Local and Non-local Pre-founding Experience and New Organizational Form Penetration: The Case of the Israeli Wine Industry

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This paper presents a theory of how new organizational forms penetrate local populations. We theorize that founders with pre-founding industry experience in non-local populations are more likely to adopt locally novel forms. Pre-founding experience within local and non-local industry populations should also allow organizations to reach larger size and produce superior quality products, both of which contribute to the persistence of the novel organizational form. We evaluate these predictions in an analysis of the transformation of the population of Israeli wineries between 1983 and 2004, when five existing organizations witnessed the arrival of 138 new wineries. This explosion in numbers coincided with a shift from kosher toward non-kosher wine production, the new organizational form. Although the four largest Israeli wineries in 1982 were kosher, roughly 75 percent of the new entrants were established as non-kosher producers. We analyze how founders' pre-founding experiences helped the novel non-kosher form penetrate the local population. The results show that non-local wine industry experience prior to founding increased the odds that a new entrant would select the non-kosher organizational form. At the same time, both local and non-local pre-founding experience improved the size and product-quality outcomes achieved by the non-kosher entrants. This had an additional effect on form penetration by improving the impact and longevity of the novel-form producers.●

In his classic paper, Stinchcombe (1965) introduced two ideas that have come to dominate thinking about how organizations evolve: inertia and environmental imprinting. Since then, mounting theory and evidence on inertia suggest that once the core elements of an organization's form are established, they are resistant to change (Hannan, Burton, and Baron, 1996; Baron, Hannan, and Burton, 1999). At the same time, we know that new organizations tend to become imprinted with the organizational elements that are prevalent in their external environment at the time of founding. Founding blueprints draw on a founder's mental model of what are appropriate ways of organizing (Burton, 2001). Hannan, Burton, and Baron (1996: 507) linked these blueprints to prevailing environmental characteristics when they proposed that "there must be an initial mapping of some external condition on the nascent organization." Because local conditions—in terms of time, geography or industry—tend to be most salient, entrants are predisposed to enact locally prevalent organizational elements, and so populations tend to become isomorphic around established organizational forms.

The combination of inertia and imprinting makes it unlikely that we would ever witness changes in the organizational forms of local populations. Because of the factors and forces that generate inertia at the organizational level, entrants to the population must be the ones who introduce major changes (Aldrich and Fiol, 1994). Localized legitimating processes tend to constrain form variance even among these new organizations. Although major changes are rare, however, they are not unheard of. Carroll and Swaminathan (2000) analyzed the rise of microbrewers, brewpubs, and craft brewers within the population of U.S. beer producers;

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Ruef (2000) documented the emergence of new organizational forms in the U.S. health care sector; and McKendrick and his coauthors (McKendrick and Carroll, 2001; McKendrick et al., 2003) analyzed the emergence of the disk array producer as a potentially novel organizational form. How do populations of organizations experience these kinds of changes in the composition of extant organizational forms?

Borrowing from institutional theory, Ruef (2000: 670) discussed how constitutive beliefs imported from a broader institutional framework are used to legitimate novel organizational forms. For health maintenance organizations and birth centers, the "idea for the new form was hatched within existing organizational arrangements." In a closed system, wherein founders and the ideas that inspire their new organizations all come from the local population, these preexisting arrangements reside locally. This leads to a high degree of conservatism and little in the way of change in organizational forms. But a local population of organizations is also subject to influence from the broader context of related non-local populations. In this more open system of founders and founding ideas, non-local populations of organizations may seed the spread of novel organizational forms into the local population. In their analyses of automobile firm foundings, Hannan et al. (1995) and Bigelow et al. (1997) reported that the legitimation of organizational forms operates on a broader scale than does interorganizational competition. They showed this by relating local founding rates to non-local (i.e., other country) population densities.

Whereas the process of non-local legitimation may operate impersonally, it should be stronger when organizational founders with direct experience in the non-local populations carry the novel form into the local population (Cattani, Pennings, and Wezel, 2003). Recent research into the parent-progeny (or organizational spinoff) process shows that founders tend to carry important traits with them as they establish their new organizations. Phillips (2005) argued that the routines carried by founders from parent to progeny firms tended to reproduce gender inequality across generations of Silicon Valley law firms. Oliver and Montgomery (2000) studied the emergence of a novel organizational form in the biotechnology industry that blended elements from both universities and for-profit companies. They noted how the founder of the organization with the novel form worked previously as a researcher in a university and therefore served as a conduit for the novel organizational features that were imported from universities. Following this work, we propose that the introduction of a novel organizational form into an existing population is facilitated by the movement of individuals across population boundaries. More specifically, prefounding employment and educational experiences in non-local populations in particular would expose founders to and imprint them with novel organizational elements that can be reproduced locally when their new organizations are established.

But McKendrick and Carroll (2001) and McKendrick et al. (2003) noted in their study of disk array producers that the arrival of a novel organizational form does not guarantee its long-term establishment. For these introductions to lead to the persistence of the novel form, entrants must overcome selection pressures. Pre-founding experience also has positive effects on organizational size and product quality, both of which should enhance organizational longevity. Following recent research on founders' pre-founding experience (Klepper, 2002; Phillips, 2002; Agarwal et al., 2004) and that on the implications of experience more generally (Ingram and Baum, 1997; Baum and Ingram, 1998), a new organization's ability to achieve greater size and product quality should be positively influenced by its founder's pre-founding experience in both local and non-local populations. This facilitates organizational longevity and therefore the successful penetration of the new organizational form.

We tested our account of new form penetration by examining a significant transformation of the population of Israeli wineries. Since the early 1980s, the Israeli wine industry has undergone dramatic changes on several dimensions, with an explosion in the number of active producers and a shift toward non-kosher production. In 1982, there were five commercial wine producers in Israel, all founded prior to 1952. By 2004, this population had witnessed the entry of 138 new wineries. While the four largest Israeli producers in 1982 produced kosher wine, roughly three-quarters of these entrants were founded as non-kosher producers. Kosher and non-kosher wine production represent two distinct organizational forms separated, at least initially, by strong form boundaries. This is due to ideological commitments, interdependencies between the kosher requirements and other organizational elements, and strong perceptual boundaries between the two modes of production stemming from the fact that the kosher designation historically implied low product quality in the marketplace. The question that we posed is how the novel non-kosher organizational form successfully penetrated the local population of almost exclusively kosher producers.

PRE-FOUNDING EXPERIENCE AND LOCALLY NOVEL ORGANIZATIONAL FORMS

The Israeli Wine Industry

The history of winemaking in Israel dates back to ancient times. The Bible describes how Noah planted a vineyard and drank the wine he produced from its fruit (Gen. 9: 20–21). Later, the spies sent by Moses to explore the Promised Land after the Hebrews left ancient Egypt brought upon their return a single cluster of grapes so large that they had to carry it on a pole (Num. 13: 23). Archeologists and historians have found evidence of wine production in Israel that lasted until the Moslem conquest in 636 A.D. The modern era of wine production began much later, after years of Ottoman rule, wherein Muslim law prohibited alcohol consumption and prevented Jews and Christians alike from engaging in commercial wine production by only allowing wine to be produced on a small scale for religious use. In the mid-1800s, two wineries were established as a result of the actions of a Jewish philanthropist named Sir Moses Montefiore who encouraged Jews living in the country to work the land and replant vines. With his support, Rabbi Yitzhak Schorr and

Rabbi Abraham Tepperberg founded wineries in 1848 and in 1870, respectively. Both were located in Jerusalem, and both focused on producing sacramental wines. Also in 1870, the Mikveh Israel Agricultural School was established by a French Jewish organization with the goal of training Jewish settlers in various aspects of agricultural work. It had its own vineyards, which for the first time grew European grape varietals, and a winery with a large cellar. Here, students learned the practice of viticulture, and many of its graduates later became grape growers.

Although these developments were not trivial, the full revival of the Israeli wine industry in the modern era followed the return of Jewish settlement to what would become Israel in the second half of the nineteenth century. The major breakthrough was due to initiatives undertaken by Baron Edmond de Rothschild, whose family owned Chateau Lafite Rothschild in France. Rothschild first supported the planting of vineyards using varietals imported from the south of France and later financed the construction of two wineries, Rishon le Zion (1882) and Zichron Ya'akov (1890). Rothschild envisioned that this developing wine industry would provide a solid economic foundation for a renewed Jewish community and that it would be a source of kosher wine for Jews worldwide. In 1906, the management of the wineries was turned over to a cooperative of local grape growers, and in 1957, the Rothschild family sold its share of both wineries to the cooperative. Carmel Mizrachi, as it was then called, quickly became the predominant producer of Israeli wine, all of which was kosher, and continues its dominance to this day.

Until the early 1980s, the Israeli wine industry was composed of just a handful of producers, including two of the wineries mentioned above and three more: Domaine de Latroun (1890), Segal (1951), and Eliaz (1952). Founded by Trappist monks, Domaine de Latroun is a very small winery located in a monastery in the Judean foothills and is (predictably) a non-kosher producer. A Russian winemaking family founded Segal in 1951. It remained a family business for generations, but was sold in 2001 to Barkan, another winery, while continuing to operate under its founder's name. Joseph Selzer founded Eliaz in 1952 with the encouragement of David Ben-Gurion, then the prime minister of Israel. During the 1960s and 1970s, Eliaz was second in size behind Carmel Mizrachi. Following financial difficulties, it was sold in 1992 and renamed Binyamina, after the village in which it is located. It is important to stress that all except Domaine de Latroun were founded as kosher wine producers and remain so to this day. Moreover, Domaine de Latroun was by far the smallest of the five producers. In 2006, it accounted for less than 2 percent of the output of these five producers.

Five years after Israel gained control of the Golan Heights in the 1967 War, Professor Cornelius Ough, a former chairman of the Department of Viticulture and Oenology at the University of California (U.C.), Davis, visited the area with a group of California winemakers and told a group of local farmers that they were in a superb winegrowing region. The farmers heeded this proclamation and soon planted the first grapevines in the Golan Heights region. Later, in 1983, a consortium of kibbutzim and moshavim (two different types of collective agricultural settlements) founded the Golan Heights Winery. This was the first winery to be founded in Israel since the early 1950s and, like its predecessors, produced only kosher wines. It was launched into a "quality vacuum" and quickly set new standards in Israel by growing high-quality grapes, by exercising total quality control from vineyard to bottle, and by introducing new-world winemaking techniques with state-of-the-art equipment (Zilberg, 2003). These high standards for quality and subsequent commercial success foreshadowed the beginning of dramatic changes in the Israeli wine industry. Following the establishment of Golan Heights Winery, Yonathan Tishbi, a fourth generation grape grower, went out on his own and established Tishbi as another kosher winery in 1985. So, by 1985, there were seven wineries in Israel, and all but one very small producer made kosher wines.

Between 1987 and 1989, four new wineries were established, each set up as a non-kosher producer: Bustan Hameshushim (1987), Meron (1987), Domaine du Castel (1988), and Margalit (1989). Many more followed, and by 2004, 138 new commercial wineries had been established in Israel. The organizations founded during this roughly 20-year period represent two trends: a movement toward quality and a shift away from kosher wine production, as roughly 75 percent of the foundings were as non-kosher producers. The dramatic shift toward non-kosher wineries represents the introduction of a novel organizational form into the Israeli wine industry which, as this brief history illustrates, was dominated by kosher production for roughly a hundred years.

Kosher versus Non-kosher as Distinct Organizational Forms

Kosher and non-kosher wine production represent two distinct organizational forms. According to Hannan (2005: 52), "a population is defined as a set of organizations with a common form (or template for organizing) at a particular place and time." To bridge the organization and population levels of analysis, scholars are becoming more precise when defining organizational forms. In this respect, Hannan and Freeman (1986: 68) once proposed that "the set of categories used by relevant social actors often provide good clues about the location of [form] boundaries." Hsu and Hannan (2006) noted more recently that most of the research on organizational populations still relies on these conventional industrial categories to identify organizational forms and populations. To specify forms (and therefore populations) more rigorously, they proposed that organizational forms be defined with respect to the specific identities that they project. McKendrick and Carroll (2001) did this by taking a definition of organizational form from Romanelli (1991: 82): "the concept of organizational form refers to those characteristics of an organization that identify it as a distinct entity." More concretely, Hannan and Freeman (1986) proposed that organizational forms have various elements (i.e., goals, forms of authority, core technologies, and marketing strategies) that combine to constitute a basis for form identification. They also alluded to a critical distinction between core and peripheral elements, the former being central in specifying organizational forms. McKendrick and Carroll (2001) similarly suggested that organizational forms be identified with reference to their specific core elements, which are the source of inertia in a population.

Core organizational elements can produce inertia for three reasons. First, the early choices that lay down the core elements of a new organization tend to come with strong ideological commitments on the part of founders: "Recent excellent accounts of crises and declines faced by older organizations . . . trace modern difficulties to the organizations' ideological commitments and arrangements that were established in response to early environmental conditions" (Romanelli, 1991: 91). These commitments mean that organizational decision makers are unlikely to consider making subsequent changes to them. At the same time, their centrality in the web of connections and interdependencies with other organizational elements makes changes to core elements difficult (Hannan, Pólos, and Carroll, 2003). Finally, core elements become strongly associated with an organization's identity and the expectations that external stakeholders have of what it can or should do. This leads to perceptual, identity-based constraints that also isolate organizational forms and retard subsequent changes. The kosher mode of wine production represents a discrete organizational form, demarcated by fairly rigid form boundaries, because of core organizational elements that are bound up in the specific requirements of kosher wine production. Moreover, these core elements are highly interdependent with important peripheral elements because they tie kosher producers to specific consumers, specific distribution channels, and specific (scale-driven) production processes. Finally, moving between kosher and non-kosher wine production is made even more difficult because of the perceptual boundaries that separate the two forms, specifically the reputations of and expectations about product quality across the two modes of production, as well as the very strong association of Israel with kosher wine production.

The Jewish dietary laws of Kashruth include specific requirements concerning wine production. For a wine to be certified as kosher, a set of regulations concerning the winemaking process, the individuals who engage in wine production, and the materials used in the process must be followed. Although anyone can grow, pick, and transport the grapes, only religious Jews (i.e., those who observe the Sabbath) may handle the product or touch the winemaking equipment from the time that grapes arrive at the winery. So a winemaker who is not a religious Jew cannot personally handle the wine if it is to remain kosher. At the same time, all tools, materials, and inputs (e.g., yeasts and fining and cleaning materials) used in the wine production process must be certified as kosher. Wine producers in Israel must meet several additional requirements for their products to be certified as kosher. *Orla* requires that for the first three years of a grapevine's life, its fruit may not be used for winemaking. *Shnat Shmita* requires that every seventh year after the first harvest, vineyards must remain uncultivated so that the land is allowed to rest. *Kalai Hakerem* prohibits cross breeding and requires that no other fruits or vegetables be grown between the rows of grapevines. Finally, *Truma Vema'aser* is a symbolic ceremony in which a small amount of wine, representing a 10-percent tithe once paid to the Temple in Jerusalem, must be poured away from the tanks or barrels in which the wine is being made.

None of the aforementioned requirements for kosher wine production necessarily affects the quality of the wine.[1] While *Orla* is required for a kosher certification in Israel, many quality-oriented non-kosher winemakers elect not to use fruit from very young vines in order to maintain wine quality. For similar reasons, it has become established practice in some quality-oriented non-kosher vineyards to "rest" the land periodically, though one indication of the potential economic hardship associated with following *Shnat Shmita* dutifully is that some kosher growers choose to "symbolically sell" their vineyards to a non-Jew for the duration of each seventh year. In terms of *Kalai Hakerem,* while it may be common in parts of Spain and Italy to use the land between the vines to grow other fruits and vegetables, this practice is all but non-existent wherever high-quality wines are produced. Thus there is no inherent contradiction between producing kosher wine and having the potential to produce high-quality wines or to compete in non-kosher wine markets. In support of this, the high quality of some kosher wines, from Israel and from other countries, has recently been acknowledged in international competitions and by respected wine critics. Wines from the Golan Heights Winery have won many trophies at Vinexpo, while wines from Herzog (a U.S. kosher wine producer) often receive scores of well over 90 points out of a possible 100 from the *Wine Spectator.*

Though the specific requirements of kosher wine production may not be isolating or constraining on their own, founders' ideological aversions to or attachments to kosher principles lead to some form rigidity. Dr. Yair Margalit, who established Margalit in 1989, contends that his decision to make non-kosher wines resulted from his objections in principle to the totality of the kosher regulations, to the religious establishment that reaps the benefits from enforcing kosher regulations, and to the resulting unwarranted distinction between Jews (personal communication). At the same time, the religiosity of other Israeli winery founders seems to have contributed to an ideological commitment to kosher wine production. Nachum and Hanoch Greengrass founded Hamasrek in 1999. The Greengrasses are a religious family. When the brothers established Hamasrek, it was clear that it should be a kosher winery and that their mission was to produce high-quality kosher wines. These accounts each suggest ideological distinctions between the kosher and non-kosher organizational forms.

Moreover, the kosher elements have developed interdependencies with other organizational elements that reinforce the distinctiveness of the two organizational forms. For example, Eli Ben Zaken established Domaine du Castel (a non-kosher producer) in 1988 after his Jerusalem-based restaurant was

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This statement does not apply to kosher wines that are Mevushal, which literary means cooked. These wines are pasteurized and even though there are now technologies that allow the wine to be at a high temperature for just a brief time, the process is believed to damage the wine's quality. None of the kosher producers in our sample produce Mevushal wines.

established and doing well. This gave him the time and resources to begin winemaking. He initially planted vines next to his house in the Judean Hills, taking guidance from various winemaking books. His aim from the outset was to produce high-quality wines, so he planted good grapes, used new oak barrels, and aged his wine for two years before bottling. A bottle from his first vintage reached Serena Suthcliffe, the director of the wine department at Sotheby's auction house, who was very impressed. By 2003, Domaine du Castel was one of only five Israeli producers to receive five quality stars, the maximum awarded by Daniel Rogov, the foremost Israeli wine writer and critic. In reference to his decision not to seek kosher designation, Ben Zaken said, "I am not enough of a Jew to produce kosher wine. I want to produce wine myself and not give orders and make the wine by remote control. I gave up the [kosher] certificate so I would be able to open the faucet of the barrel and produce good wine" (Leibovich-Dar, 2001). These remarks attest to the constraints implied by kosher requirements and suggest that they are linked to other aspects of winemaking.

More generally, elements such as targeted consumers (both local and global), distribution channels, and organizational size also differ across the two modes of production. Over the years, the demand for wines made in Israel has come first and foremost from Jewish consumers, and the primary consideration for these local and overseas consumers was a wine's kosher certification. Even though the majority of the Israeli population is not orthodox, consumption of kosher wine has traditionally been the norm. This is especially true when it comes to buying wine for holidays or as gifts. Thus demand within Israel was for a long time predominantly for kosher wine. At the same time, the primary consumers of Israeli wines outside of Israel were traditionally Jewish. Wine has always been an integral part of Jewish culture, and so there was a steady demand for kosher wines by Jewish communities overseas. Because the primary interest of these two consumer groups was in the kosher designation of a wine, for many years, product quality hardly played a role in their decisions to purchase. Until well into the 1980s, this lack of concern for quality was reinforced by a relatively unsophisticated palate that was typical of the average Israeli wine consumer. So, for these consumers, wines that were kosher and had a minimal level of product quality were quite satisfactory. The typically non-Jewish consumers of non-kosher wines tend to have fundamentally different preferences, however, with little concern for their kosher status but a demonstrable interest in product quality.

The differences in targeted consumers correspond to differences in distribution channels. In Israel, wine is sold in supermarkets and wine stores. The larger supermarket chains are the primary points of purchase for much of the wine bought in Israel, and all of these chains only sell kosher products. Consequently, any winery that wishes to have its wines available for sale in these larger chains must produce kosher wine. Most hotels and many catering businesses are also kosher establishments. Again, for a winery to have its products sold in either of these channels, it must be certified as kosher. Producing kosher wine also has implications for a winery's approach to penetrating foreign markets, namely, in the Jewish consumer segments. Kosher wines almost always occupy a separate section in wine stores, typically sitting next to other low-quality Kiddush wines, which are used for the blessing conducted with wine that begins the two main meals of the Sabbath. For a kosher wine producer with some quality aspirations, this isolation may be advantageous. There is a ready market that is increasingly becoming interested in higher-quality kosher wines. But non-kosher producers do not have access to this isolated part of the market and must compete solely on the quality of their wines.

Being kosher also favors a larger size of operations. Size is advantageous because of scale-driven investments in production and distribution. On the production side, kosher producers incur fixed costs that non-kosher producers do not. Unique personnel requirements are implied by the kosher requirements, especially when a winery's key employees (i.e., its winemakers) are not orthodox Jews. To handle the wine in such cases, additional employees must be hired. Beyond these are the costs associated with the rabbinical supervisors who must visit the winery throughout the year to ensure that everything is done according to kosher regulations. Larger size allows these (mostly fixed) costs to be spread over greater output, thus diminishing their significance. On the sales side, the opportunity to distribute kosher wines in the larger supermarket chains provides an incentive for these producers to produce at a scale that makes them attractive to these (typically) large purchasers of wine. At the same time, a historically poor reputation for product quality among kosher producers limits their opportunities to participate in the typically smaller-scale and more quality-oriented boutique segment.

Lastly, but very significantly, the two forms of wine production are demarcated in terms of perceptions and, therefore, expectations about product quality. The historical focus of consumers on a wine's kosher status allowed kosher wineries to produce wines that would not have been considered high-quality products outside the isolated kosher segment. Choices made about grape varietals, yields, and winemaking were all guided, first and foremost, by beliefs about what kosher wines should taste like—red, sweet, and unsophisticated. So the image of kosher wines held by foreign Jewish consumers, and even more so by non-Jews, was that they were different and of lower quality. This led to an additional challenge for non-kosher wine producers in Israel, because it was typically assumed that all wines produced in Israel were kosher.[2] Because non-kosher producers from Israel did not have access to the isolated kosher segment of the market, they had to compete on quality with other wine producers that had accrued more solid reputations for quality. Outside of Israel, and outside of the isolated kosher sections of overseas wine retailers, the stigma associated with being kosher that came by default for Israeli producers made it very difficult for non-kosher producers to compete effectively on quality.

2 A discussion in 2004 with the owner of a reputed wine retailer in New York City that had an extensive kosher wine section revealed that he was not aware that Israel produced non-kosher wines.

Difference in size and quality, in particular, contribute to the form boundaries separating kosher and non-kosher wine production. We analyzed the distribution of the maximum size, in terms of the natural log of bottles produced, and maximum producer quality, in terms of the star ratings published by Israeli wine critic, Daniel Rogov, realized during the 2003 to 2006 period for each producer founded since 1980 (these data are described in greater detail below). The size distributions corroborate the expected relationship between producer size and kosher production. The median of the size variable for the kosher producers corresponds to roughly 12,500 bottles, compared with 7,000 bottles for the non-kosher producers. The largest of the non-kosher producers (at roughly 100,000 bottles) is considerably smaller than the 75th percentile of the distribution for the kosher producers (at roughly 600,000 bottles). But despite the negative perceptions that surrounded kosher wine production in the early 1980s, it turns out that the prospects for product quality under each organizational form were not that different. The quality distributions for the kosher and non-kosher producers show the same minimum, median, and maximum values, indicating that there is no inherent contradiction between adopting the kosher form and producing high-quality wines. As such, the movement toward higher wine quality in the context of the New World wine boom was equally evident among kosher and non-kosher wineries.

The different core elements and ensuing interdependent peripheral elements fortified by different perceptions and expectations about each mode of production created a semi-strict form boundary between the kosher and non-kosher modes of production. This is clearly evidenced in our data describing Israeli wine producers. Before 2003, not a single Israeli wine producer had made both kosher and non-kosher wines simultaneously. Held in place by a founding ideology or by organizational inertia, we also see that transitions from one form to the other proved to be rare. Not a single Israeli wine producer has ever changed from kosher to non-kosher production, and only twelve wineries (all after 1999) switched from non-kosher to kosher. Given this expected (Hannan, Burton, and Baron, 1996; Baron, Hannan, and Burton, 1999) and demonstrated lack of form change at the organizational level, it is clear that a winery's organizational form results from decisions taken at founding. A founder's local and non-local pre-founding industry experience can be expected to inform those decisions and have effects on the emergence and persistence of novel organizational forms.

Pre-founding Industry Experience and Novel Organizational Forms

Every organizational founder comes with some sort of pre-founding experience (Holbrook et al., 2000). Founders may have received formal education or training related to the operation of their new enterprises or may have accrued pre-founding employment experiences that influence organizational behavior and performance. These pre-founding experiences are critical because they influence the set of decisions that establish the core elements and thus the form of the new organization (Burton, 2001). In support of this, Stuart and Sorenson (2003: 232) proposed that "established firms . . . serve as training grounds for—and therefore sources of—entrepreneurs." Pre-founding experience affects individuals' ability to perceive opportunities and their abilities to act on them (Shane, 2000). Romanelli and Schoonhoven (2001: 44) stressed that "existing organizations direct their employees' attention to particular kinds of information in the environment and influence the salience and interpretation of different kinds of experience."

Pre-founding experience may be local or non-local. Local wine industry experience accrues in the focal organizational population: in the current context, the Israeli wine industry. Non-local pre-founding experience is formal wine industry education and employment in other wine-producing countries (e.g., France, Italy, the U.S., or Australia). In terms of influencing the choice of organizational forms, local pre-founding experience is conservative in the ideas that it embodies and therefore preserves the status quo. Sørensen (1999: 718) noted that "if managers draw lessons from past experiences, then the more similar those experiences are, the more likely it is that two managers will draw similar conclusions and have similar managerial capabilities." Given organizational imprinting and constraints on organizational change, non-local wine industry experience helps founders to conceive of and implement a non-traditional organizational form. In their analysis of Silicon Valley start-ups, Hannan, Burton, and Baron (1996: 514) concluded that founders who had worked at other Silicon Valley ventures were "well aware of what the prototypical Silicon Valley start-up is 'supposed' to look like." This suggests that founders coming from outside of Silicon Valley might have different organizational blueprints that would surely lead to different sets of founding choices.

Non-local pre-founding experience allows a founder to tap into ideas and models that develop in different industry settings. It thereby provides the conduit for importing novel ideas about how to organize within the local environment. Founders with non-local pre-founding experience may deliberately choose a new form based on accumulated information and insights that suggest its advantages over the more traditional form. Or they may be passively enacting the organizational form that is more familiar to them. Baron, Hannan, and Burton (1999: 542) suggested both possibilities: "Founders may embed their distinctive visions and values in enterprises, or founders may simply be conduits through which economic, social, or cultural forces systematically shape organizational blueprints." In the latter case, Phillips' (2005) notion that law firm progeny might also inherit bad routines suggests a somewhat passive transmission process. In other words, the founder serves as a conduit through which routines flow as much as an active sorter of good from bad routines.

How the accrual of non-local wine industry pre-founding experiences influences the choice of organizational form is evident in comparing the founding of the Golan Heights Winery summarized earlier and the founding of Margalit. In the case of the Golan Heights Winery, a U.C., Davis oenologist visited Israel and informed locals about the prospect of producing high-quality wines from Israeli-grown grapes. When the locals took up this challenge in 1983, none of them had any non-local wine industry experience. Given that, they elected to pursue their quality aspirations under the kosher organizational form that dominated the local population at that time. In contrast, the founder of Margalit, Dr. Yair Margalit, was a chemical physicist who had worked for many years as a researcher. During a sabbatical year at U.C., Davis, he met a group of university oenologists who stimulated his interest in winemaking. This developed from an interest into a vocation when some of the wines that he made impressed Yonathan Tishbi, who asked him to join the family winery as a winemaker. In this way, he was able to gain winemaking experience in the Israeli context. Following another year at U.C., Davis, during which he worked at several Napa Valley wineries, he established Margalit winery in 1989. Because his pre-founding experience included education and employment stints in the U.S., Dr. Margalit was able to consider and then adopt the non-kosher organizational form that dominates the population of U.S. wineries.

These two examples suggest that some but not all of the Israeli winery founders had non-local wine industry pre-founding experience and therefore direct experiences with the non-kosher organizational form that dominates non-Israeli winery populations. This non-local experience was transformative because it provided direct exposure to founding ideas that had become quite natural to the founder but were novel in the local population of producers. We therefore hypothesize that non-local pre-founding experience increases the chance that a new winery will be founded with the novel (non-kosher) organizational form:

Hypothesis 1: Individuals with non-local wine industry pre-founding experience will be more likely to select the non-kosher organizational form when establishing their wineries.

Following a long line of evolutionary research, Aldrich (1999: 21–33) reminded us that the observed distribution of organizational forms within a population depends on the joint processes of variation, selection, and retention. Hypothesis 1 considers the effect of pre-founding experience on the process of variation. But the novel non-kosher form was also able to overcome selection pressures and become established within the local population. Examining how this occurred, though, is challenging in the current context because the time period under investigation is not amenable to a direct analysis of winery failures—only seventeen failures were observed during the period. We thus rely on Delacroix, Swaminathan, and Solt (1989) and Delacroix and Swaminathan (1991), who demonstrated a negative influence of organizational size on the probability of failure in the U.S. wine industry. This supports an examination of how local and non-local pre-founding experience influences a firm's ability to reach the larger sizes that improve survival chances. We also examine the effects of pre-founding experience on a new winery's ability to attract favorable quality ratings. As suggested above, the New World wine boom coincided with a mounting and geographically diverse interest in wine quality. As a result, wine producers sought to garner positive reactions from wine critics. These positive ratings are valuable in their own right for those who are primarily interested in being known for the quality of their wines (Scott-Morton and Podolny, 2002). They are also valuable to the more profit-oriented producers, because favorable quality ratings allow them to be taken seriously by quality-oriented consumers, leading to higher sales and prices.

Non-local pre-founding experience may be important for the importation of novel ideas into the local context, but once the decision to establish an organization is taken, all organizations, regardless of form, must strive for effectiveness in the local context. For any local producer to overcome obstacles and compete successfully, its founder must understand and address the specific problems associated with producing locally. In this respect, a founder's experience is known to generate the knowledge and other resources that condition the organization's success with its chosen organizational form. Freeman (1986: 33) originally made this point when he concluded that "the current employer provides individuals with the ability to attract resources and knowledge about where to allocate those resources." Pre-founding experience also helps a founder form the relationships that facilitate resource mobilization. In this respect, Shane and Stuart (2002) demonstrated that founders with direct and indirect ties to venture investors are more likely to receive funding. Market ties also foster the trust that buffers a new organization from opportunistic behavior and reduces the threat of uncertain environments (Audia and Rider, 2005).

Whereas non-local experience is helpful in developing the blueprint that supports a novel organizational form, it is not expected to be the only driver of success with that form. Because of sometimes subtle differences across populations, experience in the local population is an important driver of advantages that lead to success in the local environment (Ingram and Baum, 1997; Baum and Ingram, 1998). In this respect, Romanelli and Schoonhoven (2001: 44) remarked that "local regions are the primary arenas within which individuals obtain resources for building a new organization." More concretely, Phillips (2002: 483) concluded that "immigrant firms [i.e., those without experience in Silicon Valley] should have a higher likelihood of failure, as they lack the resources and routines (such as social capital) that are idiosyncratic to Silicon Valley." The knowledge and local market ties that accumulate with local pre-founding experience should benefit all new producers. Local knowledge is necessary for local problem solving, while local market ties are necessary for production and distribution. This leads us to predict:

Hypothesis 2: Local wine industry pre-founding experience improves organizational size and product quality for all producers.

At the same time, because organizations operating with the novel form in the local context require production and marketing knowledge that is pertinent to the locally novel form (Aldrich and Fiol, 1994), local pre-founding experience is not all that is required for their organizational success. Founders need to augment their understanding of the local context with experiences that provide the same understanding of the novel mode of production and sales. They need to bolster the resources and market ties that allow them to produce in the local context with those that allow them to effectively produce and sell in new ways. Given this, new organizations with the novel organizational form will achieve greater size and superior product quality when their founders have pre-founding experience in non-local wine industries:

Hypothesis 3: Organizational size and product quality under the non-kosher organizational form improve with non-local wine industry pre-founding experience.

We tested our hypotheses in an analysis of organizational form choice and producer size and quality, set against a backdrop of the explosion of New World wines on global markets. This exogenous development accounts for the large number of Israeli winery foundings in the post-1980 period but does not, by itself, account for the specific forms (i.e., kosher versus non-kosher) these new organizations take or for differences in size and quality across the newly founded organizations. We therefore modeled the choice of organizational form and the size and quality outcomes attained with the chosen form, given that a winery founding had taken place.

METHOD

Data

To construct a sample of Israeli wine producers, we searched archival sources and identified all wineries that operated in Israel between 1980 and 2004. Of those that we identified, three were dropped because they produced Kiddush wine for religious purposes only. This left 143 commercial wine producers, 138 of which were founded after 1980. The following analyses focus on the post-1980 entrants. The primary source for information about these producers is *Rogov's Guide to Israeli Wines* (2004, 2005, 2006, 2007). Daniel Rogov occupies a position in the Israeli wine industry that is like that occupied by Robert Parker or the *Wine Spectator* in the U.S. He writes weekly wine columns in the respected newspaper *Haaretz* and contributes regularly to two prestigious international wine books. His annual directories indicate whether a winery produces kosher or non-kosher wines. We used this information to create an indicator variable set to one when a winery was established as a non-kosher wine producer.

Given his position in the industry, Rogov has gained vast knowledge of the Israeli wine industry, including the names and backgrounds of the winery founders. Most of the founders' names and some of their career background information are published in his annual directories. We asked Rogov to go through the list of wineries and provide the missing information about the founders. When seeking this information, we defined a founder as an individual who was actively involved in the establishment of the winery and who initially had a financial stake in the winery. Of the 138 wineries, 128 were founded by one or two individuals, and the vast majority of the two-person foundings were by sibling, parent-child, or spousal partnerships. Thus there is little variation in founding team composition (Eisenhardt and

Table 1

Foundings and Founders between 1980 and 2004

Years		Count
1980–1984	Non-kosher foundings	0
	Kosher foundings	1
	Non-local wine industry pre-founding experience	0
	Local wine industry pre-founding experience	0
1985–1989	Non-kosher foundings	4
	Kosher foundings	1
	Non-local wine industry pre-founding experience	2
	Local wine industry pre-founding experience	2
1990–1994	Non-kosher foundings	6
	Kosher foundings	2
	Non-local wine industry pre-founding experience	0
	Local wine industry pre-founding experience	3
1995–1999	Non-kosher foundings	33
	Kosher foundings	12
	Non-local wine industry pre-founding experience	7
	Local wine industry pre-founding experience	12
2000–2004	Non-kosher foundings	58
	Kosher foundings	21
	Non-local wine industry pre-founding experience	9
	Local wine industry pre-founding experience	28
Overall	Non-kosher foundings	101
	Kosher foundings	37
	Non-local wine industry pre-founding experience	18
	Local wine industry pre-founding experience	45

Schoonhoven, 1990). We then asked whether each founder had prior formal winemaking education or wine industry employment in a foreign country or prior wine industry employment in Israel. We were clear that we were seeking information about the founders' pre-founding education and employment experiences and not those that accrued after founding.

Table 1 shows that eighteen of the wineries established since 1980 had founders with non-local wine industry experience. As reported in the above overview of the Israeli wine industry, two of these entries occurred in the late 1980s as the non-kosher form gained its initial foothold. The remainder occurred in the latter half of the 1990s and into the early 2000s as the number of non-kosher foundings took off. Over the same period, 45 wineries were established by individuals who had accrued pre-founding wine industry experience in Israel. Eleven of these involved experience working in local kosher wineries, eight involved experience working in local non-kosher wineries, and 33 entailed local wine industry experience as grape growers. Seven had founders who had been both growers and winery employees prior to founding, while eight wineries had founders who had accrued both non-local and local wine industry experience, leaving a total of 55 wineries with experienced founders.[3] This proportion of experienced founders (roughly 40 percent) is higher than that observed in the automobile (20 percent) (Klepper, 2002), disk drive (21 percent) (Agarwal et al., 2004), laser (17 percent) (Klepper and Sleeper, 2005), and legal services (27 percent) (Phillips, 2002) industries. Like those authors, we were not able to construct fine-grained measures of pre-founding experience based on the number of years spent in local or non-

3
Interviews with the eight founders who had both non-local and local pre-founding experience revealed that all of them accumulated non-local industry experience before returning to Israel to take up employment in the local industry.

local winery populations prior to founding. We followed their lead and created two dummy variables to indicate whether a new winery had founders with local or non-local wine industry pre-founding experience.

Given concerns about relying on a single individual to generate these pre-founding experience variables, we corroborated the information supplied by Rogov using several archival sources, including *The Wine Route of Israel* (Goldfisher and Sacks, 2006). We then interviewed or obtained brief surveys from 32 founders, asking them for details about their pre-founding wine industry experience. Of the corresponding 64 data points (i.e., one each for the local and non-local pre-founding experience variables), 62 were confirmed in the founders' own accounts. We corrected the errors and interpreted this very high accuracy rate as support for using the information obtained from Rogov and the other archival sources.

Research on organizational ecology suggests that prior non-kosher foundings in the local population should facilitate further non-kosher foundings even if founders do not themselves have non-local pre-founding experience (Sorenson and Audia, 2000). As the local environment provides more recent examples of non-kosher foundings, the enhanced legitimacy of the new form spurs further change (Delacroix, Swaminathan, and Solt, 1989). We therefore included in our form choice models a variable that counts the number of non-kosher winery foundings in Israel in the previous year along with its squared term to capture non-monotonic effects. It is also possible that more cosmopolitan wine consumers in Israel drove the movement toward non-kosher production. Irrespective of their pre-founding experiences, founders may experience an impetus for change simply by tracking the consumption patterns of local consumers. If Israeli consumers were demanding greater quantities of imported wines, then this would serve as a local cue that wines produced in a different manner (i.e., non-kosher) were in demand. We assessed this prospect by obtaining wine import data from the *FAO Statistical Database, UN Food & Agricultural Organization, Rome* and creating a variable that captured the lagged value of wine imports into Israel. Unfortunately, there are no systematic data on the imports of kosher versus non-kosher wines into Israel.

Tests of hypotheses 2 and 3 require indicators of each winery's size and product quality. Rogov (2004, 2005, 2006, 2007) reports the number of bottles produced as well as a quality rating for each producer in each year. Each directory reports systematic current-vintage size and quality information, as well as sporadic prior-vintage size information. Our size variable is the natural logarithm of the number of bottles produced in each year's vintage.[4] The quality variable is a producer-level quality rating that ranges from one to five stars. Five stars denote "a world class winery, regularly producing excellent wines," while one star indicates that a producer's wines are "hard to recommend." Rogov published more than 4,000 reviews of Israeli wines over the 1987 to 2006 period. Whenever possible, these evaluations were conducted in blind tastings so that knowledge of the identity of the producer did not spuriously influence the review. As such, though expert assessments of wine quality are often subject-

4
We also estimated the size models using the natural log of bottles produced divided by producer age as the dependent variable. Whether or not we included the age variable on the right-hand side, the coefficients on the pre-founding experience variables were virtually identical to those reported in table 3.

ed to scrutiny and criticism, his quality assessments should be viewed in the same light as those analyzed by Benjamin and Podolny (1999) and Landon and Smith (1997).[5] That said, there may be some cause for concern about how these blind reviews translate into the producer ratings published in the annual directories. To assess this translation, we regressed the producer star ratings against the cumulative average of the numerical wine ratings received from each focal producer up to the current year, the cumulative total of reviews published up to the current year, and a variable indicating whether the focal winery was founded as a non-kosher producer. Appendix A reports ordered probit estimates obtained from an analysis of 458 producer-year observations. A producer receives a higher star rating when it has accrued higher ratings for its wines and when its wines have been reviewed more often. The effect of the organizational form variable is not significant, suggesting that Rogov has no observable bias for or against non-kosher wine producers when setting his star ratings.

The pre-founding experience variables in the producer size and quality analyses are the same as those reported above. We also included a set of control variables. The above discussion contrasting the kosher and non-kosher forms suggests that the organizational form a winery adopts may be linked to its size but not its quality. We included a control variable that indicates whether the winery was founded as a non-kosher producer. Because twelve producers switched forms after 1998, we included another variable set to one in each of the post-switch years. Given that producer size and product quality should both increase with experience, we included the log of producer age as another control variable. We also included a variable that counts the number of individuals involved in the founding of the winery to account for the possibility that larger teams are able to assemble more resources around the time of founding. We obtained complete rosters of the individuals involved in the founding for 132 of the 138 wineries. For the remaining producers, we inferred founding team size based on available information. In three cases, our informant referred to a large but partially unnamed group of founders. Here, we imputed the maximum founder count value (eight). One case made reference to a partnership of two individuals and was therefore assigned that value. In the two cases in which we had no specific insight about founding team size, we imputed the average value of the founder count variable. Although there were seventeen failures during the observation period, we drew from multiple years of Rogov's annual directories and, therefore, had at least one size observation for all but six of the failed producers and one quality observation for all but four of them. We included a dummy variable indicating that the focal observation was the last one before the producer failed and expected its coefficient to be negative.

Table 2 provides summary statistics and pairwise correlations for the variables in the form choice, size, and quality models. Our first hypothesis predicted that the non-local pre-founding experience variable would be positively associated with adopting the non-kosher organizational form. We tested this

5
We examined the association between Rogov's star ratings in 2006 and the reviews of Israeli wines published in the *Wine Spectator*. The producers with *Wine Spectator* reviews received an average of 3.94 Rogov stars compared with 2.34 stars for the other producers. Of those that were reviewed, producers with five Rogov stars received an average of 83.72 points in their *Wine Spectator* reviews, those with four stars received an average of 82.74 points, while those with three stars averaged 81.54 points. These observations attest to the correspondence between Rogov's assessments of producer quality and those that might be inferred from another credible source of wine-quality information.

Table 2

Descriptive Statistics and Pairwise Correlations

Form choice (N = 138)	Mean	S.D.	1	2	3	4	5		
1. Non-kosher	.732	.445							
2. Lag (non-kosher foundings)	9.145	5.111	.004						
3. Lag (non-kosher foundings)^2	109.565	89.686	–.012	.972					
4. Lag (imports)	1.963	1.429	–.030	.760	.713				
5. Local pre-founding experience	.326	.470	–.033	–.062	–.089	.116			
6. Non-local pre-founding experience	.130	.338	.186	–.112	–.127	–.104	.098		
Size analysis (N = 502)	**Mean**	**S.D.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1. Size = log (bottles)	9.040	1.789							
2. Founded non-kosher	.757	.429	–.377						
3. After switch	.070	.255	.152	.155					
4. Ln (age)	1.573	.709	.421	–.044	.223				
5. Founders on team	1.626	1.393	.394	–.352	–.101	.035			
6. Failed	.004	.063	–.022	.036	–.017	.087	–.029		
7. Local pre-founding experience	.317	.466	.189	–.064	–.035	–.043	.004	–.043	
8. Non-local pre-founding experience	.145	.353	.032	.168	–.024	.004	–.088	.153	.084
Quality analysis (N = 430)	**Mean**	**S.D.**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1. Size = log (bottles)	2.433	1.198							
2. Founded non-kosher	.747	.436	–.017						
3. After switch	.079	.204	.171	.174					
4. Ln (age)	1.757	.561	.348	–.025	.216				
5. Founders on team	1.603	1.406	.179	–.359	–.101	.056			
6. Failed	.007	.083	.063	.049	–.025	.088	–.036		
7. Local pre-founding experience	.307	.462	.198	–.076	–.027	.001	.012	–.056	
8. Non-local pre-founding experience	.133	.339	.334	.181	–.013	.065	.080	.132	.082

in a logistic regression analysis of the wineries founded between 1980 and 2004, with the two states of the dependent variable being non-kosher and kosher at founding. Because Israeli wine producers are clustered into five geographic regions—Galilee, Jerusalem Mountains, Negev, Samson, and Shomron—we included fixed regional effects in all of the models that we report. Our second and third hypotheses were tested in regression models—ordinary least squares regression for the size analyses and ordered probit regression for the categorical wine-quality analyses. Two of the four wineries that changed owners at some point between their founding and 2006 were founded after 1980. We excluded observations in the post-ownership change period to isolate the effect of founders and their backgrounds on size and quality outcomes. Because we had several years of size and quality data for each producer, we were able to control for fixed year effects as well as fixed regional effects in each model. This is important, given fluctuations in vintage size and quality across years. Because these multiple observations may yield non-independence among observations, we report models with robust standard errors clustered on producers. Robust standard error estimators provide asymptotically consistent estimates of the variance without making assumptions about the distribution of the errors in our equations.

RESULTS

Before reporting our empirical analyses, we address the question of whether founders actively invested in specific types of pre-founding experience in anticipation of the organizational form that they ultimately wanted to adopt. In particular, was it possible that founders who knew they wanted to establish non-kosher wineries sought out educational and employment experiences in non-local winery populations? If so, then endogeneity concerns would make our results suspect. Here, we distinguish several related motivations that lead individuals to invest in non-local wine industry experience: the desire to be employed in the wine industry, the desire to one day establish a new winery, and the specific desire to one day establish a non-kosher winery. Virtually by definition, before accruing wine industry experience, all individuals believe that they want to be employed in the wine industry. Some may even have aspirations of one day founding their own wineries, but we are convinced that none of our founders sought out non-local experience with the specific aim of founding a non-kosher winery. Rather, consistent with the literature on pre-founding experience, it is more likely that the details of a founder's blueprint are worked out in the context of his or her accumulating industry experience. Decisions about the particulars of organizational form require detailed understandings of the options that are available and the implications of the different options. Before an individual can make specific organizational form choices, he or she must accumulate the relevant know-how that underpins the decisions.

This assumption fits with accounts of how some of our sampled founders ended up with non-local wine industry pre-founding experience. From the surveys we conducted, we know that several experienced founders were training overseas before the New World wine boom took hold. For example, Ben Ami Bravdo (Karmei Yosef Winery) studied at U.C., Davis from 1980 to 1982, while Hillel Manne (Beit-El Winery) studied there from 1977 to 1981. Given the timing of these experiences, it is safe to assume that these founders were not conditioned by local cues to establish a non-kosher winery before seeking their non-local experience. Others ended up with non-local pre-founding experience as a result of career decisions that were unrelated to developments in the wine industry. For example, Margalit's founder, Yair Margalit, went to California to take a sabbatical in chemistry at U.C., Davis. While there, he met the people who introduced him to the idea of making wine professionally. Again, it seems safe here to assume that the decision about where to invest in experience was exogenous to the eventual choice of organizational form.

There were others who did decide to seek out knowledge and experience related to wine production as a result of their exposure to the New World wine boom. This raises the prospect that the pre-founding experience that they accumulated was conditioned by expectations about which organizational form they would adopt. Yet the two salient aspects of the recent history of Israel wine production were the movements toward non-kosher production and toward higher wine quality. Any proactive attempts to accumulate non-local wine industry experience were more likely aimed at achieving higher wine quality than at adopting the non-kosher organizational form. Although there is no actual quality penalty associated with kosher wine production, there was historically a

Table 3

Logistic Regression Analysis of Organizational Form Choice for 1980 to 2004 Entrants*

Variable	Model 1	Model 2	Model 2a	Model 3	Model 3a
Lag (non-kosher foundings)	0.358•	0.372•	0.378•	0.391•	0.405••
	(0.192)	(0.200)	(0.201)	(0.203)	(0.204)
Lag (non-kosher foundings)^2	–0.018•	–0.019•	–0.019•	–0.020•	–0.020•
	(0.010)	(0.011)	(0.011)	(0.011)	(0.011)
Lag (wine imports)	–0.271	–0.212	–0.255	–0.239	–0.290
	(0.240)	(0.238)	(0.244)	(0.245)	(0.252)
Local pre-founding experience	—	–0.600	–0.615	—	—
		(0.480)	(0.481)		
Local pre-founding experience (kosher)	—	—	—	–1.616••	–1.627••
				(0.812)	(0.805)
Local pre-founding experience (non-kosher)	—	—	—	0.800	0.628
				(1.187)	(1.201)
Local pre-founding experience (grower)	—	—	—	–0.400	–0.372
				(0.545)	(0.547)
Non-local pre-founding experience	—	1.881••	1.868••	2.074••	2.074••
		(1.073)	(1.071)	(1.129)	(1.133)
N	138	138	134	138	134
Log likelihood	–71.909	–68.901	–67.067	–66.806	–65.104

• $p < .10$; •• $p < .05$; one-tailed tests for hypothesized covariates.
* Models include fixed effects for regions. DV = 1 for non-kosher founding.

perceived association between kosher (and therefore Israeli) wines and poor wine quality. Perhaps concomitantly, there were no formal winemaking programs in Israel until quite recently. Therefore, any proactive search for a more nuanced appreciation of how to produce high-quality wines would have led individuals into other wine producing countries, which were dominated by the non-kosher mode of wine production. Individuals with quality aspirations therefore ended up accumulating pre-founding experience in foreign winery populations and were thus exposed to and imprinted with the non-kosher organizational form. An example of this is the founding of Flam in 1998. A stimulus for Golan Flam to go to Australia and then to Italy was to learn how to make high-quality wines. Although his father was a winemaker for Carmel, this was not considered to be a place where high-quality wines were made. When he returned, Golan and his brother established Flam as a high-quality non-kosher producer. In this case, the decision to go overseas was not influenced by the expected organizational form choice but, rather, by the desire to learn how to produce higher-quality wines.

Table 3 presents results from a series of logistic regression models with the non-kosher organizational form dependent variable. Model 1 indicates the expected non-monotonic relationship between the count of prior-year non-kosher foundings and the probability of selecting the non-kosher form. Each coefficient is significant at a $p < .10$ level.[6] Taken together, these marginally significant coefficients suggest that, ceteris paribus, the probability that a founder adopts the non-kosher form peaks at roughly ten prior-year non-kosher foundings. The imports variable never exerts a significant influence on the probability of adopting the non-kosher form. To test our first hypothesis, we added the pre-founding experience variables to the model. Consistent with our prediction, the effect of non-local pre-founding experience is positive and significant. Founders that moved into the Israeli wine

6
The high correlation between the prior non-kosher foundings variables raises concerns about the stability of these estimates. We checked for stability by estimating model 1 on ten random subsamples of the data, each constituting 90 percent of the total sample. In these models, the coefficients remained in the same directions in all cases and were significant at the $p < .10$ level in seven out of ten cases. We then log-transformed the first-order variable to reduce the correlation between the two variables and obtained the same pattern of effects. Finally, when we estimated models 2 and 3 after removing these two variables, we obtained virtually identical parameter estimates for all pre-founding experience variables.

industry from foreign wine industry populations tended to carry and replicate the locally novel form when they entered.

The difference between the non-local and local wine industry pre-founding experience effects is significant at $p = .038$. In fact, model 2 indicates that the effect of local pre-founding experience on the probability of choosing the non-kosher form is negative, although not statistically significant. To further probe the local experience effect, we identified the specific former employers of each founder who had local pre-founding experience. Eleven founders had their local winery employment experience in kosher producers, eight in non-kosher producers, and 33 accrued their local experience as grape growers. Model 3 replaces the local pre-founding experience variable with three indicator variables that capture these different sources of local experience. Individuals who founded their wineries following employment stints in kosher Israeli wineries were significantly less likely to adopt the novel form than were inexperienced founders. Although we did not predict this effect, it is also consistent with Stinchcombe's (1965) imprinting thesis. Founders who previously worked for kosher producers tended to replicate the organizational form with which they had direct experience, while those who came into the industry from foreign wine industry populations were more likely to adopt the novel non-kosher form.

The above discussion of ideological attractions and aversions to the kosher form suggests an alternative explanation for these effects. It is possible that our local versus non-local pre-founding experience distinction is capturing certain characteristics of the founders themselves. Individuals with non-local experience are probably more likely to be non-Jewish and therefore less likely to establish a kosher winery. On the flip side, those who stay in Israel are more likely to be orthodox and therefore more likely to establish kosher wineries. But these expectations are not inconsistent with our theorizing—identifying factors that influence the mobility of individuals across population boundaries is an important correlate to identifying the implications of that mobility. That said, finding that all kosher wineries were founded by individuals who were orthodox, and that all non-kosher wineries were founded by those who were non-Jewish would make our results less remarkable. To address this issue, we used the information from our interviews and surveys and our indirect familiarity through Daniel Rogov with the founders to identify those who were non-Jewish and those who were practicing orthodox Jews. It turns out that the incidence of each is very small—only two non-Jewish individuals and two founders who were themselves orthodox. These small numbers conform to our expectations. Both non-Jewish founders established non-kosher wineries, although one had also accumulated non-local pre-founding experience, and the other subsequently switched to the kosher organizational form. Both orthodox founders established kosher wineries. That said, when these observations are removed from the organizational form choice models, the results are virtually unchanged (see models 2a and 3a).

Table 4

Regression Analysis of Producer Size and Quality for 1980 to 2004 Entrants*

Variable	Model 4 Size	Model 5 Size	Model 6 Size (non-kosher only)	Model 7 Quality	Model 8 Quality	Model 9 Quality (non-kosher only)
Founded non-kosher	–1.080••	–1.087••	—	0.044	–0.042	—
	(0.440)	(0.435)		(0.227)	(0.239)	
After-form switch	1.127•••	1.172•••	1.199•••	0.611•	0.781•••	0.725•••
	(0.430)	(0.413)	(0.418)	(0.327)	(0.294)	(0.276)
Ln (age)	0.942•••	0.933•••	0.456•••	0.594•••	0.605•••	0.457••
	(0.217)	(0.217)	(0.140)	(0.172)	(0.172)	(0.223)
Founders on team	0.431•••	0.432•••	–0.045	0.160•	0.180••	–0.152
	(0.078)	(0.084)	(0.143)	(0.084)	(0.088)	(0.167)
Failed	–0.813•	–1.139••	–1.123•••	0.615	0.212	0.063
	(0.439)	(0.543)	(0.426)	(0.347)	(0.481)	(0.497)
Local pre-founding experience	—	0.596••	0.591•••	—	0.446••	0.331•
		(0.261)	(0.203)		(0.206)	(0.242)
Non-local pre-founding experience	—	0.545	0.787•••	—	1.157•••	1.360•••
		(0.380)	(0.318)		(0.348)	(0.385)
N	502	502	380	430	430	321
R^2	0.4541	0.489	0.427	—	—	—
Log pseudo-likelihood				–604.362	–570.438	–420.869

• $p < .10$; •• $p < .05$; ••• $p < .01$; one-tailed tests for hypothesized covariates.
* Models include fixed effects for regions and years; size = log of bottles produced, and quality = Rogov stars. Robust standard errors are in parentheses. In the size models, 426 observations are from 2003 to 2006. The remaining observations cover the 1989 to 2002 period. In the quality models, all observations are from the 2003 to 2006 period.

Table 4 presents the analyses of producer size and quality.[7] Consistent with observations made earlier in the paper, adopting the non-kosher organizational form at founding corresponds with smaller size but has no visible relationship with quality. The coefficients on the post-switching variable indicate that changing from the non-kosher to the kosher form consistently leads to larger size and higher product quality. As expected, the positive age effect is significant in all size and quality models. The number of founders has a positive impact on size and quality in the full sample, but these effects are not significant in the subsample of producers founded with the non-kosher form. Finally, the variable indicating that a producer is about to fail tends to be negatively associated with size but not quality.

Hypothesis 2 predicted that notwithstanding a null or even negative effect on the probability of adopting the novel organizational form, all producers benefit from having local wine industry pre-founding experience. Models 5, 6, 8, and 9 all indicate a positive effect of local pre-founding experience on producer size and quality. The magnitude of the coefficients and their significance levels are lower in the two quality models, such that the effect of local experience on product quality is only marginally significant (p = .086) for the non-kosher entrants. Along with the more pronounced size effect in model 6, this suggests that even when founders adopt the novel organizational form, having pre-founding experience in the local industry can be beneficial. The non-local pre-founding experience effects are also consistently positive, although the magnitude of the effects is greater in the two quality models. In models 6 and 9, the effect of non-local pre-found-

7
Across the observations for which we have size and quality data, the two variables are correlated at p = .523. This raises the prospect that some unobserved and therefore omitted variables might be driving size and quality, leading to non-independence in the error terms across the size and quality equations. In such cases, ordinary least squares regression yields unbiased and consistent estimates, but because our models ignore any correlation of the error terms, the parameter estimates are not efficient. This issue can be addressed by estimating a set of seemingly unrelated regressions (see Appendix B). Because there is no readily available technique that accounts for non-independence across ordered probit and ordinary least squares regressions, we first replicated the quality models using ordinary least squares regression to show that we get virtually identical results (models A2 and A3). We then show that in the overall sample (model A4) and in the subsample of producers founded with the non-kosher organizational form (model A5), the size and quality results are virtually identical to those reported in table 4.

ing experience on size and quality is positive and significant. These two results support hypothesis 3.

In model 6, the difference between the local and non-local pre-founding experience effects is not significant. Local experience is roughly as important as non-local experience in driving a non-kosher entrant's size. The difference between the local and non-local pre-founding experience effects in model 9, however, is significant ($p = .048$). Non-local pre-founding experience is especially important to non-kosher entrants when it comes to producing at higher quality. We see a similar although not significant ($p = .109$) difference in model 8. This pattern of effects across the size and quality models is consistent with the general trend toward quality production that has been imported, along with the non-kosher organizational form, into the Israeli wine industry. Whereas local and non-local pre-founding experience seems to be equally important for size outcomes, superior quality outcomes for producers, especially those adopting the novel organizational form, depend more critically on a founder's pre-founding experience in non-local populations, where product quality has historically been a more important determinant of competitive success.

Finally, we analyzed the extent to which the effects reported in table 4 depend on the specific source of local experience and whether there are positive interactions between the local and non-local pre-founding experience effects. In a set of unreported analyses, we replicated models 5 and 6 after decomposing the local pre-founding experience variable into kosher Israeli winery, non-kosher Israeli winery, and grape-grower sources. In both cases, there were no significant differences in the coefficients associated with the three local experience variables. A similar replication of model 8 showed that the positive effect of local pre-founding experience on quality came from having previously worked in either kosher or non-kosher wineries and not as a grape grower. No such differences were evident in a reestimation of model 9. Finally, we added an indicator variable to these four models for the eight wineries whose founders had both local and non-local pre-founding experience. Although we are cautious when interpreting these results, given the small number of observations that have both types of experience, we found consistently positive but insignificant interaction effects in models 5, 6, 8, and 9.

The effects of pre-founding experience on form choice and on the size and quality outcomes achieved by non-kosher producers are summarized in table 5. Accounting for the producers that failed and those that switched organizational forms, 77 of the post-1980 entrants were active non-kosher producers at the end of the sample period. Thirteen of these were established by individuals who had accrued non-local wine industry experience. Of the remaining five entrants whose founders had non-local pre-founding experience, one established a kosher winery, three failed, and one subsequently switched to the kosher organizational form. Consistent with the results reported in table 3, these numbers indicate the importance of non-local pre-founding experience in increasing the incidence of novel-form producers in Israel.

Table 5

Size and Quality for Non-kosher Entrants at the End of Sample Period That Endured as Non-kosher Producers

		No non-local wine industry pre-founding experience	Non-local wine industry pre-founding experience	Total	Non-Local pre-founding experience multipliers (pre-founding experience relative to none)
No local wine industry pre-founding experience	Wineries	44	6	50	
	Average founding year	2000	1999	2000	
	Average quality	2.2	3.5	2.4	
	Average size	6,838	31,917	9,973	
Local wine industry pre-founding experience	Wineries	20	7	27	
	Average founding year	2001	1999	2001	
	Average quality	2.2	3.6	2.6	
	Average size	12,250	27,933	16,171	
Total	Wineries	64	13	77	
	Average founding year	2000	1999	2000	
	Average quality	2.2	3.5	2.4	(Quality) 1.61
	Average size	8,462	29,925	12,039	(Size) 3.54
Local pre-founding experience multipliers (pre-founding experience relative to none)				(Quality) 1.08 (Size) 1.62	

Table 5 summarizes the influence that non-local pre-founding experience has had on size and quality outcomes for the enduring non-kosher producers. Results show that the product-quality and average-size outcomes tend to be lower than the average values observed for the 44 surviving kosher producers (2.7 stars and roughly 460,000 bottles). Against this backdrop, the multiplier on product quality for non-kosher producers whose founders had non-local experience is 1.61. This roughly 60-percent quality enhancement confirms the importance of non-local pre-founding experience in propelling the Israeli industry into its documented quality revolution. At the same time, the non-kosher producers with non-local pre-founding experience were 3.54 times larger. Comparing these multipliers with those corresponding to local pre-founding experience, product quality was hardly influenced by local experience. When it comes to size, however, we see a stronger multiplier (1.62). Despite its negative influence on the probability of adopting the non-kosher form, local pre-founding experience significantly improved size outcomes for producers that elected to adopt the locally novel organizational form.

DISCUSSION AND CONCLUSION

Consistent with the theory that we laid out, results showed non-local wine industry pre-founding experience to be very important in ushering a novel organizational form into the local Israeli context, increasing the odds that a new entrant would select the non-kosher organizational form. At the same time, local and non-local pre-founding experience improved the size and product-quality outcomes achieved by the non-kosher entrants. This had an additional effect on form penetration by improving the impact and longevity of novel-form producers.

By 2006, the non-kosher organizational form dominated the Israeli wine industry in terms of density (77 producers compared with 44). Notwithstanding the positive effects of non-local and local pre-founding experience on the size of the non-kosher producers, however, the kosher form still dominated in terms of total production (1.8 million bottles compared with roughly 870,000). We round out our analysis of novel form penetration by briefly addressing two additional processes that affect the successful penetration of the non-kosher form: organizational failures and form switches. Twelve of the seventeen failures observed during the sample period were experienced by non-kosher producers. Given the larger number of non-kosher foundings, this suggests that kosher and non-kosher entrants have been failing at similar rates. The non-kosher failures documented in table 6 corroborate our assumption that size and quality are positively relat-

Table 6

Failures and Organizational Form Switches for Non-kosher Entrants

Winery	Founder with non-local pre-founding experience	Founder with local pre-founding experience	Maximum size reached*	Maximum stars reached*
		Failures		
Caesaria Cellars	1	1	15,000	2
Dahlia	0	0	1,000	1
Deux Paysans	0	0	3,000	3
Gadot	0	0	500	1
Har Noy	0	0	1,400	2
Kella David	0	0	10,000	1
Kfar Tikva	0	0	n/a	n/a
Kfira	1	0	3,500	4
Meron	1	0	6,000	3
Mitzpe Hayamim	0	0	1,500	1
Rozenbaum	0	0	10,000	1
Sataf	0	0	1,000	1
Percentage / average	25.0%	8.3%	4,809	1.8
		Form switches		
Alexander Winery	0	0	45,000	4
Bazelet Hagolan	0	1	30,000	4
Benhaim	0	0	40,000	3
Bustan	0	0	2,000	4
Castel	0	0	100,000	5
Chillag	1	0	20,000	4
Kadesh Barnea	0	0	25,000	2
Mony	0	1	22,000	3
Odem Mountain	0	0	30,000	3
Ramim	0	0	80,000	3
Tzora	0	1	70,000	4
Zemora	0	1	50,000	3
Percentage / average	8.3%	33.3%	42,833	3.5

***** In any year before failure or before switching organizational forms.

ed to organizational longevity. Average size and product quality, in terms of the maximum bottles produced and maximum stars in any year prior to failing, are considerably smaller than the averages for the surviving non-kosher producers reported in table 5. Net of the positive effects of non-local pre-founding experience on size and quality outcomes, it seems that non-kosher producers founded by individuals with non-local experience may have experienced a slightly elevated chance of failure. Individuals with non-local experience were associated with 18 percent of the non-kosher foundings but 25 percent of the non-kosher failures.

As long as the kosher and non-kosher forms were isolated from one another by residing in different country populations, boundaries were high and rigid. No Israeli winery either changed its organizational form or operated under both forms before 1999. As the non-kosher form proliferated within but did not dominate the local population, the boundary between kosher and non-kosher production became surmountable. This facilitated form changes and even limited form blending (Hannan and Freeman, 1986; Ruef, 2000). Since 1999, eleven producers changed from non-kosher to kosher production, and one began producing both kosher and non-kosher wines. Given the kosher designation requirements, it is clear that this can only happen at two separated facilities. Starting in 2003, Chillag made kosher wines using kosher facilities leased from Carmel, and Saslove also experimented briefly with making kosher wines in this facility. In their study of haute versus nouvelle cuisines, Rao, Monin, and Durand (2005) showed that an increased prevalence of blending techniques weakened the strong boundaries that previously separated these two organizational forms. This reduced the penalties associated with restaurants working across forms. We may be observing a similar phenomenon in the Israeli wine industry. It is interesting that all of the observed switches were toward kosher production, the traditional organizational form. Against this baseline, the lower panel of table 6 shows that the organizations that switched forms had a low proportion of founders with non-local pre-founding experience (8.3 percent) and a high proportion with local experience (33.3 percent). This is consistent with the effects reported in table 3 and suggests that individuals who were imprinted overseas with the non-kosher form were less likely to consider subsequent changes to the more traditional form. At the same time, having worked previously with or alongside the traditional organizational form seemed to make such form changes more likely.

Table 6 also suggests that producers' size and quality have a positive influence on the likelihood of switching to the kosher form. The maximum size reached by the average switching producer (roughly 43,000 bottles) is much larger than the average size observed in 2006 for the enduring non-kosher producers (roughly 12,000 bottles). The same may be said for producer quality (a maximum of 3.5 stars compared with 2.4). It may seem surprising that the non-kosher producers that switched forms were on average larger and of higher quality than those that did not, because success typically makes radical changes less likely. Yet the larger size of the switchers suggests that one of the key interdependencies between kosher wine production and other organizational elements did not change as the composition of the local population changed. Given the favorable access that kosher producers have in local (e.g., the supermarket chains) and global distribution channels, the kosher form remains favorable for producers with larger operations. At the same time, the perceptual associations between kosher wine production and low product quality may be diminishing. Since the founding of the Golan Heights Winery (a high-quality kosher producer) in the early 1980s, beliefs about the quality of kosher wine production have been changing. In this respect, of the 218 Israeli wines reviewed by the *Wine Spectator* prior to the end of 2006, only thirteen were from wineries founded as non-kosher producers. Moreover, three of these thirteen reviews were received after the producer switched to the kosher organizational form. Also, roughly 70 percent of the $14.6 million in Israeli wine exports in 2005 were accounted for by three producers: Carmel, Golan Heights Winery, and Barkan. The next 25 percent came from Efrat, Dalton, Binyamina, Tishbi, Galil Mountain, Domaine du Castel, Recanati, and Ella Valley.[8] All eleven of these producers operated under the kosher form. These observations suggest that rather than serving as a retardant to effective participation in overseas quality niches, the kosher designation was actually benefiting Israeli producers with quality aspirations. As local and foreign wine consumers started to take the quality of kosher wines more seriously, the previously hard trade-off between quality aspirations and kosher production may have eased. Similar to the influence of blending that Rao, Monin, and Durand (2005) found, the co-location of the two forms within the local population seems to have allowed kosher producers to borrow New World winemaking techniques and improve their quality demonstrations. With the corresponding endorsement of important actors (e.g., the *Wine Spectator* critics), the penalties associated with kosher production have waned. This facilitates the observed form defections by non-kosher producers. Of course, it remains to be seen whether there are other penalties for these form switchers in terms of their reception among kosher wine consumers and within the scale-based kosher channels. In this respect, however, the consistently positive and significant effects of the after-form-change variable in table 4 argue against such penalties.

Our emphasis on founders as conduits for access to locally novel organizational forms allows us to extend research on non-local legitimation effects (Hannan et al., 1995; Bigelow et al., 1997). The proliferation of New World wine producers in the U.S., Australia, and elsewhere who were both non-kosher and of relatively high quality was not enough to induce the spread of the locally novel non-kosher form into Israel. The penetration process was accelerated by individual mobility, whereby the novel form was carried into the local population. This allows us to see why such organizational form penetrations into local populations are quite rare. Although research into organizational foundings clearly suggests that founders do not tend to move when they establish their new organizations (Sorenson and Audia, 2000), roughly 13 percent of Israeli winery founders had non-local wine

8
The main importers of Israeli wines in 2006 were (in descending order) the U.S., France, the U.K., Germany, and Canada.

industry experience before founding. Such experience clearly contributed to the penetration of the novel organizational form.

Another implication of our study relates to how the parent-progeny process relates to form heterogeneity (Sine, Haveman, and Tolbert, 2005) within local populations. Phillips (2002: 502) suggested that "if organizational blueprints and resources travel from parent firms to progeny across generations, populations should become less diverse as the rate of progeny foundings increases." This assumes that the parents of all progeny reside in the local population. When we relax this assumption and allow founders to accumulate pre-founding experience both locally and in non-local populations, we begin to see how the progeny process may actually facilitate organizational heterogeneity within a population. In the current case, the kosher and non-kosher forms ended up co-populating the Israeli wine industry by 2006, with non-kosher producers dominating in terms of numbers, and kosher producers dominating in terms of size and therefore total production. It remains to be seen whether this distribution of densities and masses across the two forms is sustainable or whether the movement toward the simultaneous production of kosher and non-kosher wines continues into the future.

In the end, our analysis of the individual-level factors that spurred the introduction and penetration of a novel organizational form into an established population offers much to think about. Scholars interested in how organizational populations evolve over time should continue to explore the links between individual mobility and organizational form dynamics at the regional level of analysis. With this as a backdrop, we will develop a better understanding of the evolutionary processes that lead to changes in the composition of local populations.

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APPENDIX A

Table A.1

Relating Rogov Quality Stars to Blind Wine Reviews*

	Model A1 Quality
Average quality score in prior reviews	.460•••
	(.047)
Count of prior reviews	.012•••
	(.002)
Non-kosher producer	.173
	(.183)
N	458
Log pseudo-likelihood	–428.559

••• $p < .01$.
***** Models include fixed effects for regions and years. Robust standard errors are in parentheses.

APPENDIX B

Table B.1

Seemingly Unrelated Regression Analysis of Producer Size and Quality*

Variable	Model A2 Quality (OLS)	Model A3 Quality (NK only) (OLS)	Model A4 Size (SUR)	Quality (SUR)	Model A5 Size (NK only) (SUR)	Quality (NK only) (SUR)
Founded non-kosher	–0.021	—	–1.157•••	–0.005	—	—
	(0.226)		(0.169)	(0.128)		
After-form switch	0.785•••	0.736•••	1.166•••	0.760•••	1.246•••	0.710•••
	(0.298)	(0.280)	(0.249)	(0.189)	(0.178)	(0.189)
Ln (age)	0.593•••	0.441••	1.018•••	0.607•••	0.357•••	0.444•••
	(0.156)	(0.207)	(0.124)	(0.094)	(0.111)	(0.118)
Founders on team	0.180••	–0.135	0.436•••	0.177•••	–0.049	–0.164
	(0.080)	(0.149)	(0.049)	(0.037)	(0.093)	(0.098)
Failed	0.246	0.087	–1.225	–0.172	–1.058	–0.420
	(0.470)	(0.476)	(0.962)	(0.730)	(0.681)	(0.723)
Local pre-founding experience	0.455••	0.326•	0.537•••	0.474•••	0.579•••	0.353•••
	(0.200)	(0.235)	(0.148)	(0.112)	(0.122)	(0.129)
Non-local pre-founding experience	1.137•••	1.333•••	0.571•••	1.185•••	0.797•••	1.402•••
	(0.325)	(0.335)	(0.207)	(0.157)	(0.153)	(0.162)
N	430	321	412	412	306	306
R^2	0.318	0.344	0.473	0.326	0.386	0.359

• *p* < .10; •• *p* < .05; ••• *p* < .01; one-tailed tests for hypothesized covariates.

* Models include fixed effects for regions and years; size = log of bottles produced, and quality = Rogov stars. For OLS models, robust standard errors are in parentheses.