
- DiMaggio, P. J.**
1988 "Interest and agency in institutional theory." In L. G. Zucker (ed.), *Institutional Patterns and Organizations: Culture and Environment*: 3–21. Cambridge, MA: Ballinger.
1997 "Culture and cognition." *Annual Review of Sociology*, 23: 263–287.
- DiMaggio, P. J., and W. W. Powell**
1983 "The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields." *American Sociological Review*, 48: 147–160.
- Djelic, M. L.**
1998 *Exporting the American Model: The Postwar Transformation of European Business*. New York: Oxford University Press.
- Dobbin, F.**
1992 "The origins of private social insurance: Public policy and fringe benefits in America, 1920–1950." *American Journal of Sociology*, 97: 1416–1450.
1993 "The social construction of the Great Depression: Industrial policy during the 1930s in the United States, Britain, and France." *Theory and Society*, 22: 1–56.
1994 *Forging Industrial Policy: The United States, Britain and France in the Railway Age*. New York: Cambridge University Press.
2005 "Comparative and historical perspectives in economic sociology." In N. Smelser and R. Swedberg (eds.), *The Handbook of Economic Sociology*, 2d ed.: 26–48. Princeton, NJ: Princeton University Press and Russell Sage Foundation.
- Dobbin, F. (ed.)**
2004 *The New Economic Sociology: An Anthology*. Princeton, NJ: Princeton University Press.
- Dobbin, F., and T. Dowd**
2000 "The market that antitrust built: Public policy, private coercion, and railroad acquisitions, 1825–1922." *American Sociological Review*, 65: 635–657.
- Dobbin, F., and E. Kelly**
2007 "How to stop harassment: The professional construction of legal compliance in organizations." *American Journal of Sociology*, 112: 1203–1243.
- Dobbin, F., and J. Sutton**
1998 "The strength of a weak state: The employment rights revolution and the rise of human resources management divisions." *American Journal of Sociology*, 104: 441–476.
- Edelman, L. B.**
1990 "Legal environments and organizational governance: The expansion of due process in the American workplace." *American Journal of Sociology*, 95: 1401–1440.
1992 "Legal ambiguity and symbolic structures: Organizational mediation of civil rights law." *American Journal of Sociology*, 97: 1531–1976.
- Edelman, L. B., S. Riggs Fuller, and I. Mara-Drita**
2001 "Diversity rhetoric and the managerialization of the law." *American Journal of Sociology*, 106: 158–1641.
- Edwards, R.**
1979 *Contested Terrain: The Transformation of the Workplace in the Twentieth Century*. New York: Basic Books.
- Evans, P. B.**
1995 *Embedded Autonomy: State and Industrial Transformation*. Princeton, NJ: Princeton University Press.
- Evans, P. B., D. Rueschemeyer, and T. Skocpol**
1985 *Bringing the State Back In*. Cambridge: Cambridge University Press.
- Ezzamel, M., and H. Willmott**
1998 "Accounting for teamwork: A critical study of group-based systems of organizational control." *Administrative Science Quarterly*, 43: 358–386.
- Fantasia, R., D. Clawson, and G. Graham**
1988 "A critical view of worker participation in American industry." *Work and Occupations*, 15: 468–488.
- Fligstein, N.**
1990 *The Transformation of Corporate Control*. Cambridge, MA: Harvard University Press.
2001 "Social skill and the theory of fields." *Sociological Theory*, 19: 105–125.
- Frenkel, M.**
2005 "The politics of translation: How state-level political relations affect the cross national travel of management ideas." *Organization*, 12: 275–301.
- Frenkel, M., Y. Shenhav, and H. Herzog**
1997 "The political embeddedness of managerial ideologies in pre-state Israel: The case of PPL 1920–1948." *Journal of Management History*, 3: 120–144.
- Galini, A., and A. Harel**
1978 *Progress and Transformation in Labor Relations in Israel*. (In Hebrew.) Ramat Gan: Masada.
- General Federation of Workers**
1945 "The Action Committee of the Sixth Conference of the GFW." (In Hebrew.) Tel Aviv: Davar.
1949 "The Action Committee of the Seventh Conference of the GFW." (In Hebrew.) Tel Aviv: Davar.
1952 "On the production front." (In Hebrew.) Tel Aviv: Davar.
- Globerzon, A.**
1955 *Joint Consultation in Israeli Industry*. (In Hebrew.) Tel Aviv: Israeli Institute of Productivity.
- Goffman, E.**
1974 *Frame Analysis*. Cambridge, MA: Harvard University Press.
- Greiner, G., and L. H. Raymond**
1991 "Labor law and the managerial ideology: Employees' participation as a social control system." *Work and Occupations*, 18: 313–333.
- Gross, N. T.**
1982 "The economic policy of the mandatory government in Palestine." Discussion paper no. 816, Falk Institute, Jerusalem.
1985 "The economic policy of the mandatory government in Palestine." *Research in Economic History*, 9: 143–185.

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- 1999 Not by the Spirit Alone: Studies in the Economic History of Modern Palestine and Israel. (In Hebrew.) Jerusalem: Hebrew University Magnes Press and Yad Izhak Ben Zvi Press.
- Guillén, M. F.**
1994 Models of Management: Work, Authority and Organization in a Comparative Perspective. Chicago: University of Chicago Press.
2001 The Limits of Convergence: Globalization and Organizational Change in Argentina, South Korea, and Spain. Princeton, NJ: Princeton University Press.
- Haber, S.**
1964 Efficiency and Uplift: Scientific Management in the Progressive Era 1890–1920. Chicago: University of Chicago Press.
- Hamilton, G. G., and N. W. Biggart**
1988 "Market, culture and authority: A comparative analysis of management and organization in the Far East." *American Journal of Sociology*, 94: S52–S94.
- Hancke, B.**
1993 "Trade union membership in Europe, 1960–1990—Rediscovering local unions." *British Journal of Industrial Relations*, 31: 593–613.
- Heller, U.**
1955 Productivity Councils in Industry. Jerusalem: General Federation of Workers in Eretz Israel Press.
- Hirsch, P. M.**
1986 "From ambushes to golden parachutes: Corporate takeovers as an instance of cultural framing and institutional integration." *American Journal of Sociology*, 91: 800–837.
- Ingram, P., and C. Inman**
1996 "Institutions, intergroup rivalry, and the evolution of hotel populations around Niagara Falls." *Administrative Science Quarterly*, 41: 629–658.
- Ingram, P., and H. Rao**
2004 "Store wars: The enactment and repeal of anti-chain-store legislation in America." *American Journal of Sociology*, 110: 446–487.
- Ingram, P., and T. Simons**
2000 "State formation, ideological competition, and the ecology of Israeli workers' cooperatives, 1920–1992." *Administrative Science Quarterly*, 45: 25–53.
- Jacoby, S.**
1985 *Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry*. New York: Columbia University Press.
- Kantor, L.**
1977 *With No Partiality: The Development of Labor Relations in Israel*. (In Hebrew.) Tel Aviv: Yahad.
- Katz, H. C., W. Lee, and J. Lee**
2004 *The New Structure of Labor Relations: Tripartism and Decentralization*. Ithaca, NY: Cornell University Press.
- Katzenstein, P. J.**
1984 *Corporatism and Change: Switzerland, Austria, and the Politics of Industry*. Ithaca, NY: Cornell University Press.
- Kelly, E. L., and F. Dobbin**
1998 "How affirmative action became diversity management: Employer response to anti-discrimination law, 1961–1996." *American Behavioral Scientist*, 41: 960–984.
- Krasner, D. S.**
1984 "Approaches to the state: Alternative conceptions and historical dynamics." *Comparative Politics*, 16: 223–246.
- Marglin, S. A.**
1974 "What do bosses do? The origins and functions of hierarchy in capitalist production." *Review of Radical Political Economics*, 6: 60–112.
- Metzer, J.**
1998 *The Divided Economy of Mandatory Palestine*. New York: Cambridge University Press.
- Meyer, J. W., and B. Rowan**
1977 "Institutionalized organizations: Formal structure as myth and ceremony." *American Journal of Sociology*, 83: 340–363.
- Meyer, J. W., J. Boli, G. M. Thomas, and F. Ramirez**
1997 "World society and the nation state." *American Journal of Sociology*, 103: 144–181.
- Mitchell, T.**
1988 *Colonising Egypt*. Cambridge: Cambridge University Press.
- Nathan, R., O. Gass, and D. Creamer**
1946 *Palestine: Problem and Promise: An Economic Study*. Washington, DC: Public Affairs Press.
- Nolan, M.**
1994 *Visions of Modernity: American Business and the Modernization of Germany*. Oxford: Oxford University Press.
- North, D. C.**
1990 *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
- Perrow, C.**
1986 *Complex Organizations: A Critical Essay*, 3rd ed. New York: Random House.
- Prechel, H.**
1990 "Steel and the state: Industry politics and business policy formation, 1940–1989." *American Sociological Review*, 55: 648–668.
- Roy, W.**
1997 *Socializing Capital: The Rise of the Large Industrial Corporation in America*. Princeton, NJ: Princeton University Press.
- Schneiberg, M., and T. Bartley**
2001 "Regulating American industries: Markets, politics, and the institutional determinants of fire insurance regulations." *American Journal of Sociology*, 107: 101–146.
- Scott, W. R., and J. W. Meyer**
1994 *Institutional Environments and Organizations: Structural Complexity and Individualism*. Thousand Oaks, CA: Sage.
- Sewell, G.**
1998 "The discipline of teams: The control of team-based industrial work through electronic and peer surveillance." *Administrative Science Quarterly*, 43: 397–428.
- Sha'ari, Y.**
1954 *The Worker and Factors in His Productivity: How Can We Increase Workers' Labor Productivity?* (In Hebrew.) Jerusalem: Beit Hillel.
- Shalev, M.**
1992 *Labour and the Political Economy in Israel*. Oxford: Oxford University Press.

- Shamir, R.**
2000 *The Colonies of Law: Colonialism, Zionism and Law in Early Mandate Palestine.* Cambridge: Cambridge University Press.
- Shenhav, Y.**
1995 "From chaos to systems: The engineering foundations of organization theory, 1879–1932." *Administrative Science Quarterly*, 40: 557–585.
1999 *Manufacturing Rationality: The Engineering Foundations of the Managerial Revolution, 1879–1932.* New York: Oxford University Press.
- Skocpol, T.**
1985 "Bringing the state back in: Strategies of analysis in current research." In P. B. Evans, D. Rueschemeyer, and T. Skocpol (eds.), *Bringing the State Back In*: 3–37. Cambridge: Cambridge University Press.
- Skocpol, T., and M. Somers**
1980 "The uses of comparative history in macro-social inquiry." *Comparative Studies in Society and History*, 22: 174–195.
- Skrentny, J. D.**
1996 *The Ironies of Affirmative Action: Politics, Culture, and Justice in America.* Chicago: University of Chicago Press.
- Smith, V.**
2001 *Crossing the Great Divide: Worker Risk and Opportunity in the New Economy.* Ithaca, NY: Cornell University/ILR Press.
- Sobel, I.**
1959 "Management in Israel." In F. Harbison and C. A. Myers (eds.), *Management in the Industrial World*: 185–206. New York: McGraw Hill.
- Steinmetz, G. (ed.)**
1999 *State/Culture.* Ithaca, NY, and London: Cornell University Press.
- Stevenson, W. B., and D. Greenberg**
2000 "Agency and social networks: Strategies of action in a social structure of position, opposition, and opportunity." *Administrative Science Quarterly*, 45: 651–678.
- Strang, D., and S. A. Soule**
1998 "Diffusion in organizations and social movements: From hybrid corn to poison pills." *Annual Review of Sociology*, 24: 265–290.
- Strinati, D.**
1990 "A ghost in the machine? The state and the labour process in theory and practice." In D. Knights and H. Willmott (eds.), *Labour Process Theory*: 209–243. Basingstoke, UK: Macmillan.
- Sutton, J. R., F. Dobbin, J. W. Meyer, and W. R. Scott**
1994 "The legalization of the workplace." *American Journal of Sociology*, 99: 944–971.
- Swidler, A., and J. Arditi**
1994 "The new sociology of knowledge." *Annual Review of Sociology*, 20: 305–329.
- Szelenyi, I., and B. Martin**
1988 "The three waves of new class theories." *Theory and Society*, 17: 645–667.
- Tabb, J. Y., Y. Ami, and G. Shaal**
1961 *Labor Relations in Israel.* (In Hebrew.) Tel Aviv: Dvir.
- Tabb, J. Y., and A. Goldfarb**
1970 *Workers' Participation in Management: Expectations and Experience.* New York: Pergamon.
- Tilly, C.**
1992 *Coercion, Capital and European States, AD 990–1992.* Malden, MA: Blackwell.
1999 "Epilogue." In G. Steinmetz (ed.), *State/Culture*: 407–419. Ithaca, NY, and London: Cornell University Press.
- Tolbert, P. S., and L. G. Zucker**
1983 "Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880–1935." *Administrative Science Quarterly*, 28: 22–39.
- Tomlinson, J.**
1996 "Productivity, joint consultation and human relations in post-war Britain: The Attlee government and the workplace." In J. Melling and A. McKinlay (eds.), *Management, Labour and Industrial Politics in Modern Europe: The Quest for Productivity Growth during the 20th Century*: 25–43. Cheltenham, UK: Edward Elgar.
- Trimberger, E. K.**
1978 *Revolution from Above: Military Bureaucrats and Development in Japan, Turkey, Egypt, and Peru.* New Brunswick, NJ: Transaction Books.
- Troen, I. S.**
1994 "The discovery of America in the Israeli university: Historical, cultural and methodological perspectives." *Journal of American History*, 81: 164–182.
- Urofsky, M. I.**
1995 "American Jewry and Israel: The first decade and its implications for today." In T. S. Illan and N. Lucas (eds.), *Israel: The First Decade of Independence: 733–750.* New York: State University of New York Press.
- Vallas, S. P.**
2003 "The adventures of managerial hegemony: Teamwork, ideology, and worker resistance." *Social Problems*, 50: 204–225.
- Wagner, P., and B. Wittrock**
1991 "State, institutions, and discourses: A comparative perspective on the structuration of the social sciences." In P. Wagner, B. Wittrock, and R. Whitley (eds.), *Discourses on Society: The Shaping of the Social Science Disciplines.* Norwell, MA: Kluwer Academic.
- Weber, M.**
1968 *Economy and Society.* G. Roth and C. Wittich, trans. and eds. (Original published in 1922.) New York: Bedminster Press.
- Weiss, L.**
1998 *The Myth of the Powerless State.* Ithaca, NY: Cornell University Press.
- Whitley, R.**
1992 *European Business Systems: Firms and Markets in their National Contexts.* London: Sage.
- Williamson, O.**
1975 *Markets and Hierarchies: Analysis and Antitrust Implications.* New York: Free Press.
- Zbaracki, M. J.**
1998 "The rhetoric and reality of total quality management." *Administrative Science Quarterly*, 43: 602–636.