The kibbutz, once lauded as an exemplar of the utopian organization, has been criticized recently as yet another illustration that socialist arrangements are inferior to capitalist ones. In this paper, we test a number of explanations of what happened to the kibbutz, using an analysis of the founding rate of the kibbutz population. We find support for popular accounts that the kibbutz stagnated partly as a result of the development in Israel of capitalism and of alternatives for structuring community relations. We also find that a less recognized influence, the state, was a critical determinant of favorable and unfavorable kibbutz outcomes. Our analysis shows that early in the twentieth century, the kibbutz flourished as a source of the order that the states to which it was subject were unable to provide. Over time, the states of Palestine and Israel developed more capacity to govern and displaced the kibbutz from the order-provision role. We also show an active rivalry, with the State of Israel attacking the kibbutz to shore up its own autonomy and in the process delegitimizing the kibbutz movement. These results suggest revisions to the conclusions that are typically drawn from the “kibbutz experiment.” They also suggest that some organizational forms may experience symbiosis, competition, and rivalry with the state and that these factors can be key determinants of the state’s actions and the forms’ evolution.

As much as any twentieth-century organizational form, the kibbutz has captured the imagination and attention of the public and the research community. Thousands of books, papers, and theses in fields such as psychology, sociology, economics, anthropology, political science, and education have focused on the kibbutz. Volunteering on a kibbutz has been a rite of passage for tens of thousands of young people, Jews and Gentiles, from around the globe. The political, military, and economic history of Israel has given a starring role to the kibbutz, at least until recently. All of this attention derives from the status of the kibbutz as a great experiment in utopianism, the extension of the control of a democratic organization to almost all elements of social and economic life. But the interpretation of the results of the experiment has shifted radically over time. Once a model that was emulated around the world, the kibbutz now is criticized and occasionally ridiculed within Israel and mainly seen elsewhere as yet another failed socialist model.

The large set of contending explanations for the failure of the kibbutz can be organized into three categories according to the alternative models of social control they represent: market, community, and the state. Market explanations claim that the kibbutz floundered due to competition from capitalist organizations. Community explanations address the limits of the kibbutz approach to consumption and family relations. Explanations focusing on the state highlight the changing role of the kibbutz as a function of the development of and transition between the British Mandate for Palestine and the State of Israel. In this paper, we present the first ecological analysis of the rise and fall of this storied organizational form. We analyze the founding rate of the kibbutz population for evidence of the influence of these alternative explanations.
The first kibbutz, Degania on the shores of Lake Galilee, was established in 1910 by Jewish immigrants from Germany, Poland, Galitzia, and Russia. Its design reflected A. D. Gordon’s “Religion of Labor” philosophy, which held that physical labor was a form of art and that moral elevation through work required the full attention of a worker who was free from hierarchical supervision. Supervising others was also taboo. So the kibbutz emerged as the organizational manifestation of an ideological position that the Jew be “neither the exploited nor the exploiter” (Gordon, 1938: 63). All kibbutzim are permanent settlements based on land leased from the Jewish National Fund. Traditionally they all had common ownership and democratic management of financial affairs, communal consumption and child care, and a centralized labor allocation system that emphasized job rotation and reliance on members’ labor rather than hired labor. Over time, some of these practices have been relaxed.

On other ideological issues there were persistent splits among kibbutzim. The major questions had to do with the optimal size of a kibbutz, the appropriate economic activities, how tradeoffs between Zionism and socialism should be made, and, to a lesser extent, what role Judaism should have on the kibbutz. For much of their history, kibbutzim self-divided into four federations based on their positions on these questions. These federations encouraged their member kibbutzim to adhere to ideological principles, facilitated assistance and exchange between their members (e.g., by establishing schools that were shared by member kibbutzim), and planned the establishment of new kibbutzim. Recently, the salience of within-population differences has faded, and federations have merged.

Figure 1 displays the number of kibbutzim and the total population of the kibbutz movement over time. Two things about...
this figure are important for this paper. First, both the number and population of kibbutzim increased throughout their history. This fact is at odds with popular perceptions in Israel, where the kibbutzim are seen as a failed population. Many Israelis believe that if kibbutzim have not failed outright, they have recently “failed by change,” that is, by adopting practices such as differential wages that are incompatible with the accepted idea of a kibbutz. In truth, outright failure among kibbutzim is extremely rare, with only 38 failures in the first 75 years of the population’s history, almost all of them among gestating organizations that had not yet become full-fledged kibbutzim (Parag, 1999). And according to Israel’s Registrar of Cooperatives, only 5 to 7 percent of kibbutzim had changed so much by 1998 that they had lost the cooperative and communal character that is the basis of the official criteria for categorization as a kibbutz.

Second, the growth in numbers and population displayed in the figure comes almost entirely from the founding of new kibbutzim. Although kibbutzim seldom failed, individual kibbutzim, once established, did not grow significantly. Different federations developed different positions on the optimal size of a kibbutz, but kibbutzim almost always grew to the size that was deemed appropriate and then stopped. This limit on growth is understandable given that kibbutzim rely on social control, which requires dense social relationships. With dynamics that are determined almost exclusively by the process of founding, kibbutzim are, to our knowledge, unique in the empirical literature that documents the rise and fall of organizational populations. That literature typically combines analyses of founding, failure, and growth to explain the dynamics of specific populations (e.g., Hannan and Freeman, 1989; Carroll and Hannan, 2000). Whether or not kibbutzim are a unique population in this sense, their mono-process dynamics are advantageous for our purposes. They make it possible for us to describe kibbutzim’s rise by analyzing only the founding rate. This allows us to present results that are particularly transparent as to what was good and bad for the kibbutz population.

The utopian model of the kibbutz, emphasizing organizational control in atypical realms (e.g., relations between the sexes), reminds us that organization is one of a number of institutional alternatives for the governance of social behavior. The others, according to Streeck and Schmitter (1985), are market, community, and the state. These institutional alternatives serve well to categorize a range of specific arguments for the pattern of evolution of the kibbutz.

The Kibbutz and the Market

The relationship between organizations and markets is the explicit focus of transaction cost economics, which characterizes markets and organizations as substitutes. The argument asserts that the ideal institutional form to govern transactions depends on the level of market imperfections. As imperfections increase, markets become less attractive and organizations more attractive (Williamson, 1985). The general idea that markets are better than organizations for governing certain activities is the most prominent explanation for the
struggles of the kibbutz in the second half of the twentieth century. To the question “What happened to the kibbutzim?” most would respond “capitalism.” The popular wisdom relies on the fact that Israel’s capitalist economy began to thrive at about the same time that the kibbutzim began to flounder. As the capitalist economy grew, the argument goes, the alternatives to the kibbutz became more apparent and attractive (Chafets, 1998; provided a journalistic version of the argument; recent scholarly literature includes Bloomfield-Ragagem, 1993; Ben-Rafael, 1996; Rosolio, 1999a; Gavron, 2000; Lapidot, Applebaum, and Yehudai, 2000).

The direct explanation for the negative influence of capitalist organizations on the kibbutzim amounts to coercive isomorphism (DiMaggio and Powell, 1983). Simons and Ingram (1997) documented the erosion in the 1950s and 1960s of the principle that the kibbutz should employ only the labor of members, and not hired workers. The kibbutz-level analysis showed that this principle was more likely to be dropped or relaxed by kibbutzim that were indebted to capitalist banks. Simons and Ingram (1997) explained that debt was used to influence kibbutzim away from a principle that violated the banks’ capitalist ideology. There is evidence from a number of contexts that capitalist organizations coerce cooperative organizations to change elements of their structure, threatening to withhold resources that cooperatives need to survive (Mintz and Schwartz, 1985; Rothschild and Whitt, 1986; Ingram and Simons, 2000). As past evidence has shown, this ideological competition affected change within existing kibbutzim, notably the transition to hired labor, but other revisions of their structure as well. It may have also retarded kibbutz founding by reducing the expectation of potential founders that they would be able to operate the organizational form of their choice with autonomy.

Indirect arguments for the infringement of capitalism on the kibbutz are even more common. According to these arguments, the opportunities of the capitalist economy lured potential participants away from the kibbutz. Another expression of this idea is that the favor toward the kibbutz in the early years of Jewish settlement in Palestine was a function of necessity. Due to the harshness of the political climate these settlers faced, and the dearth of employment opportunities, cooperative and communal organizations were among a small set of viable economic options (Near, 1992). Over time, as the capitalist economy grew in Palestine and Israel, the salience of this alternative must have increased. Its feasibility must have also increased, as the success of capitalist organizations depends partly on having other capitalist organizations to exchange with and on supporting institutions such as lending and stock markets, which themselves depend on a critical mass of client organizations (Mizruchi and Stearns, 1994). As the salience and feasibility of the capitalist alternative increased, the relative attractiveness of the kibbutz could be expected to decrease.

**Hypothesis 1 (H1):** The kibbutz founding rate will be negatively related to the number of capitalist organizations.
The Kibbutz and Community

Research on embeddedness introduced community into organizational analysis, partly as a response to the limited institutional scope of transaction-cost economics (Granovetter, 1985). The focus of embeddedness research is on the interpersonal trust and social cohesion that derive from interpersonal connections, which affect the form of feasible organization, generally by favoring small autonomous organizations over large, comprehensive hierarchies (e.g., Uzzi, 1996). It has also been argued that organizations may be substitutes for community relations in the production of order, as in Putnam's (2000) account of the displacement of the community-based cohesion of towns and neighborhoods by organizations such as the YMCA. The design of the kibbutz reflects an extreme form of this substitution, as it employed organizational control to govern basic social interaction, which is more traditionally structured by community norms. This was one of the most controversial features of the kibbutz, and we therefore expect kibbutz founding to be affected by the availability of alternative settlement forms that employ more traditional community governance and by the community-mindedness of the potential participants of kibbutzim.

The infringement of the kibbutz model on traditional community ideals begins with the most fundamental human relations, those between parents and children and between the sexes. The kibbutzim set out to employ a principle of gender-equity in work. A first step in allowing women the same economic role as men was to transfer the duties of childcare to the communal organization. The approach to childrearing was similarly radical, designed to socialize young participants to the model of organizational democracy they would be expected to employ as adults. The children were organized into a microcosm of the kibbutz, a "children's society" with significant rights of self-governance and the requisite organizational trappings, including committees, a general assembly, and even "children's farms." The kibbutz also controlled and defined other important relations, such as those between neighbors and friends. The word used to refer to others on the kibbutz was a version of the Hebrew word for friend, implying that this role was imposed on all members of the organization.

These practices had some success in affecting a social transition, more for the socialization of children than establishing the equality of their mothers, but they also faced controversy and resistance. Starting with the first two children born on the first kibbutz, mothers struggled with kibbutz-imposed allo-mothering (Baratz, 1954). This struggle was manifested in the reintegration over time of children into the family home and in the redefinition of women's work roles to place them into service and childrearing jobs that were of lower status on the kibbutz (Ben-Rafael, 1988). This change has been accompanied by a shift in the pattern of consumption, away from the strict egalitarianism and asceticism of early kibbutz life to allow for more family discretion on expenditures on items such as food, clothing, and entertainment (Talmon, 1972). Research attributes familization and the reestablishment of traditional gender roles to the persistent influence of
cultural norms from the wider society, evidencing the contest between the kibbutz and community (Schlesinger, 1977; Hertz and Baker, 1983; Leviatan, 1985).

The above changes occurred late in the life of the kibbutz and do not completely reconcile the difference between family relations and consumption on the kibbutz and in the wider community. The likelihood remains that the lure of alternative consumption and familial arrangements may have suppressed kibbutz founding. An attractive alternative in this regard and therefore a potential competitor for the kibbutz is the moshav. Moshavim are like kibbutzim in that they are permanent settlements that employ cooperative principles with regard to work and were traditionally focused on agriculture and, like the kibbutzim, have more recently expanded the scope of their economic activities. Unlike the kibbutzim, the moshavim have always employed traditional forms of consumption: members live in nuclear families, in their own homes, and spend their share of the organization's profits as they choose. When there are more moshavim upon which to settle, participants who prefer traditional community relations will be more likely to choose them over the kibbutz, and kibbutz founding will be lower.

Kibbutz founding may also be affected by changes in the community orientation of potential participants. A common claim is that Sephardic immigrants from Asia and Africa were culturally less partial to the kibbutz than Ashkenazi immigrants from Europe (Ben-Zadok, 1985; Cohen-Almagor, 1995). It is true that the recruitment and socialization systems of the kibbutz federations were focused in Europe, although recruitment efforts did not ignore Arab countries altogether (see Tzur, 1995). It is also true that Sephardic immigrants were prominently represented in alternative settlement types, such as the moshavim (Lipshitz, 1998), and the development towns (Spilerman and Habib, 1976). We therefore test the idea that kibbutz founding decreased as the proportion of Sephardic immigrants increased.

A third dimension of the community challenge to the kibbutz, the development town, represents the juxtaposition of an alternative settlement form and the cultural values of the Sephardim. Development towns are government-planned communities, created mostly in Israel's first decade. They have always been most closely associated with the Sephardim (Spilerman and Habib, 1976). Social life in the development towns was defined mainly by the family, community, and religious values of the Sephardim. The attitudes of the towns' residents have always been hostile toward the kibbutzim, reflecting differences in cultural values and political and economic interests (Yiftachel and Tzefadia, 1999). We therefore predict that the number of development towns will join with the number of moshavim and the proportion of Sephardic immigrants to represent the strength of community alternatives to the kibbutz's control over social and family life. These factors should decrease kibbutz founding.

Hypothesis 2 (H2): Kibbutz founding will be negatively related to the number of settlement types that represent alternatives to its organizational control over community relations and to the flow of
Jewish immigrants who favor traditional forms of community governance.

The Kibbutz and the State

The state figures prominently in explanations of the rise and fall of organizational populations, as a source of endorsements and surety (Baum and Oliver, 1992; Wholey, Christianson, and Sanchez, 1992; Barnett and Carroll, 1993; Ingrá and Simons, 2000), defining the rules of competition (Barron, West, and Hannan, 1994; Dobbin and Dowd, 1997; Silverman, Nickerson, and Freeman, 1997; Wade, Swaminathan, and Saxon, 1998), as a source of isomorphic pressure (Carroll, Goodstein, and Gyenes, 1988; Lehrman, 1994), and as a source of environmental change (Dobrev, 1999). The theme of this work is the dependence of organizations on the state, not the interdependence between the two forms. Some recent work has examined how organizations affect the state, specifically how they affect specific policies and their enforcement by lobbying and otherwise contending (e.g., Dobbin and Dowd, 2000; Schneiberg and Bartley, 2001) and by establishing precedent that affects the interpretation of laws and the direction of policy making (Haveman and Rao, 1997; Stark and Bruszt, 1998; Edelman, Uggen, and Erlanger, 1999). These efforts form a foundation for research that considers the mechanisms through which organizations affect the state, but to this point, organizational theorists have not considered the possibility that organizations are interdependent with the state as joint contributors to the system of order (Streeck and Schmitter, 1985; Strange, 1996). This possibility has implications for our understanding of the system of order in general and the pattern of state-organization relations in particular. It must also be examined to explain the evolution of the kibbutz in a dynamic political environment.

Our argument rests on three assertions, which correspond to three hypotheses: (1) that some organizations contribute to social order and may flourish as this role expands, (2) that the opportunity for organizations to fill this role depends on the capacity of the state, and (3) that powerful order-providing organizations may pose a threat to the state. The foundation of these claims dates to Durkheim (1951, 1984), who argued that states, due to their weak connection to the population, must rely on organizations to provide order. Hechter and Kanazawa (1993) made a kindred argument, that states rely on intermediating organizations to provide order because organizations are closer to individuals and can therefore control them more efficiently.

Although organizational theory has not yet embraced order provision as an explanation for the existence and growth of certain organizational forms, there are well-documented examples of organizations that fulfill this role. These include federations constituted to govern member organizations (e.g., Ingram and Simons, 2000, on the Histadrut), organizations that have supplier-customer relationships to others that pay for governance (e.g., Strange, 1996, on international accounting firms; Gambetta, 1993, on the Sicilian mafia), and organizations that provide social services while they promote specific ideological ends (e.g., Hechter, 2000, on Welsh non-
conformist churches). Controlling for the role of the state, such organizations should flourish as the social needs they aim to fulfill grow.

It is easy to see that the kibbutzim played an order-provision role early in their history, when the British Mandate served the role of the state. Britain occupied Palestine in 1917 and in 1920 was granted a mandate by the League of Nations to rule there. From the beginning, British rule struggled (McTague, 1983: 164). The frustrations of persistent Arab-Jewish conflict, combined with poor prospects for economic gain by the British, resulted in a de facto abdication of many of the responsibilities of governance (Migdal, 1988, 2001; Shalev, 1992; Biger, 1994; Segev, 2001). Even mandate officials came to believe that “Britain was failing in the elementary obligation of a sovereign to keep public order” (Sherman, 1997: 211; see also Peel Commission, 1937). It is not that the British made no attempt at all to govern but, rather, that their attempts were tinged by miserliness and compromised by a confused sense of their mission and authority. Their investments in public works were “cautious” (Graham Brown, 1982: 93), and they often granted controversial monopolies (e.g., for transportation and electricity generation) as a way to avoid the investment necessary to develop the country (McTague, 1983). Their efforts to promote human development were limited to the poorest Arab peasants (Sherman, 1997: 44), and they spent a disproportionate amount of their tax revenue on administrative expenses, as opposed to services (Ingram and Simons, 2000). The mandate acted against serious crimes and open violence between Arabs and Jews, but its “police apparatus was seriously flawed,” and policing efforts were undermined by a judiciary that was a “fable creature” and suffered from a lack of systematization and centralization of magistrates, poor coordination between magistrates and police, and the failure to provide courts in remote areas of the country (Bowden, 1977: 173, 222).

A key component of the mandate’s strategy of governance on the cheap was to encourage the Arab and Jewish populations to develop institutions for self-governance. Central among the Jewish organizations that governed was the Jewish Agency, which was the focal point of relations to the British, the connection to Jews outside of Palestine, and the main distributor of the resources they provided. Within Palestine, the Jewish Agency provided some basic infrastructure, for example, spending £100,000 a year during the 1920s on sanitation (Martin, 1998). A related organization, the Histadrut, governed economic relations between organizations. It was a master-cooperative, representing many of the thousands of worker, consumer, housing, and agricultural cooperatives (including the kibbutzim) that formed the foundation of the Jewish economy under the mandate. It provided or facilitated loans, consulting and training, and dispute resolution for its member organizations, health insurance to workers, and maintained labor-market institutions (Ingram and Simons, 2000).

The kibbutzim were influential in both of these organizations and contributed to their efforts but also had their own role in
the system of governance (Segev, 2001). According to Near (1992: 2), there were “three functions which the kibbutzim had always taken on themselves—absorption [of immigrants], settlement, and defense,” which were almost universally seen as the priorities of Palestine’s Jews. The most significant element of Jewish defense during the mandatory period was the Haganah, which was the first and largest of a number of underground armies. Largely, kibbutz members staffed it, and kibbutzim were the sites of its training and weapons storage. Defense and settlement were closely tied for the Jews of mandatory Palestine. In describing the rationale for settling in a specific location, a kibbutz member observed that “the mere existence [of the kibbutzim] was determined, sometimes as the primary consideration, based on their ability to defend the ‘home front’ of the Jewish population” (Eilat, 2000: 157). Further illustration of the close relationship between settlement and defense comes from a plan for a large-scale settlement scheme, devised in 1943 by the Haganah, in which the primary considerations for settlement locations were strategic defense needs (Orren, 1978).

As for immigration absorption, the kibbutzim actively aided immigrants, be it by finding them work in one of the traveling work groups that often became the seeds for new kibbutzim or by directing the immigrants to settle on an existing kibbutz (Aharoni, 1991). The kibbutzim were also a keystone of the system of workers’ schools, hosting and staffing many of them. By the end of the mandate, these schools educated half of Palestine’s Jewish children and more than 70 percent of the children of new immigrants (Ben Chorin, 1983). The linkage between kibbutzim’s service on these dimensions and their founding is illustrated by the kibbutzim’s response to the outbreak of the Arab Revolt of 1936. This revolt included a general strike by Arabs, which paralyzed Palestine’s government and public transportation services, and violence, including assassinations and attacks on cities, buses, and public facilities. The Jewish response included a rapid increase of militarization, including an expansion of the Haganah and modernization of its weapons (Horowitz and Lissak, 1978). Demonstrating a conscious symbiosis, many of the new weapons were provided by the mandatory government in an effort to leverage its own defense resources (Sherman, 1997). The reaction also included a deliberate increase in the establishment of new settlements, to reinforce previously isolated Jewish settlements and establish initial footholds in areas that were considered to be strategically important (Near, 1997; Rozenman, 1997). Throughout the disturbances of 1936–1939, 43 settlements, mostly kibbutzim, were founded in remote areas sparsely populated by Jews, such as the Western Galilee (Weintraub, Lissak, and Azmon, 1969; Orren, 1978). In the years 1940 through 1945, almost 50 percent of the Jewish Agency’s total investments for settlement were directed to kibbutzim (Rozenman, 1997: 291).
These arguments suggest that kibbutzim will be founded in response to opportunities to provide defense, settlement, and absorption in a manner analogous to the common expectation that an organizational form that provides a product or service will flourish as demand for that output increases:

**Hypothesis 3 (H3):** Kibbutz founding will be greater when there are greater opportunities to provide defense, settlement, and absorption.

The relationship between demand and form growth suggested in hypothesis 3, however, is conditioned by competition from other forms (Hannan and Freeman, 1989). Often, the state endeavors to supply order directly and may come into competition with order-providing organizations, as well as markets and communities. The idea of substitutability between state and organizational order in specific realms is implicit in recent analyses of order in the United States, which identify the state’s reliance on indirect governance through organizations as a response to its low capacity for direct governance (Hamilton and Sutton, 1989; Dobbin and Sutton, 1998). Competition between public and private order appears in Greif’s (1994) account of the institutions that governed trade in the eleventh-century Mediterranean region, where emerging city states eventually displaced ethnic trading networks.

While the British Mandate could never be classified as a strong state, there was variance in the zeal and manpower it applied to governing Palestine. For example, its police force increased fivefold and its bureaucracy fourfold throughout its years as sovereign (not always linearly). Similarly, its attitude to the order-provision efforts of the kibbutzim and kindred organizations varied between encouragement and hostility, depending on its capacity to manage the society’s problems (Near, 1997). An even bigger shift occurred with the transition to the Israeli state in 1948. Prime Minister David Ben-Gurion and other early leaders of Israel pursued a policy of statism that called for the centralization in the state of previously dispersed mechanisms of governance (Cohen, 1987).

National objectives that had previously been pursued by the kibbutzim, and other organizations such as the Histadrut, were seen as within the legitimate domain of the state (Horowitz and Lissak, 1978). As Ben-Gurion put it, “all national initiatives will be exclusively controlled by the State apparatus” (Ben Chorin, 1983: 8).

For the kibbutzim, the most salient operational impact of this policy was the absorption by the state of their military and education systems (Etzioni, 1966; Rosolio, 1999b). The independent workers’ education system and the pioneering youth movements, two critical recruitment and socialization mechanisms for the kibbutzim, were incorporated into the state-controlled educational system. The Haganah and the Palmach (an elite element of the Haganah, also dominated by the kibbutzim) were disbanded, and the Israel Defense Forces (IDF) were formed (Yanai, 1982). Similarly, the state undertook the strategic planning of settlement locations (Ben-Zadok, 1985).

We do not claim that states with high institutional capacity necessarily harm order-providing organizations, or even that...
state strength overall hurt the kibbutzim. Modern states often supply institutions that help constituent organizations by providing surety and smoothing exchange (Ingram and Simons, 2000; Russo, 2001), and some expansions of state capacity in Palestine and Israel must have helped kibbutzim. For example, in 1933 the British Mandate “appreciably increased” the bureaucracy of the Registrar of Co-operative Societies, which monitored the kibbutzim but also supplied advice and assistance to them (Hyamson, 1950: 181). Therefore, we restrict our hypothesis to the specific effect of the state in the realms of order supply in which the kibbutzim operated. To the extent that state capacity represented efforts to manage defense, settlement, and absorption, these social needs will represent less of a stimulus to kibbutz founding (Ben Chorin, 1983; Tzur, 1984). Thus state capacity will moderate the impact on kibbutz founding of opportunities to provide order, because the more capable the state, the more likely it was to fulfill those opportunities itself.

**Hypothesis 4 (H4):** The state’s institutional capacity will moderate the positive effect on kibbutz founding of opportunities to provide defense, settlement, and absorption, and their effects will be smaller when the state is more capable.

Finally, we consider the possibility that organizations that provide order may sometimes go beyond mere overlap with the institutional capacity of the state to threaten the autonomy that the state requires to manage the institutional framework effectively (Rueschemeyer and Evans, 1985; Migdal, 1988; Grinberg, 1993). Hechter and Kanazawa (1993) identified the absence of a threat to the state’s autonomy as a condition for symbiosis between states and order-providing organizations. They didn’t explain what happens if such a threat exists, but Strange (1996) did in her account of relations between the Italian state and the mafia. Her story begins with a period of symbiosis between the state and mafia, wherein “the state in effect delegated to the mafiosi the functions of social intermediation and arbitration, protection of property and persons and the preservation of order” (p. 115). In the 1970s, the mafia gained power relative to the state as a function of a quantum leap in the mafia’s financial resources resulting from the internationalization of their criminal activities. This shift in power caused the state to become hostile to the mafia: politicians began covering up links to the mafia, and the state attacked the mafia through the legal system.

Just when organizations will be seen as a threat to the state is an empirical question. The threshold likely depends on the challenge to the state’s monopoly over the legitimate use of violence, which Weber identified as a qualifying characteristic of the state in “Politics as a Vocation.” This is consistent with Tilly’s (1985: 173) observation that “disarming the great stood high on the agenda of every would-be state maker” in sixteenth- and seventeenth-century Europe. A Weberian analysis also suggests that organizations may threaten the state without violence if they undermine the fundamental sources of legitimate authority that are the foundation of the state (Gerth and Mills, 1946). Such a threat to the legitimacy of the sovereign appears to have been a motivation for Henry
VIII’s suppression of the English monasteries in the 1530s (Marti, 1929).

The historical record indicates that the kibbutzim were perceived as a threat by the new State of Israel and that the state responded with direct attacks on them. As a kibbutz member recollects, Prime Minister David Ben-Gurion “feared our strength, so he had to break us up. He didn’t want any strong autonomous organizations, because he considered them a threat to the new state” (Lieblich, 1981: 119). The perceived threat persisted even after the Haganah and Palmach had been absorbed into the IDF, as evidenced by rumors that kibbutzim were secretly accumulating weapons and sustaining an underground for the purpose of overturning the state. These rumors were fueled by the resistance of some kibbutz members to giving up their weapons, which they claimed as necessary for self-defense in the face of state hostility: “we won’t be protected because we represent some sort of a political opposition” (Eilat, 2000: 158).

In a master stroke of statecraft, Ben-Gurion and other leaders of the new state stripped kibbutz members of honorific labels such as pioneer and volunteer and began applying those labels to civil servants (Near, 1997: 184–185). This rhetorical tactic simultaneously undermined the link between Zionist goals and the kibbutzim that had been the root of the kibbutzim status, while contributing to the bureaucracy as a legitimate base of state authority (Cohen, 1987: 218). Also illustrative is a speech to the Israeli parliament in 1950 in which Ben-Gurion, who had been a kibbutz member and a leader in the kibbutz movement during the mandatory period, claimed to be “humiliated and ashamed” by his previous association with the kibbutzim.

In these moves, we see much more than the gradual imposition of a strengthening state on organizations that previously supplied order. The attacks of the new state on the kibbutzim were aimed at the very legitimacy of that organizational form and, given the state’s influence over legitimating processes, could be expected to transform the public image of the kibbutz. The persistence of this change is indicated by recent comments of the secretary of the Kibbutz Artzi federation, reflecting on the early days of relations between the State of Israel and the kibbutzim: “We were subjected to demonization. No matter how hard we try, we can’t shake it off” (Levy-Barzilai, 2000: 9). We therefore expect the formation of the Israeli state to trigger a decrease in kibbutz founding due to delegitimation, independent of the associated influences of changes in the state’s institutional capacity.3

Hypothesis 5 (H5): The kibbutz founding rate will fall with the establishment of the State of Israel and the onset of its campaign to delegitimize the kibbutz.

The Interdependence of the Market, Community, and State

So far we have considered the dyadic relationships between the kibbutzim and the other institutional alternatives, but we recognize that those alternatives are themselves interrelated. It has been argued that the modern capitalist firm depends

3 An obvious question is why the kibbutzim didn’t draw a comparable hostile response from the British Mandate, given that the balance of power between state and kibbutz was even more unfavorable to the British Mandate than to the State of Israel and that the mandate actually suffered violent attacks from Jewish insurgents. Part of the explanation is that governing without reliance on the kibbutzim and related institutions was simply not feasible for the British. Probably more important was the fact that the British did not intend to rule in Palestine indefinitely. Whereas compromised autonomy was an existential threat to the State of Israel, when the British Mandate became so embattled that it could no longer rule effectively, the British could simply pack up and go home (Sherman, 1997).
heavily on institutions provided by the state (Miliband, 1969), and there is evidence that the Israeli state established policies that smoothed exchange between independent organizations and thereby improved their life chances (Ingram and Simons, 2000). The Israeli state also influenced the growth of community order, for example, by directing a disproportionate amount of the substantial external funds that were raised in the early years of the state to moshavim and development towns as opposed to kibbutzim (Tsizling, 1950; HaKibbutz HaMeuchad, 1967: 79). To the extent that the Israeli state promoted increases in the number of corporations, moshavim, and development towns, our analytic strategy may understate the total influence of the state on the kibbutzim and overstate the relative influence of market and community.

METHODS

Foundings in a population are counts of events over a discrete period, typically a year. Poisson regression is often an appropriate method for modeling dependent variables that are event counts (King, 1988). With Poisson regression as the starting point, we considered three additional methodological concerns to choose a modeling strategy. The first concern was which unit of analysis was appropriate. Organizational foundings are often analyzed at the level of the country but are sometimes analyzed at the level of sub-country regions (e.g., Swaminathan, 1995). For the analysis of kibbutz foundings, there are a number of factors that favor regions as the unit of analysis. First, the kibbutz federations sometimes made founding decisions with consideration to what they perceived as the optimal number of kibbutzim in a given geographic region (Rayman, 1981; Katz, 1995). So we would expect that the influence of the number of existing kibbutzim on the founding rate would be more pronounced in smaller regions than in the country as a whole (exploratory analysis supported this expectation). Second, a key resource for kibbutz founding, land suitable for settlement and agriculture, is distributed unevenly throughout the country. Modeling the availability of land for new kibbutzim requires measures of the amount and type of land and of existing settlements, particularly the moshavim and development towns, that may compete for that land. The only meaningful way to do this is by operationalizing those variables in geographic regions that are small enough to be reasonably consistent in the type of land they represent. Third, and related, the area and type of land available for settlement changed during the period we studied as the borders of Israel changed. This is difficult to deal with if the country is the unit of analysis, but much easier with smaller regions because they can be added to or dropped from the analysis depending on their feasibility for settlement.

Given these arguments, we decided to use regions as our unit of analysis, and our dependent variable was defined as the number of kibbutzim founded in a region in a year. The next step was to decide what those regions should be. Here, we were guided by the practical demands of coding data at the regional level. Recording borders, settlements, land quality, and weather conditions at the regional level required using numerous maps. So we defined our regions using the most

4 A few readers have mistakenly assumed that a regional analysis is equivalent to multiplying the number of observations in our analysis by the number of regions and thereby artificially increasing the statistical power of our models. While the regionalized analysis increases the number of units that may experience an event, it does not increase the number of events. Instead, the aggregate number of events is divided among units, and the overall risk of an event does not increase or decrease. This is the spatial equivalent of temporal spell-splitting in an event-history analysis, a refinement of the unit of analysis that allows finer specification of some covariates but should not (and in our analysis, does not) affect the significance of covariates that do not vary across units.
common map-grid used in maps of mandatory Palestine and Israel. This grid divided the territory into ten-by-ten kilometer squares, which became our regions. In the early stages of our analysis, we used a different grid because it was superimposed on the first map we found showing all of the kibbutzim. Results of that early analysis were comparable to results using the ten-by-ten kilometer grid, so we do not believe that our analysis is biased by the particular grid we used to define the regions. Our analysis included 36,800 yearly observations, spread over 952 regions. Regions were included in years in which they were part of Palestine, Israel, or occupied by Israel, which ranged from a minimum of 15 to a maximum of 88 years.

The second methodological concern emerges from the use of multiple regions as our unit of analysis. This approach produces an unbalanced panel data structure, with repeated annual observations of each region. A potential problem is that observations of the same region may not be mutually independent. When they are not independent, conventional Poisson models (and mixed-Poisson models such as the negative-binomial model) are inappropriate because they are based on the assumption of independence (Guo, 1996). A response to this problem is to add a gamma-distributed region-specific random effect to the Poisson models (Guo, 1996). This approach, called a negative-multinomial model, makes explicit allowance for interdependent observations by modeling unobserved influences shared by all the counts of a region.

The third methodological concern comes from another assumption of the Poisson model, one of equality between the conditional mean and the variance of the dependent variable. Often, as in our data, the variance exceeds the conditional mean, resulting in what is called overdispersion. The negative-multinomial model actually accounts for overdispersion. It is essentially a negative-binomial model (a variant of the Poisson model that is commonly used to deal with overdispersion) with an overdispersion parameter that varies across regions. Hausman, Hall, and Griliches (1984) suggested a further refinement that starts with the negative multinomial model and makes additional assumptions about the distribution of the random effect that effectively allow the overdispersion parameter to vary across both regions and time. This approach, called a negative-binomial model with random effects, yielded a better fit to our data as indicated by log-likelihood statistics, so we used it in the results reported below, although results were comparable in all respects with the less restrictive negative-multinomial model. The model we estimated with the xtnbreg command in STATA was of the form:

$$\lambda_{ij} = \exp (x_{ij}\beta) \theta_i,$$

where $\lambda_{ij}$ is the predicted foundings in region $i$ in year $j$, $\theta_i$ is a gamma-distributed random effect with the parameters described by Hausman, Hall, and Griliches (1984), and $x_{ij}\beta$ is an alternative approach is to add a fixed effect for each region. The fixed-effects approach requires fewer assumptions than the random-effects approach but cannot be used if the explanatory variables include some that do not vary within regions. In our analysis, land quality and rain are important variables that do not vary within regions and so could not be included in fixed-effects models. Fixed-effects models run on our data without the rain and land quality variables produced results that were comparable to the random-effects models reported here.

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represents the vector of independent variables and coefficients for region i in year j.

Data and Variables

We collected the data from a number of historical and archival sources. Most useful were a large number of maps that identified the location and founding dates of kibbutzim, moshavim, development towns, and other towns; the boundaries of the Jewish population of Palestine and of the State of Israel; and land type and amount of annual rainfall. The Statistical Abstract of Israel (various years) and comparable volumes compiled under the British Mandate provided data on population, immigration, number of corporations, and number of state bureaucrats.

Following our hypotheses, our models included densities (counts) of corporations (H1), moshavim, and development towns (H2). Because moshavim and development towns compete with kibbutzim for suitable land on which to settle, we operationalized their densities at the local level as the count in a given region. Corporation density is only available in aggregate, and in any case, the arguments supporting hypothesis 1 suggest a society-wide competition between kibbutzim and corporations. The density variables, like all time-changing variables in our analysis, were updated at the beginning of each year. We also included a moving average of the percentage of Jewish immigrants over the preceding five years who were from Asia and Africa to test the Sephardic dimension of community influence (H2).

Following the norms of ecological analysis, we also included the density of the kibbutz population. A population’s own density has been argued to represent processes of legitimation and competition (Hannan and Freeman, 1989). Legitimacy increases at a decreasing rate with density and increases a population’s founding rate. Competition increases at an increasing rate with density and decreases the founding rate. These two processes combine to support a prediction of a non-monotonic effect of density on founding, with founding increasing and then decreasing with density. Kibbutz density and its square were included in our models to capture this non-monotonic effect. As noted, kibbutz-federation policy and exploratory analysis indicated that the effects of kibbutz density were strongest at the regional level, so we measured kibbutz density at the regional level. Following convention, we logged the first-order kibbutz density measure (Barron, West, and Hannan, 1994). In supplementary analyses, we also included kibbutz density outside the region, which did not improve the fit of our models.

To measure opportunities to provide defense, settlement, and absorption (H3), we used three variables that reflect the near unanimity that the greatest challenges to Jewish society in Palestine and Israel came from a rapidly growing population, the threat of political violence, and the desire to win territory that was contested by both Jews and Arabs (e.g., Orren, 1978; Rayman, 1981; Cohen, 1987). The first is Jewish population, the number of Jews in the country at the start of a given year. The second is political violence, an indicator variable coded 1 in years of significant political violence or
tension between the Jewish population and surrounding Arab populations. The third is contested region, which is a coding by region based on two conditions. First, we consider its proximity to a border contested by an Arab population. If the region spans a contested border (for example, the border with Egypt before Israel’s withdrawal from the Sinai Desert in 1982 or the borders with Syria or the West Bank at any time), it is coded as 3; if it is within 5 kilometers of a contested border, it receives a code of 2; and if it is within 10 kilometers of a contested border, the code is 1. If it qualifies as contested according to the first condition, we consider whether it has any non-kibbutz Jewish settlement (city, town, village, agricultural center, etc.); if not, the contention code is set to 0. So the contested region variable is a function of proximity to a contested border, with the caveat that there must be some kind of non-kibbutz Jewish settlement. A region that was near a contested border but did not attract any Jewish civilians, such as much of the inhospitable Sinai Desert, did not qualify as contested—kibbutzim might settle there for their own purposes, but doing so could not be interpreted as a contribution to the collective needs of the Jewish society.

We interacted these three variables with the variable state institutional capacity to test H4, about competition from the state to provide defense, settlement, and absorption. This variable was operationalized using a count of the number of state bureaucrats and police divided by 100,000 and logged for scaling. Relying on the size of the bureaucracy as the indication of state institutional capacity reflects Weber’s argument that bureaucracy is the foundation of authority for the modern state (Gerth and Mills, 1946) and captures the core determinants of state capacity as described by Skocpol (1985). Of course Weber’s and Skocpol’s arguments indicate that the power of bureaucracy is not merely a function of its size. Both the British and the Israelis employed professional bureaucracies, but differences in the institutional capacity of each, controlling for size, might emerge due to other sources of bureaucratic effectiveness. We investigated this possibility empirically by testing for a differential impact of institutional capacity between the British Mandate and the State of Israel and found no difference. Another option for measuring institutional capacity is to consider specific state policies relevant to defense, settlement, and absorption (Russo, 2001). We couldn’t employ this option because we don’t know the large set of relevant policies employed by the British Mandate and State of Israel. In our context, however, it is not clear that reference to specific policies would be preferable, because for the embattled and fledgling states we consider, the question “Could it be implemented?” must be asked of any policy. Hypothesis 5, on the impact of the delegitimation campaign that the new State of Israel launched on the kibbutzim, was operationalized with a dichotomous variable, Israeli state, which was coded 1 in years after the formation of the Israeli state.

Our models included two control variables designed to reflect the attractiveness of a region for agriculture. Land quality is a continuous variable ranging from 0 to 1. It was created by measuring the amount of various types of land in each region.

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7 For the mandate period, we relied on Haganah (1954), which categorized as representing heightened political violence and tension the years of the first (1920–1939) Arab revolts, the period of World War II in the Middle East (which began in 1940), and the years from the end of World War II to the end of the war that began with the UN partitioning of Palestine in 1948. For the Israel period, we take the periods of the Sinai War (1956), the Six-Day War (1967), the 1973 War, the Lebanon War (1982), and the first Palestinian Intifada (1989) to represent heightened political violence and tension.

8 Reliable statistics were not available for the period we studied for other relevant state participants such as soldiers and prison staff, but we would expect these to be highly correlated with the number of bureaucrats.

9 In a previous analysis of the failure of Israeli workers’ cooperatives (Ingram and Simons, 2000), we used the Israeli-state dummy variable to represent an increase in the state’s capacity to govern and did not include a measure of the size of the bureaucracy. In supplementary analyses (available from the authors), we reestimated the models from Ingram and Simons (2000) using the measure of state institutional capacity that we employed in this paper. The results were comparable in all substantive ways to those reported in the earlier paper, and all hypotheses from that paper were supported in the reanalysis.
from appropriate maps. In consultation with an Israeli agronomist, we assigned a value of 1 to land types that were most appropriate for agriculture (e.g., the coastal plain and the Yisrael Valley); one-half was given to land of mixed quality (e.g., the Galilee Hills); 0 represented land that was not well suited for agriculture (e.g., the Judean Hills) and desert. Since this variable was based on land area of the various types, it also reflects the fact that regions had less opportunity for kibbutz settlement if they were less than 100 square kilometers because they spanned borders or bodies of water. The rainfall variable represents the average annual rainfall in centimeters in the region. Controls also included the main effect of state institutional capacity and the density of towns in a region to capture a potential source of land competition for kibbutzim. Table 1 presents correlations and descriptive statistics for all variables.

Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S. D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kibbutz founding</td>
<td>.008</td>
<td>.097</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Jewish population</td>
<td>20.029</td>
<td>14.04</td>
<td>-.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Political violence</td>
<td>.376</td>
<td>.484</td>
<td>.05</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Contested region</td>
<td>.300</td>
<td>.851</td>
<td>.05</td>
<td>.16</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. State institutional capacity</td>
<td>10.354</td>
<td>1.141</td>
<td>-.03</td>
<td>.92</td>
<td>.12</td>
<td>.11</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>6. State of Israel</td>
<td>.658</td>
<td>.474</td>
<td>-.06</td>
<td>.89</td>
<td>-.03</td>
<td>.11</td>
<td>.11</td>
<td>.92</td>
</tr>
<tr>
<td>7. Corporation density</td>
<td>23.400</td>
<td>20.41</td>
<td>-.06</td>
<td>.97</td>
<td>.04</td>
<td>.18</td>
<td>.81</td>
<td>.79</td>
</tr>
<tr>
<td>8. Kibbutz density</td>
<td>-1.842</td>
<td>1.111</td>
<td>.10</td>
<td>.16</td>
<td>.05</td>
<td>.33</td>
<td>.16</td>
<td>.16</td>
</tr>
<tr>
<td>9. (Kibbutz density)²/10</td>
<td>.128</td>
<td>.620</td>
<td>.04</td>
<td>.10</td>
<td>.02</td>
<td>.26</td>
<td>.10</td>
<td>.10</td>
</tr>
<tr>
<td>10. Moshav density</td>
<td>.527</td>
<td>1.837</td>
<td>.01</td>
<td>.17</td>
<td>.02</td>
<td>.29</td>
<td>.16</td>
<td>.17</td>
</tr>
<tr>
<td>11. Town density</td>
<td>.251</td>
<td>.835</td>
<td>.03</td>
<td>.14</td>
<td>.04</td>
<td>.34</td>
<td>.08</td>
<td>.08</td>
</tr>
<tr>
<td>12. Land quality</td>
<td>.230</td>
<td>.328</td>
<td>.11</td>
<td>-.11</td>
<td>.03</td>
<td>.38</td>
<td>-.15</td>
<td>-.14</td>
</tr>
<tr>
<td>13. Rainfall</td>
<td>2.327</td>
<td>2.386</td>
<td>.09</td>
<td>-.14</td>
<td>.03</td>
<td>.38</td>
<td>-.19</td>
<td>-.18</td>
</tr>
<tr>
<td>14. % of Immigrants from Asia and Africa</td>
<td>.221</td>
<td>.184</td>
<td>.00</td>
<td>.17</td>
<td>.10</td>
<td>.05</td>
<td>.37</td>
<td>.50</td>
</tr>
<tr>
<td>15. Development town density</td>
<td>.050</td>
<td>.251</td>
<td>-.01</td>
<td>.13</td>
<td>.01</td>
<td>.14</td>
<td>.12</td>
<td>.14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Kibbutz density</td>
<td>.17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. (Kibbutz density)²/10</td>
<td>.10</td>
<td>.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Moshav density</td>
<td>.18</td>
<td>.43</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Town density</td>
<td>.17</td>
<td>.32</td>
<td>.23</td>
<td>.43</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Land quality</td>
<td>-.07</td>
<td>.51</td>
<td>.30</td>
<td>.44</td>
<td>.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Rainfall</td>
<td>-.09</td>
<td>.43</td>
<td>.22</td>
<td>.34</td>
<td>.39</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. % of Immigrants from Asia and Africa</td>
<td>.04</td>
<td>.15</td>
<td>.09</td>
<td>.12</td>
<td>.01</td>
<td>-.04</td>
<td>-.05</td>
<td></td>
</tr>
<tr>
<td>15. Development town density</td>
<td>.13</td>
<td>.29</td>
<td>.22</td>
<td>.44</td>
<td>.28</td>
<td>.23</td>
<td>.20</td>
<td>.11</td>
</tr>
</tbody>
</table>

**RESULTS**

Table 2 presents nested negative-binomial models with random effects. Model 1 is a base model, to which models 2 and 3 add additional variables. Model 4 adds a variable representing the year to rule out the possibility that our results depend on some unobserved historical trend. Chi-squared tests indicated that each model improves on the previous until model 4, which is not a significant improvement over model 3. Since the time trend is insignificant and does not add to the explanatory power of the models, and our substantive results are the same in models 3 and 4, we focus on model 3 in this discussion of results.
In model 3, corporation density has a negative coefficient, supporting H1, that the kibbutz suffered from competition from the capitalist system. Moshav density, the percentage of immigrants from Africa and Asia, and the density of development towns all have negative coefficients, as predicted by H2. These three variables together show that kibbutz founding was lower as a function of the availability of alternative settlements that had more traditional patterns of community relations and as a function of the increasing proportion of Sephardic immigrants who were associated with more traditional community values.

The Jewish population, political violence, and contested region variables all have positive coefficients. This indicates that, consistent with H3, the founding rate was higher when there were more opportunities to provide absorption, settlement, and defense. As H4 predicted, those effects were moderated by state institutional capacity. The interactions between that variable and the three “opportunities” variables were all negative. We can identify from our regression equa-
tion the points in time when state institutional capacity eliminates kibbutzim’s opportunities to provide order by taking the derivative of the kibbutz founding rate with respect to the opportunities variables (Schoonhoven, 1981). These calculations indicate that Jewish population had a positive effect on kibbutz founding for the whole of the period we study, while for political violence and contested region, the interactions overwhelm the main effects in the year 1967. This method of interpretation can be extended to consider the magnitude and statistical significance of the opportunities variables at various points in history based on linear combinations of their main effects and interactions with state institutional capacity (Friedrich, 1982). The coefficients in table 3 show the impact of Jewish population, political violence, and contested region, conditional on the level of state institutional capacity at different times.

Table 3 shows that the impact of Jewish population on kibbutz founding is positive and significant throughout the period we studied, with a magnitude that is substantial even when state institutional capacity is at its highest, at the end of our period of analysis. Political violence represented a 138-percent increase in founding when state institutional capacity was at its 1917 level, 44 percent higher given the institutional capacity in the last year of the British Mandate (1948), but no significant increase given the institutional capacity in the State of Israel’s first post-war year (1950). Highly contested regions had almost six times (463 percent) the founding rate.

Table 3

<table>
<thead>
<tr>
<th>Year</th>
<th>Historic Significance</th>
<th>Level of State Institutional Capacity</th>
<th>Conditional Coefficients</th>
<th>Multiplier of the Founding Rate for:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jewish population, evaluated at</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.167, its level when the State of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Israel was declared in 1948</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Political violence, evaluated at</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>its maximum of 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Contested region, evaluated at</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>its maximum of 3</td>
</tr>
<tr>
<td>1917</td>
<td>First year of the British Mandate</td>
<td>8.216899</td>
<td>.586** (.081)</td>
<td>6568%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.869* (.399)</td>
<td>138%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.511** (.157)</td>
<td>463%</td>
</tr>
<tr>
<td>1936</td>
<td>Second Arab Revolt</td>
<td>9.282475</td>
<td>.477** (.057)</td>
<td>2963%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.533* (.249)</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.314** (.100)</td>
<td>257%</td>
</tr>
<tr>
<td>1948</td>
<td>UN Partition and declaration of State of</td>
<td>9.804496</td>
<td>.424** (.048)</td>
<td>1988%</td>
</tr>
<tr>
<td></td>
<td>Israel</td>
<td></td>
<td>.368* (.203)</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.218** (.082)</td>
<td>192%</td>
</tr>
<tr>
<td>1950</td>
<td>First post-war year of State of Israel</td>
<td>10.03283</td>
<td>.401** (.045)</td>
<td>1671%</td>
</tr>
<tr>
<td></td>
<td>Six-Day War</td>
<td></td>
<td>.296 (.193)</td>
<td>Non-significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.176* (.079)</td>
<td>170%</td>
</tr>
<tr>
<td>1967</td>
<td>First non-Labor government in Israeli</td>
<td>10.9802</td>
<td>.304** (.041)</td>
<td>784%</td>
</tr>
<tr>
<td></td>
<td>history</td>
<td></td>
<td>−.003 (.240)</td>
<td>Non-significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.001 (.096)</td>
<td>Non-significant</td>
</tr>
<tr>
<td>1977</td>
<td>Last year of our analysis</td>
<td>11.35259</td>
<td>.268** (.044)</td>
<td>573%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>−.121 (.285)</td>
<td>Non-significant</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>−.067 (.113)</td>
<td>Non-significant</td>
</tr>
<tr>
<td>1998</td>
<td></td>
<td>11.32751</td>
<td>.268** (.043)</td>
<td>583%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>−.121 (.285)</td>
<td>Non-significant</td>
</tr>
<tr>
<td></td>
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<td>−.067 (.113)</td>
<td>Non-significant</td>
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* p < .05; ** p < .01.
of non-contested regions under the lower-capacity British Mandate of 1917, and still almost three times the rate in Israel's first year (170 percent), but contestation's effect on the founding rate fell to non-significance with the growth in state institutional capacity that happened between 1950 and 1967. Although the conditional coefficients for political violence and contested region are negative in years after 1967, they are never significant, so it is not the case that the kibbutz rate is ever lower as a function of those factors.

The effects in table 3 illustrate clearly that kibbutz founding depended not just significantly but substantially on the opportunities to provide order to the Jews of Palestine and Israel. They also illustrate the interdependence between the benefit that those opportunities represented and the growth of state capacity, with the founding rate becoming less and less responsive to the needs of the society as the state's capacity, represented by the size of the bureaucracy, grew. The differences between the effects of Jewish population, political violence, and contested region are also notable. The kibbutzim played a significant role of absorption throughout the whole of their history (the 1990 wave of immigrants to Israel from the Soviet Union was a small boon for the kibbutzim; Near, 1997). The state displaced the kibbutz completely, however, from its role of settling contested regions and responding to political violence in the years between 1948 and 1967. This difference is suggestive as to which functions a state may rely on order-providing organizations for and which it must fulfill itself. The results lend support to the Weberian notion that the potential for state-organization symbiosis is influenced by the state's need to maintain a monopoly over the use of violence.

Hypothesis 5 is supported by the negative coefficient in table 2 for the State of Israel variable. Independent of the effects of opportunities for order and state capacity, kibbutzim were less likely to be founded after Israel was formed and its leaders engaged in a campaign to delegitimize the kibbutz. The main effect of state institutional capacity is positive. Although we made no prediction about this variable, the positive result is consistent with previous arguments that the general contributions of the state to provide order help organizations (Ingram and Simons, 2000; Russo, 2001).

The other variables in the model yield interesting results. Kibbutz density has the non-monotonic effect on founding predicted by the theory of density dependence, with founding first increasing and then decreasing with density. Town density was not significant. This provided greater confidence that the results we found for development-town density are attributable to the association of these settlements with Sephardic immigration and are not confounded with some other influence of non-agricultural settlements on kibbutz founding. Finally, the level of rainfall had a positive effect on the founding rate, and kibbutzim were significantly more likely to be founded on land that was good for agriculture.

The analysis in table 2 treated all kibbutzim the same. It is possible that kibbutzim had differential relations with the state as a result of different political affiliations. In supple-
mentary analysis (available from the authors), we tested that possibility by looking for differential effects of independent variables on the founding rates of the three main kibbutz federations. The differences were of degree, not kind, and depended on the relative emphasis the federations placed on Zionism and socialism. The Ichud federation was strongest in Zionist ideology and had the closest political links to the Israeli state. It was the most responsive federation to opportunities to provide settlement, defense, and absorption (H3) and, consequently, the most affected by the growing capacity of the state in those realms (H4). Notably, it did not suffer from the state’s delegitimizing attacks, reflecting its closer alignment with the state and its leaders. The more socialist federations (Meuhad and Artzi) were affected less dramatically by opportunities to supply order and by indirect competition from state capacity but suffered notably from the delegitimizing attacks of the state (H5). These federations had more explicit hostilities with the state and therefore were the target of its political campaign of self-protection. This adds support to our argument that it was the threat posed by the kibbutzim that evoked the hostile response of the state. The extra analysis also adds texture to the effect of capitalist competition. The negative impact of capitalist organizations on the federations increased from left to most-left, with the radical-Marxist Artzi federation suffering most as the capitalist economy grew.

Additionally, we estimated our full model using an alternative operationalization of the growth of the capitalist economy, demand deposits in banks, rather than the number of corporations. The demand-deposit variable was negative and highly significant, consistent with H1, although this model did not fit our data as well as model 3. Finally, we tested for non-monotonic effects of moshav and corporation density, as suggested by arguments that rival populations first improve cohesion in the focal population before their competitive impact takes over (Swaminathan and Wade, 2001). Moshav and corporate density had monotonic effects, likely because the kibbutzim had more salient sources of cohesion than their rivalries with these populations.

DISCUSSION

The implications of the kibbutz case for theory concern the interdependence between organizations and other institutional forms. Thriving literatures examine the interdependencies between organizations and markets and between organizations and community governance. We think that the biggest theoretical opportunity of our study is the conceptualization of the interdependence between organizations and states. Many recent analyses indicate that the state is an important determinant of organizational performance and the dynamics of organizational populations, and some show that organizational influence and example affect state policy. We compliment those efforts and extend them in an important way by contributing to a more comprehensive theory of state-organizational relations, one that identifies the possibilities of symbiosis, competition, and rivalry between states and organizations.
These concepts manifest themselves somewhat differently in state-organization relations than they do in relations between different organizational forms. The field of interaction is stacked in the state’s favor, such that it is hard to imagine conditions that would see organizations destroy the state in a way that one organizational form sometimes destroys another. Nevertheless, the state may face threats to its autonomy from organizations, and these may induce it to respond with hostility, as the Israeli state responded to the kibbutzim in the 1950s. And although the state may have the power to decide where and when it will govern itself, and when it will allow organizations to supply order, it is constrained in this choice by its own capacity and influenced by the capacity and orientation of organizations that supply order. The pattern of organizational influence on the state demonstrated here is indirect, with the power and presence of the kibbutzim influencing the state’s choices on how to govern and which organizational forms to support, but it is nonetheless real. We believe also that it is systematic and that consideration of the power of organizations that supply order and of state capacity and autonomy will help analysts understand the actions of the state in other contexts.

This approach stands in contrast to the common (but not universal) treatment of the state as exogenous in organizational theories, a treatment that can be attributed to the fact that the field has developed with a focus on national environments in which state capacity has been stable and state autonomy rarely challenged. Without variance on those dimensions, it is difficult to explain why the state acts as it does. Even so, important theory has emerged from the recognition that state capacity in the U.S. is low relative to other Western states (Hamilton and Sutton, 1989; Dobbin, 1994; Dobbin and Sutton, 1998). Emergent states, more common in the last generation than at any other time in history, provide plenty of variance of capacity and autonomy, with corresponding dynamism in their relations with order-providing organizations. And according to Strange (1996), the power of the state is everywhere declining relative to that of organizations such as mafias, international professional firms, cartels, and transnational corporations, as well as intergovernmental and nongovernmental organizations. These relations and trends indicate that a comprehensive model of state-organizational interdependence is important for explaining organizational behavior and performance in all types of states and will probably be more important in the future.

The potential for symbiosis, competition, and rivalry between states and organizations reminds us that a strictly materialist analysis is insufficient to capture organizations’ role in the economy and society (Hannan and Freeman, 1989). Organizational forms of all types represent theories of power and order, and these must be taken into account to explain relationships between forms and between organizations and other institutions (Haveman and Rao, 1997). Our arguments also recommend that organizational theorists reengage with theories of the state, particularly those that consider the state’s actions and perceptions as affected by other institutions. As a model develops to explain when and why states
may affect organizations, another opportunity for organizational theory will be to further document and describe the mechanisms through which states may affect organizations. The pattern of state action toward the kibbutzim, particularly the effort by the new State of Israel to delegitimize the kibbutz, reinforces the emerging idea that for organizational analysis, the state’s control over legitimacy may be as important, or more important, than its monopoly over the use of violence (Dobbin and Sutton, 1998). Similarly, we recommend accelerating investigations of the mechanisms through which organizations affect states (e.g., Dobbin and Dowd, 2000; Schnieberg and Bartley, 2001; Ingram and Rao, 2004).

Our results have implications for the perception of the kibbutz as a failed experiment in utopia. The results indicate support for some of the most popular explanations for the arrested ascension of the kibbutzim. The kibbutz did indeed suffer competition from the growth of the capitalist economy, as indicated by the competitive impact of corporation density. And the competitive impact of the moshavim suggests that many potential kibbutz participants were dissuaded by the kibbutz’s control over consumption and family life. Another popular explanation of community influence, that the kibbutz was harmed by the increased representation of African and Asian Jews among immigrants to Israel, received support from our analysis in the form of evidence that the percentage of Sephardic immigrants, and the density of the development towns they often settled in, suppressed kibbutz founding.

Our results also show that the kibbutzim suffered a reduction in founding from the emergence of the State of Israel. The tensions between the state and kibbutzim in the period immediately following the formation of Israel are well known. In subsequent generations, however, the impact of that early conflict has been deemphasized, and many Israelis feel that the kibbutzim have received preferential treatment from the state (e.g., Yiftachel and Tzefadia, 1999), for example, by a state-brokered restructuring of kibbutz debt in the mid-1980s that may have saved many kibbutzim from failure. But make no mistake, the organizations that the state saved in the 1980s are substantially reduced in political power compared with the ones it attacked in the 1950s. Whatever advantages or disadvantages the kibbutzim may now have relative to other settlement and organizational forms, the balance would have been more in the kibbutzim’s favor had not the Israeli state acted to permanently change the trajectory of kibbutz evolution.

Our founding analysis did not capture changes within existing organizations, although we do know some things about how life on the kibbutz has changed, and they are consistent with our premise that the kibbutz has been reduced as competition from the market, community, and state has increased. In the last fifty years, kibbutzim have moved away from once-sacred organizing principles because of external pressure from the state or capitalist organizations (Rayman, 1981; Simons and Ingram, 1997). Over the same period, the number of kibbutz members in the Knesset has steadily fallen. Members’ attachment to their kibbutzim has fallen, and as a

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10 Even this bailout, however, has been called a “Pyrrhic victory” for the kibbutzim (Sherman, 1993: 234).
consequence, their likelihood of leaving has increased (Rosner et al., 1990). The crisis of indebtedness in the mid-1980s left many kibbutzim more beholden to the state and to banks. Crime rates on the kibbutz have increased, while members’ confidence that the kibbutz can deal with crime internally has decreased (Ben-Rafael, 1997). So, while we do not claim that the founding rate is the only way to measure the fate of the kibbutz population, we believe that comparable analyses of other measures would lead to similar conclusions.

Given that all three of the institutional alternatives of market, community, and state seem to have impinged on the kibbutz, it is natural to wonder about the relative magnitudes of their effects. The negative-binomial model is multiplicative, so the magnitude of effects must be understood as the effect of a given variable on the founding rate as determined by other variables. This measure is called a multiplier of the rate. Figure 2 shows multipliers of the kibbutz-founding rate for the variables associated with the market and state institutional alternatives in the post-1950 period. Those multipliers are graphed on a logarithmic scale, since they become very small. The figure shows that the negative influence of the increase in the number of corporations is substantial, reducing the founding rate to a small fraction of what it would have otherwise been. For most of the post-state period, however, the negative influence of state competition and rivalry is comparable to that of corporate density.

Figure 2 casts doubt on the common interpretation that the outcomes of the kibbutz population indicate the inferiority of utopian socialism to capitalism. It shows that the contest was not only the kibbutz vs. capitalism, but also the kibbutz vs. the state. How would the kibbutz have fared if the state had not competed with it or attacked its legitimacy? Our models allow some informed speculation on this question. It is possible to project the growth of the kibbutz population

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The impact of community governance is not shown because it is much smaller than that of the other institutional forms. In the early 1950s, when Sephardic immigration was at its peak, the community governance variables together (moshav and development town densities, Sephardic immigration) reduced founding to about one-third of what it would have been had those variables stayed at their 1949 levels. By 1997, the joint effect of these variables is to reduce the founding rate by 22 percent compared with 1949.
under the assumption that the State of Israel did not employ a statist strategy of bureaucracy building or engage in the campaign to delegitimize the kibbutzim. We conducted a simulation of the growth of the kibbutz population without the negative effect of the State of Israel dummy variable, keeping the state institutional capacity variable at its 1948 level in subsequent years. The simulation takes all other variables at their historical values and estimates their impact on the founding rate using coefficients from a Poisson-regression version of model 3. Figure 3 presents the mean kibbutz density, and the 95 percent confidence interval of that estimate, from 100 iterations of the simulation.

The simulation indicates that the kibbutz population would have been substantially larger by 1997 were it not for state competition and rivalry (456 kibbutzim, compared with the 267 that actually existed). Of course, if the state had been different, and if the kibbutz population had been larger, other influences on kibbutz founding would have been different also. For example, had the kibbutz retained control over the education of immigrants, and the resulting ideological hegemony, the resistance of the Sephardim to the kibbutz may have been deflated or reversed. As for the capitalist organizations, the arguments supporting hypothesis 1 can be reversed to suggest that more kibbutzim would have reduced the number of corporations. We have conducted other simulations that indicate that even a small decrease in the number of corporations could result in a very large increase in the number of kibbutzim. For example, simulations using a post-1949 growth rate of the corporation population of 6 percent, instead of the historic six-and-two-thirds, produce, on average, 3,057 kibbutzim by 1997.

The point of introducing these simulations is simply to show that in the absence of competition and rivalry from the state,
the kibbutz population might have been much larger than it is now. The possibility of an alternative outcome of the kibbutz “experiment” should serve as a caution, not just for the evaluation of utopianism but also for broader comparisons of institutional alternatives. Since the fall of state socialism, social scientific analysis has shifted away from the comparison of capitalism to its alternatives and toward the comparison of alternate forms of capitalism (e.g., Stark and Bruszt, 1998). By showing that capitalism alone did not defeat the kibbutz, our analysis suggests that this shift may be premature. In Israel, as elsewhere, the rise of capitalism rests not only on the advantages of capitalist organization and markets but also on a symbiosis with a very specific type of state (Miliband, 1969). Just as we think that there are realistic institutional configurations under which the kibbutz could have fared much better, we recognize the possibility that there are as yet untried combinations of institutional forces that may produce systems that can compete with capitalism.

The interdependence between the kibbutz and the state is the source of the most original theoretical implications of our analysis. The interdependencies among market, community, and organization are fairly prominent in organizational theory. Ideas about the relationship between organizations and states, however, are less developed. Although the state is never absent from accounts of the rise and fall of organizational populations, it is treated mostly as an exogenous force that bestows or withholds favor for unknown or unanalyzed reasons. In contrast, the kibbutz case shows that the role of the state can be at least partially explained by considering its autonomy and capacity and the strength of the organizational populations with which it interacts. The effect of the kibbutz on the state was an indirect one of shaping the state’s approach to governance rather than directly modifying its structure or policies. The subtlety of this effect may explain why analysts have so far underemphasized the potential for organizations to influence states. At the same time, it suggests that the interdependence of states and organizations may operate through diffuse and complex paths to fundamentally affect both forms in a way that is obscured by the more obvious differences in their power.

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