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Network Progeny? Prefounding Social Ties and the Success of New Entrants

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Entrepreneurs that were employed by successful industry incumbents prior to founding tend to confer advantages on their new organizations. We propose and then demonstrate a similar “network progeny” effect rooted in the social relationships that form among entrepreneurs. Our analysis of new entrants into the Ontario wine industry shows that prefounding friendship ties of the founders of one especially prominent entrepreneurial firm led to significantly higher ice wine prices. This attests to the promise of a network progeny extension of the parent–progeny account of new firm success. Follow-on analysis indicates that this effect is not attributable to an entrant’s ability to make ice wines of superior quality or to it having access to better distribution knowledge. We therefore conclude that having a social tie to this prominent entrepreneurial firm generated reflected prominence that enhanced the valuations and therefore prices of wines made by connected market entrants.

Key words: organizational studies; economic sociology; entrepreneurship; networks

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Introduction

Incumbent organizations serve as training grounds for entrepreneurs (Freeman 1986). In this way, “spinoffs” (Klepper and Sleeper 2005) inherit valuable technological knowledge, “spawns” (Chatterji 2009, Gompers et al. 2005) inherit nontechnical knowledge and connections to established industry networks, and “progeny” (Phillips 2002) inherit valuable resources and routines. These prior work experiences also signal the potential inherent in new ventures. As such, entrepreneurs that come from good stock (Burton et al. 2002) hold credentials that reduce the perceived risk of their new ventures. For all of these reasons, organizations established by individuals with experience working inside successful industry incumbents tend to demonstrate enhanced performance.

Borrowing language from Phillips’ (2002, 2005) parent–progeny model, we introduce a related concept—network progeny—and propose that new ventures whose founders have prefounding social ties to successful incumbents have similar kinds of advantages. More specifically, we focus attention on one market outcome that is clearly relevant for new firms—product prices (Uzzi and Lancaster 2004). Here, the possible benefits that flow to a connected entrepreneur mirror the knowledge (Freeman 1986) and signaling (Burton et al. 2002) mechanisms emphasized in the literature on prefounding experience.

Tacit knowledge circulates through entrepreneurial networks (Sorenson and Audia 2000). Some of this knowledge (i.e., production knowledge) allows a new firm to produce higher-quality products, which should translate into higher prices. Other knowledge (i.e., distribution knowledge) allows it to gain effective access to distribution channels at more favorable terms. These benefits translate into higher prices because the new firm is able to get full value from its quality demonstrations. Another potential benefit is reflected prominence. According to Merton’s (1968) insights about communication and reward systems, scientists with early ties to prominent individuals and institutions gain more recognition and credit for their scholarly contributions. This same logic operates in markets (Podolny 1993, Stuart et al. 1999) and can lead to higher valuations and therefore prices for products of otherwise similar quality.

We test our network progeny thesis in an analysis of an emerging wine-producing region. Since the arrival of the new world of wine in the late 1970s, a number of wine regions have emerged in places like Australia, New Zealand, Chile, Argentina, South Africa, and Israel (Allen et al. 1998). Another example of a recent and focused explosion of winemaking activity is found in Ontario, Canada. Prior to the onset of the new world wine boom, only eight commercial wineries operated in Ontario (Bramble et al.

2007). Today, Ontario houses more than 100 wineries, most of which produce and sell ice wine, a dessert wine that has given Ontario global recognition. Much of the ice wine success in Ontario follows the early entrepreneurial efforts of a single winery, Inniskillin, which was founded by Donald Ziraldo and Karl Kaiser in 1975 (Schreiner 2001, 2005).

After developing the network progeny logic and prediction, we analyze how the valuations of Ontario's ice wines—evidenced by their prices—are influenced by prefounding social ties to the founders of this prominent and successful winery. We find that having a prefounding friendship tie to one of the founders of Inniskillin leads to a meaningful increase in ice wine prices. We then look for evidence of the more specific mechanisms that might be responsible for this network progeny effect—improved production knowledge or distribution knowledge. Here, we find that a prefounding friendship tie to Inniskillin is not accompanied by any notable increase in ice wine quality. This is inconsistent with the idea that the network progeny come to possess superior production knowledge. Other results cast similar doubt on the distribution knowledge mechanism. We do not find pricing advantages associated with prefounding friendship ties to others whose wineries had experienced some commercial success. Nor do we find that the pricing implications of a prefounding tie to Inniskillin increase with its own experience in retail outlets.

We therefore favor Merton's (1968) reflected prominence mechanism as the most plausible driver of the network progeny effect on ice wine prices. The reflected prominence that came with a close prefounding social tie to Inniskillin justified audience assumptions that the new producer was "like Inniskillin" and therefore worthy of similar valuations. We complete our analysis with a closer examination of this reflected prominence mechanism.

Prefounding Social Ties— Knowledge and Reflected Prominence

Transfers between successful parent organizations and their progeny are known to be "a function of the employment relationship and career history between the parent firm and the potential founder" (Thornton and Flynn 2005, p. 409). Broadly speaking, the benefits brought by experienced entrepreneurs are theorized to come from their better industry and organizational knowledge (Freeman 1986) or because they come with positive signals of venture or product quality (Burton et al. 2002). We propose that these kinds of benefits also flow from parent to progeny through social ties that form among entrepreneurs.

Although there is no shortage of studies of the importance of social ties for new ventures, they primarily emphasize vertical ties to investors, customers

or suppliers (Stuart et al. 1999, Uzzi 1996). Less emphasis is placed on the horizontal ties that are shown to be consequential in other contexts. In their study of hotel managers, for example, Ingram and Roberts (2000) find that friendship ties between managers increase the potential for collaboration, lead to beneficial norms of conduct, and enhance the flow of relevant information between hotels. In a related study of Scottish shipbuilding, Ingram and Lifschitz (2006) show that friendship and kinship ties among competitors resulted in knowledge sharing and at times (legal) collusion that yielded superior performance for connected shipbuilders.

The ties that we emphasize are those that form between an organizational founder and individuals at prominent and successful incumbent firms; firms like the Olds Motor Works in the early evolution of the auto industry around Detroit or Fairchild Semiconductor in the early years of Silicon Valley (Klepper 2010). These prominent earlier entrepreneurs do more than facilitate the commercial success of their own ventures. They help shape industries by building "external resources" that contribute to the success of other local entrepreneurs that follow them (Feldman et al. 2005). However, these external resources are not necessarily available to all subsequent entrants.

Network research shows that (especially tacit) knowledge flows more readily in close social relationships (Sorenson et al. 2006). These ties facilitate two-way interactions (Uzzi 1997) that are critical to the transfer of knowledge during the founding process. More specifically, social ties can augment production knowledge, which improves the processes through which products are developed and manufactured. With more of this knowledge in hand, a young firm's product quality should improve along with their products' prices. After production, these ties can also augment distribution knowledge. Successful and prominent incumbents may have information on how to access retail channels and negotiate favorable contracts. By knowing how to negotiate prices and position their products for buyers, a younger firm's prices can be higher even without superior underlying product quality. The more knowledgeable entrant is simply better able to get full value for its product quality demonstrations.

Being socially close to highly successful incumbents also delivers benefits on the consumer side of the market. In crowded fields or markets, individuals receive differential attention and rewards for otherwise similar demonstrations of quality (Merton 1968). This is tied to reward and communication systems. In the former respect, those that might otherwise doubt the abilities of new ventures look favorably on those with ties to prominent alters (Stuart et al. 1999). In the latter respect, Hirsch (1972) noted how difficult it is to

get one's offerings noticed and processed in crowded markets. Consideration tends to flow to a selected group of participants (Zuckerman et al. 2003). The presence of a social tie to a prominent incumbent firm provides an explicit or implicit referral that directs attention to the tied founder. Critics and customers anchor their searches for new products around the successful firm and then radiate outward (Pashigian and Gould 1998). Thus, firms that are founded in the foreground of a prominent network affiliate get more attention and higher status conferrals. In these ways, social ties to prominent others create a reflected prominence that allows for disproportionate rewards in the form of higher valuations and therefore prices for otherwise similar-quality demonstrations.

With expected benefits on the production and consumption sides of the market, we predict that *the valuations (and therefore prices) of products made by an entrant improve in the presence of a prefounding social tie to a prominent industry incumbent.*

Ontario and Ice Wine

Until recently, Ontario languished as a wine-producing region (Martin 2006). A turning point for the Ontario industry was the founding of Inniskillin in 1975 by Donald Ziraldo and Karl Kaiser (Bramble et al. 2007). Inniskillin was the first Ontario winery to be granted a commercial license to operate in roughly 50 years. A handful of other wineries followed, and by the late 1980s there were about a dozen new wineries.

During this early period of reemergence, passionate individuals collaboratively experimented with different winemaking approaches and wine styles. By far the most important of these experiments was undertaken by a group of wineries comprised of Inniskillin, Reif Estate, Pelee Island Wines, and Hillebrand Estates during the winters of 1983 and 1984 (Schreiner 2001). This was the first time Ontario winemakers attempted to produce ice wine, which is made by picking and vinifying grapes after they freeze on their vines.¹ During the winter of 1983, some of the grapes at these wineries were left on their vines after the first frost. Walter Strehn at Pelee Island Wines was the only one to harvest grapes that winter (the others lost theirs to the birds) and thus was the only one to make ice wine from the 1983 vintage. The others made their first ice wines in the following winter.

¹ The world's first ice wine was probably made in Germany in 1794. However, it was virtually unheard of for wine producers to make ice wine regularly until at least the 1960s. In Germany, ice wine (or eiswein) was given its own regulatory class in 1983, indicating that a critical mass of German ice wine producers was just then emerging (Schreiner 2001).

For the next half dozen years, those that made ice wines had a difficult time selling them. The watershed event for ice wine in Ontario was when Inniskillin won the prestigious Grand Prix d'Honneur at Bordeaux's Vinexpo wine fair in 1991. Thereafter, Ontario built on this entrepreneurial success with an expanding community of wineries and growing audience appreciation for its ice wines. By the end of 2007, Ontario's ice wines had accrued 78 reviews from the *Wine Spectator*, one-third of these receiving 90-plus quality ratings, indicating that the wines were thought to be either "Classic" or "Outstanding" (<http://www.winespectator.com>).

This brief account clearly links Inniskillin to three important events that facilitated the rise of Ontario and its ice wines. It was the first winery in five decades to receive a commercial license to produce and sell wine in the region, it was among the small group of producers that made the first Ontario ice wines, and it won the Grand Prix d'Honneur in 1991. We therefore single out Inniskillin as a prominent and successful incumbent and examine whether wineries subsequently founded by individuals with friendship ties to the founders of Inniskillin experienced greater success selling their ice wines in Ontario's retail outlets.

Data and Analysis

Interviews with Ontario's winery founders indicated the importance of gaining effective access to Liquor Control Board of Ontario (LCBO) stores.² These stores sell about 85% of the wine purchased in Ontario. The rest is sold in restaurants or from the cellar doors of licensed wine producers. The LCBO's General List carries wines from larger producers, whereas its Vintages program caters to the smaller quality-oriented vineyards and up-and-coming wineries. According to the LCBO website, "most of the products sold through Vintages are available for a limited time, and [their] product portfolio changes constantly. This ever-changing selection is an opportunity for new producers to establish their presence in Ontario and build a reputation for quality products."³

Through an access-to-information request submitted to the Ontario provincial government, we obtained an almost comprehensive archive of Vintages catalogs published between 1988 and 2007.⁴ Comparing these to the corresponding LCBO General Lists reveals that all but one of the ice wines made

² See also Bramble et al. (2007, p. 73).

³ See http://www.lcbotrader.com/selling_vintages.htm (accessed October 6, 2011).

⁴ Officials were not able to locate catalogs from 1995, so this year is excluded from our analysis.

available to Ontario consumers in LCBO stores during our sample period were sold through the Vintages program.

Interested Ontario wineries are required to submit bids to have their products sold in the Vintages outlets. Each bid must include the price that the winery expects to charge for its wine. The LCBO advises winery operators that, “to be successful, a product must stand out from all other submissions in terms of price, quality, value and packaging.”⁵ Thus, wineries try to propose prices that they believe will be attractive to prospective Vintages customers. In the end, minor price adjustments may be suggested by Vintages representatives as the final terms of accepted ice wine placements are negotiated.

To obtain real prices from those printed in the various catalogs, we discount the price charged for each 375 ml bottle to its 2002 equivalent using the Canadian consumer price index. These raw data indicate that Ontario ice wines are priced (in real terms) somewhere between *anonymous dessert wines* and *wines as good as those from Sauternes*. At the latter extreme is Inniskillin, whose prominence came from its Vinexpo award in Bordeaux and the concomitant public endorsement from a panel of French wine experts. During the sample period, it regularly charged more than \$70 (in 2002 dollars) for a half-bottle of ice wine.

For our analysis, we compute the average real price of the ice wines listed by Vintages for each producer in each year.

Our main independent variable indicates the presence of a prefounding friendship tie with one of the founders of Inniskillin. To obtain this friendship information, we surveyed (either in person, by telephone or online) founders of Ontario’s wineries.⁶ Beginning with the complete roster of wineries founded since 1975, we dropped wineries that were not founded by an individual or a group of individuals (i.e., diversifying wineries) and those for which there was no living founder capable of completing our survey. From the approximately 100 wineries that met these two criteria, we were able to collect founder background information from 78 entrants (including Inniskillin).

Each sampled founder was shown an alphabetized roster of all 111 wineries that ever operated commercially within Ontario, including those that had

already exited.⁷ He/she was then asked to identify the wineries at which someone on his/her founding team had at least one prefounding professional friend. Prefounding professional friends were defined as individuals that founders “liked and whom he/she would have felt very comfortable asking for advice or a favor” prior to starting their wineries (Ingram and Roberts 2000). The sampled founders reported an average of 6.3 prefounding friendship ties to other Ontario wineries, with 69 reporting at least one friendship tie.⁸ Of these, 28 reported having a professional friend at Inniskillin prior to founding.

This process identifies prefounding friendship ties based on the recollections of the founders themselves and thus raises concerns about retrospective bias. Several factors militate against such concerns. In many cases, the time lag between the year of founding and the year in which we collected data is not very long. Longer time lags tend to be associated with smaller sets of incumbents at which a founder could have formed prefounding friendships. Moreover, the period just prior to founding is highly salient in our founders’ careers and therefore memories. That said, we took steps to affirm the validity of the reported friendship ties. Whenever possible, we followed up the identification of a tie by asking questions about its formation. Respondents typically had little trouble recounting the origins of their friendships. Many formed friendships by participating in the industry as grape growers or winery employees. Some were enthusiasts (i.e., amateur winemakers) and regularly visited professionals to seek advice. In other cases, ties formed as a result of growing up and going to school in the region or from common family connections. In a few cases, friendships formed because the individuals worked together in another industry.

To further mitigate the possibility of retrospective bias, we estimate models using a friendship tie variable that equals one when *both* the focal founder and one of the Inniskillin founders reported the presence of a friendship tie prior to founding. Here, we rely on separate interviews with Inniskillin’s two founders, in which we asked them to identify the other Ontario wineries where they had friendship ties to the founders before they established their wineries. Seventeen of the 28 friendship ties identified by the

⁵ See http://www.lcbotrader.com/selling_needs_letters.htm (accessed October 6, 2011).

⁶ Inspection of these data indicate no meaningful differences in the information obtained from in-person interviews compared to that obtained over the phone or online in most respects. However, there were proportionately more friendship ties to Inniskillin among those we interviewed in person. We therefore replicated all our results with a control variable that isolates the in-person observations.

⁷ At the time these data were collected, there had been six winery exits in the years since Inniskillin was founded in 1975. We were able to include three of the founders of these now-defunct wineries in our sample.

⁸ When probed, respondents tended to indicate that these friendship ties were with other winery owners. This is sensible given that the vast majority of the wineries in Ontario are small operations. It is not uncommon for owners to be the only permanent employees at a winery, particularly when the industry was just beginning to develop.

sampled founders meet this more stringent criterion of being “reciprocated” by at least one the founders of Inniskillin.

To net out year-to-year variations in typical ice wine prices, our models include year fixed effects. We also want to account for possible cost differences that might affect a winery’s ability to compete effectively in the Ontario marketplace. Although we do not have access to detailed cost information for each sampled winery in each year, two variables are plausibly associated with a winery’s underlying cost of production. Older wineries tend to have cost advantages, because of the experience curve effect and because the prices of vineyard land have increased substantially over time. At the same time, larger wineries tend to benefit from economies of scale and also have lower production costs. To account for winery age differences, we compute the observation year minus the winery’s establishment year. Gaining access to annual winery size information proved to be more difficult. From our surveys, we know the total number of cases of all wines produced by each winery in its first year of operation. Different archival sources provide limited size information for Ontario wine producers in 1993, 1999, 2005, and 2009. The reported size values in these years correlate with the initial size variable at 0.64 (1993), 0.64 (1999), 0.44 (2005), and 0.55 (2009), respectively. Thus, it seems that the initial size variable provides a rough indication of a winery’s production capacity. Among the 158 observations for which we have ice wine price data, those associated with a reciprocated friendship tie to a founder at Inniskillin tend to be significantly older (the average age difference is 2.58 years; $t = 2.38$; $p = 0.02$) and larger (the average initial size difference is 793 cases; $t = 2.31$; $p = 0.02$). Thus, there is reason to expect that the production costs of tied producers might be lower. We therefore include the winery age and size variables in each of the models that we estimate.

To control for differences in the quality of wines produced in general, we include winery quality scores reported by Schreiner (2005) on a scale of one (“everyday wines”) to five (“leading producer”) stars. Because of the potential advantage of having an Austrian or German heritage (given that ice wines originated in these two countries), we include a variable set to one if any of the founders was indicated to be of Austrian or German descent.⁹

Given the large volume of research on the effects of related prefounding experience on organizational outcomes, we also include an indicator variable set

to one when a founder had prefounding experience somewhere in the Ontario wine industry, either as an employee or a grape grower. To account for the general affability or connectedness of founders, we include another variable that counts the total number of reported prefounding friendship ties to other wineries, excluding Inniskillin. We also control for the potential impact of prior *Wines Spectator* reviews on ice wine prices. To account for the influence of this global wine critic, we create an indicator variable set to one in all years after a producer received its first favorable review (i.e., with a score of more than 80 points out of 100).

Finally, it is well known that geographic proximity also facilitates the kinds of transfers that flow through social ties (Jaffe 1986, Jaffe et al. 1993). We therefore used Google Maps to determine the driving distance separating each winery pair and then recorded the distance from the focal winery to Inniskillin.¹⁰

We report the results of an analysis of producers located in the Niagara region. Although we also estimate models using information from all sampled Ontario producers and obtain similar results, including the non-Niagara producers likely inflates our estimates artificially. The 17 founders with reciprocated prefounding friendship ties to Inniskillin are all located in the Niagara region. At the same time, Niagara wine producers tend to command higher prices for their ice wines, probably because of the heightened cachet that comes from locating in that region. Focusing on Niagara producers eliminates the possibility of a spurious relationship between prefounding ties to Inniskillin and product prices attributable to colocation within this region.

Table 1 provides descriptive statistics and pairwise correlations among the variables in our analysis.

Results

The first column in Table 2 reports the results from an ordinary least squares (OLS) regression model. Among the significant coefficient estimates, producer quality has the expected positive impact. The effect of having an Austrian or German founder is negative, whereas having a founder with related prefounding experience also exerts a negative effect. This latter result may be due to the fact that founders with related prefounding experience tended to have worked for or supplied grapes to older incumbents

⁹ This information was obtained by showing the full list of founder names to two different professors of German studies and assigning Austrian or German heritage to individuals when both of these individuals agreed on their probable backgrounds.

¹⁰ Others have used different measures of distance between organizations within a region, like adjusted Euclidean distance (Sorenson and Audia 2000). However, the average driving distance between any two Niagara wineries is just 26 kilometers, and the maximum distance is 56 kilometers. Thus, alternative distance measures would yield very similar results.

Table 1 Descriptive Statistics and Correlations ($N = 158$)

	Mean	Std. dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Average retail price	49.12	9.61									
(2) Producer age	10.60	6.74	0.07								
(3) Initial size ('000 cases)	2.68	2.13	0.04	0.43							
(4) Producer quality	3.92	1.10	0.36	0.45	0.11						
(5) Austrian/German founder	0.22	0.41	0.04	0.29	0.14	0.23					
(6) Related prefounding experience	0.77	0.42	−0.21	0.10	0.12	−0.07	−0.08				
(7) Count of other prefounding ties	6.08	6.67	−0.02	−0.33	−0.09	−0.25	−0.32	0.39			
(8) After first Spectator review	0.37	0.48	0.03	0.66	0.24	0.20	0.30	0.10	−0.18		
(9) Distance to Inniskillin ('00 km)	0.26	0.19	−0.13	−0.29	−0.30	−0.29	−0.29	−0.18	0.19	−0.16	
(10) Prefounding tie to Inniskillin	0.61	0.49	0.13	0.19	0.18	0.08	0.42	0.24	0.42	0.18	0.08

that historically placed little emphasis on wine quality. Model 1a evaluates this suspicion by decomposing the related prefounding experience variable into three components: founders that had worked in wineries established after 1975, founders that had worked in older wineries established before 1975, and founders whose related prefounding experience came as suppliers of grapes to the typically older and larger Ontario wineries. The estimated coefficients on these three variables are as expected. There is no discernible penalty for having worked in newer wineries founded after 1975, but strong negative price effects for having worked in or supplied to older Ontario wineries. The null effect of prefounding employment experience in newer wineries is consistent with the null effect of having prefounding friendship ties to individuals at wineries other than Inniskillin.¹¹ The two negative related prefounding experience effects are consistent with the documented adverse competitive implications of having (Barnett and Hansen 1996) or associating with (Ingram and Baum 1997) older industry experience.¹²

Finally, ice wine prices decrease significantly with driving distance from Inniskillin. Controlling for all these effects, having a prefounding friendship tie to one of the founders of Inniskillin significantly increases ice wine prices. This coefficient estimate supports our main network progeny prediction.

Selection Bias

In addition to their effect on valuations and therefore prices, social ties might also influence the extent to

which a winery gains effective access to retail channels (Hsu et al. 2009). To account for the simultaneous effects of having a prefounding social tie to Inniskillin on consideration and valuation (Zuckerman 1999), we estimate a Heckman regression model (Heckman 1979). The first-stage equation estimates the effect of the tie variable and the other controls on the probability of securing at least one ice wine listing in the Vintages catalog in the focal year. The sample begins with all producer-year observations from the time of founding through to 2007. In our surveys and interviews, we asked each respondent to list the vintages from which they made ice wine commercially. Based on this information, we set aside the observations in which the focal producer had not yet made ice wine. These observations return values of zero simply because the producer did not have ice wines to sell. To identify the second-stage pricing effects, we include in the selection equation a variable that counts the total number of ice wine listings found in the Vintages listings in the focal year. Obviously, retail listings are easier to come by when more are handed out.

In the selection equation in Model 2, the effect of having more listings available in the year is positive and significant. The estimated effect of producer quality is also positive and significant. As expected, the estimated effect of the Inniskillin friendship tie variable is positive. That said, in the second-stage price equation, the friendship tie effect is again positive and similar in magnitude across Models 1 and 2.

Endogenous Ties

We must also address the prospect that prefounding friendship ties may have formed in expectation of future commercial benefits (Stuart and Sorenson 2008). If founders build their friendship networks strategically, and if their (unobserved) ability to do so correlates with our price variable, then unobserved heterogeneity threatens inferences about causality.

To address the prospect of endogenous prefounding ties, we look closely at the specific circumstances that led to friendship ties with the founders of Inniskillin. Here, we rely on our interviews with

¹¹ Founders with prefounding employment experience at Inniskillin are very rare. In the two cases where founders had prior employment experience at Inniskillin, the founders also reported having prefounding friendship ties.

¹² These results do not mean that these prefounding experiences led to lower wine quality. Separate *t*-tests of the differences in winery quality between those with and without grape-growing experience and those with and without older winery experience reveal no significant differences. The results simply mean that wineries with links to this older (pre-1975) industry experience price their ice wines at a discount.

its two founders. When asked to account for the origins of the documented friendship ties, they offered the following sorts of explanations: “we met while he was working at another wine producer”; “we bought grapes or other supplies from him or his former employer”; “he came around and asked a lot of questions”; “he was from Germany and we met while I was traveling there”; and “I knew his father [brother] very well.” These exemplify the many factors that lead to professional friendships, most of which are unrelated to expected commercial advantages (Ingram and Roberts 2000). We leverage these insights and estimate a simple logistic regression model of the probability of having a prefounding friendship tie to one of the founders of Inniskillin (see the appendix). We then replace the tie variable in Model 1 with its predicted value based on the covariates modeled in the appendix. As shown in Model 3, this produces a similar estimated prefounding friendship tie effect.

The models in Table 2 attest to the promise of a network progeny extension of the parent–progeny account of new firm success. In the next section, we probe the mechanisms that might be responsible for this effect.

Potential Mechanisms

We begin by considering whether the network progeny effect might be due to an entrant’s ability to make higher-quality ice wines. This is expected if a prefounding friendship tie to Inniskillin provides (production) knowledge about making ice wines of high quality.

The models in Table 2 account for the typical quality of all wines made by each producer. However, they do not isolate the quality of specific ice wines. We therefore secured a sample of 153 quality ratings for ice wines made from the 1995 to 2007 vintages and published in *Wine Access* (<http://www.wineaccess.ca>). These ratings come from a blind tasting process and reported on a scale of 80 to 100. The producers in the Niagara sample received 116 of these quality ratings, which we analyze in an ordinary least squares regression model that includes a set of fixed vintage effects to account for annual fluctuations in typical ice wine quality. Aside from the collective influence of the fixed vintage-year effects and the positive effect of overall producer quality, the only variable that exerts a significant effect on ice wine quality in Model 4 is that which indicates an Austrian or German founder (see Table 3).¹³ The nonsignificant effect of the friendship tie variable suggests that the implications of

having a prefounding friendship tie to one of the founders of Inniskillin are not attributable to the ability to produce higher-quality wine.

We then examine the effect of a variable that proxies for a new entrant having network access to accumulated distribution knowledge. The prior commercial experience of all contacts—even those that were not particularly successful—can be salient for an entrepreneur trying to develop its own capabilities (Nanda and Sørensen 2010). However, greater benefits are expected from friends that have had numerous prior Vintages listings on their own. These more experienced incumbents “know the ropes” and can therefore provide friends with insights about how to position a new winery and how to more effectively sell their ice wines.

To evaluate this possibility, we replace the *Count of other prefounding ties* variable in Model 1 with a variable that counts the prior Vintages ice wine listings obtained by all of an entrant’s prefounding professional friends, excluding Inniskillin. This variable, which ranges from zero to 232, captures the extent to which a winery founder had friends whose own wineries had more accumulated experience working with Vintages and its buyers. As seen in Model 5 in Table 4, this new variable does not exert a significant impact on ice wine prices.

To further explore the idea that distribution knowledge is driving the network progeny effect, we examine whether the implications of a prefounding tie to Inniskillin increase with Inniskillin’s experience with the Vintages program. Here, we add to Model 1 another variable that updates each year with Inniskillin’s accumulated Vintages ice wine listings. This variable rises from zero for wineries that entered with a tie to Inniskillin at the start of the sample period to 42 prior Vintages ice wine listings for those that entered (with a tie to Inniskillin) in 2007. To make the two prefounding tie effects comparable, we divide this prior listings variable by 42 and create an adjusted variable that ranges from zero (for tied wineries founded early in the period) to one (for tied wineries founded in 2007). In Model 6, the estimated coefficient on the variable that indicates Inniskillin’s accumulated retail listings by the time a tied winery was founded is not significantly different from zero. The pricing effect of a prefounding friendship tie to Inniskillin does not increase with the latter’s own experience with the Vintages retail outlets.

Entrepreneurs that were socially close to Inniskillin at founding were allowed to set higher prices for their

¹³ This negative effect seems surprising but is consistent with observations made by Karl Kaiser. When asked about the implications of a founder having roots in Austria or Germany, he responded

that “the Germans were not making lots of ice wine before 1983” and that “the Austrians really started up after Canada.” He closed by saying that “I will guarantee you that none of the Germans in Ontario made ice wine before coming to Canada.”

Table 2 Prefounding Friendship Ties and Average Retail Prices

	Model 1 ^a	Model 1a ^a	Model 2 ^b	Model 3 ^b (predicted ties)
Average retail price equation				
<i>Producer age</i>	−0.33 (0.22)	−0.36 (0.24)	−0.30 (0.23)	−0.15 (0.20)
<i>Initial size</i> ('000 cases)	0.07 (0.33)	0.13 (0.40)	0.22 (0.41)	−0.06 (0.31)
<i>Producer quality</i>	3.43* (0.74)	3.89* (0.70)	4.62* (0.79)	3.74* (0.82)
<i>Austrian/German founder</i>	−5.33* (2.25)	−3.03* (2.59)	−3.19 (2.67)	−6.90 (2.23)
<i>Related prefounding experience</i>	−6.77* (2.02)	—	−5.74* (2.09)	−6.88* (1.85)
<i>Related prefounding in new wineries</i>	—	0.46 (4.14)	—	—
<i>Related prefounding in old wineries</i>	—	−6.06* (2.63)	—	—
<i>Related prefounding as grape grower</i>	—	−6.53* (1.95)	—	—
<i>Count of other prefounding ties</i>	−0.05 (0.21)	−0.07 (0.24)	−0.06 (0.19)	−0.29 (0.22)
<i>After first Spectator review</i>	1.70 (2.11)	2.13 (1.90)	5.55* (2.55)	0.65 (2.08)
<i>Distance to Inniskillin</i> ('00 km)	−12.01* (5.09)	−15.93* (4.96)	−16.01* (5.37)	−6.64 (4.07)
<i>Prefounding tie to Inniskillin</i>	7.10* (2.21)	6.51* (2.94)	9.62* (2.18)	14.60* (4.66)
Vintages listing equation				
<i>Total LCBO listings in year</i>	—	—	0.02* (0.00)	0.01* (0.00)
<i>Producer age</i>	—	—	0.01 (0.01)	0.01 (0.02)
<i>Initial size</i> ('000 cases)	—	—	0.01 (0.03)	0.01 (0.03)
<i>Producer quality</i>	—	—	0.18* (0.06)	0.19* (0.06)
<i>Austrian/German founder</i>	—	—	0.23 (0.22)	0.33 (0.26)
<i>Related prefounding experience</i>	—	—	−0.01 (0.17)	0.11 (0.17)
<i>Count of other prefounding ties</i>	—	—	0.01 (0.01)	−0.01 (0.02)
<i>After first Spectator review</i>	—	—	0.28 (0.23)	0.40 (0.23)
<i>Distance to Inniskillin</i> ('00 km)	—	—	−0.14 (0.41)	−0.20 (0.38)
<i>Prefounding tie to Inniskillin</i>	—	—	0.47* (0.17)	0.73* (0.35)
Fixed year effects	Yes	Yes	Yes	Yes
<i>N</i>	158	158	158	158
<i>R</i> ²	0.30	0.33	—	—
Log pseudolikelihood	—	—	−799.28	−802.89

^aOLS model with robust standard errors.

^bHeckman selection model with robust standard errors.

**p* < 0.05.

Table 3 Prefounding Friendship Ties and Wine Quality

	Model 4 ^a (quality rating)
<i>Producer age</i>	−0.01 (0.04)
<i>Initial size</i> ('000 cases)	−0.12 (0.14)
<i>Producer quality</i>	0.93* (0.25)
<i>Austrian/German founder</i>	−2.19* (0.68)
<i>Related prefounding experience</i>	0.96 (0.75)
<i>Count of other prefounding ties</i>	0.42 (0.24)
<i>Distance to Inniskillin</i> ('00 km)	−0.28 (0.18)
<i>Prefounding tie to Inniskillin</i>	0.19 (0.54)
Fixed vintage effects	Yes
<i>N</i>	116
<i>R</i> ²	0.33

^aOLS model with robust standard errors.**p* < 0.05.

ice wines than unconnected individuals, even though their wineries did not produce higher-quality ice wines. Friendship ties to individuals at other experienced wineries did not produce a similar effect. Moreover, the magnitude of the network progeny effect did not increase with the accumulated retail experience of Inniskillin over the sample period. These null findings seem inconsistent with the idea that a tie to Inniskillin imprints a new entrant with superior production or distribution knowledge.

Reflected Prominence

Merton's (1968) framework explains dispersion in valuations without corresponding differences in quality. His prominence effect is rooted in uncertainty about quality and a high cost of scrutinizing the outputs of a large number of scientists. In the resulting communication and reward systems, audiences are more likely to monitor and value the contributions of highly prominent scientists. Those who were once affiliated with these prominent individuals gain reflected prominence, which, in turn, increases the valuations of their contributions.

If a social tie to Inniskillin yields its pricing effect through reflected prominence, then the effect should diminish in the presence of another "substitute source" (Nanda and Sørensen 2010) of reflected prominence. Given prevailing beliefs in the wine industry about the importance of *terroir*, it is sensible for market participants to assume that new wineries

Table 4 Prefounding Friendship Ties and Accumulated Knowledge

	Model 5 ^a	Model 6 ^a
<i>Producer age</i>	−0.36 (0.19)	−0.42 (0.25)
<i>Initial size</i> ('000 cases)	0.10 (0.33)	0.13 (0.37)
<i>Producer quality</i>	3.49* (0.74)	3.58* (0.82)
<i>Austrian/German founder</i>	−5.23* (1.89)	−5.72* (2.23)
<i>Related prefounding experience</i>	−6.89* (1.84)	−6.74* (2.00)
<i>Count of other prefounding ties</i>	—	−0.04 (0.21)
<i>Prior Vintages listings—Other ties</i>	−0.03 (0.40)	—
<i>After first Spectator review</i>	1.52 (2.11)	1.55 (2.15)
<i>Distance to Inniskillin</i> ('00 km)	−12.97* (5.07)	−12.63* (4.96)
<i>Prefounding tie to Inniskillin</i>	7.14* (1.82)	8.02* (2.25)
<i>Prior Vintages listings—Inniskillin</i>	—	−0.15 (0.16)
Fixed year effects	Yes	Yes
<i>N</i>	158	158
<i>R</i> ²	0.30	0.30

^aOLS model with robust standard errors.**p* < 0.05.

that locate very close to Inniskillin make wines of similar composition. This is consistent with our findings so far; geographic distance from Inniskillin has a consistent negative effect on ice wine prices (see Table 2). This raises the prospect that social ties are redundant for new entrants located closer to Inniskillin (Corredoira and Rosenkopf 2010, Rosenkopf and Almeida 2003). However, when located further away, the effect of a prefounding social tie to the prominent winery becomes more relevant.

Model 7 (Table 5) reveals the expected positive interaction between the friendship tie and distance variables. Entrants that are "across the fence" from Inniskillin do not depend on a prefounding tie for audience attention and enhanced valuations. However, friendship ties become increasingly important as the distance between Inniskillin and the focal winery increases. Figure 1 plots this interplay between social and geographic proximity. The prices charged by producers that are one standard deviation below the average distance from Inniskillin are virtually unaffected by the presence of a prefounding friendship tie. In effect, audience members already assume that the ice wines produced by nearby wineries are like those made at Inniskillin. As distance increases to one standard deviation above the sample average, a prefounding friendship tie to Inniskillin corre-

Table 5 Interaction Between Friendship Ties and Distance

	Model 7 ^a
Producer age	−0.29 (0.21)
Initial size ('000 cases)	0.15 (0.33)
Producer quality	3.43* (0.66)
Austrian/German founder	−3.26 (2.45)
Related prefounding experience	−8.73* (2.25)
Count of other prefounding ties	−0.07 (0.21)
After first Spectator review	−0.48 (2.37)
Distance to Inniskillin ('00 km)	−31.49* (7.47)
Prefounding tie to Inniskillin	−0.47 (3.44)
Distance to Inniskillin * Prefounding tie to Inniskillin	30.18* (10.39)
Fixed year effects	Yes
N	158
R ²	0.35

^aOLS model with robust standard errors.

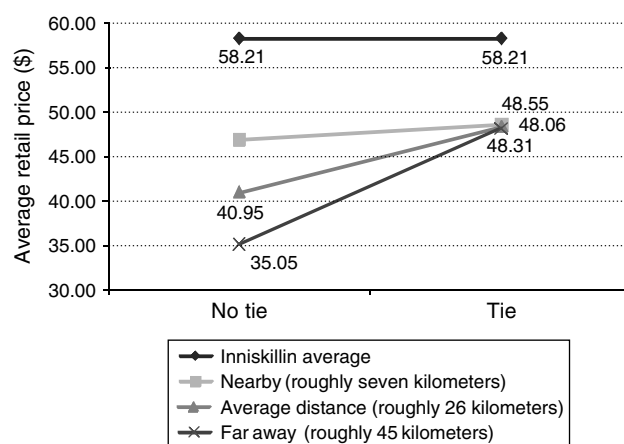
* $p < 0.05$.

sponds with an approximately \$13 per half bottle real retail price increment. Finally, note that a prefounding friendship tie has a pricing effect that corresponds almost exactly with the effect of locating next door to Inniskillin. In both cases, the (socially or geographically) proximate winery is able to charge in excess of \$45 (in 2002 prices) per half bottle.

To be confident in this reflected prominence mechanism, it must be sensible for audiences to form similar impressions about Inniskillin and the wineries with whom it was socially tied. Prior research documents the identity-related aspects of exchange partners within markets (Benjamin and Podolny 1999). Similar effects are likely for affiliative ties such as friendships due to prevailing notions of network homophily (McPherson et al. 2001). Research in a variety of settings shows how social ties are more likely among individuals that share, for example, the same gender, race, educational backgrounds, or status. It therefore seems reasonable to assume that industry participants would infer similarity in the organizations and products associated with entrepreneurs that are socially connected.

Because reflected prominence is rooted in the workings of the communication system, we must also be confident that the individuals that influence or set prices in the Ontario wine industry (i.e., buyers and agents representing wineries) know “who runs with whom.” In many small communities, networks

Figure 1 Prefounding Friendship Ties and Average Retail Prices—Nearby and Far Away



become part of the core social fabric of communities (Hawley 1950). Thus, the prefounding social affiliations among our wine industry entrepreneurs were probably visible. As one of our survey respondents noted, friends “go to wine shows and have booths together as a group.” They also attend social events together: “We would be at a restaurant, and if one of us had an account there, we’d introduce [the founders of other wineries] to the account manager.” Because of its prominence, Inniskillin and its affiliates are especially likely to be noticed. One purchasing agent (who had worked in the industry for almost 30 years) noted that “Inniskillin stood out because they took a stand in producing quality wines and generated lots of attention.”

Individuals are also more likely to talk about their friends than about others they do not know as well. These discussions tend to point in the direction of friends when buyers and agents are looking to discover more “great” ice wines. We assess this claim in interviews with wine buyers and agents that worked in Ontario during the sample period. They noted how “this is a very relationship-based industry.” When asked whether winery owners refer buyers and agents to their friends, we were told that “this goes on all the time.”¹⁴

¹⁴ We estimated another (unreported) model that includes a variable set to one for wineries whose founders had unreciprocated friendship ties to Inniskillin. Because these entrants are not as central in the minds of Inniskillin founders, the pricing effect of these ties should be tempered. Consistent with this expectation, the estimated effect of the second tie variable is positive, but smaller in magnitude and not significantly different from zero ($\beta = 2.35$; $p = 0.53$). Note also that the difference between the estimated reciprocated and unreciprocated tie effects is not quite significant at conventional levels ($F = 1.74$; $p = 0.19$).

Concluding Remarks

There is ongoing interest in how founder backgrounds influence the outcomes of the organizations that they establish. Much of this follows Freeman (1986) and emphasizes prefounding employment experience. Time spent working in similar organizations—especially those that have achieved some success—allows individuals to learn about production and sales and then transfer that learning into a new venture. At the same time, the signals that come with prior career experiences are known to increase the visibility of and confidence in a new venture. We add to these insights by analyzing how the social ties that form among prospective entrepreneurs also facilitate the transfer of relevant insights and market signals.

Our study of new entrants into the Ontario wine industry affirms a meaningful, robust, and well-behaved relationship between prefounding social ties to the founders of Inniskillin—a prominent and successful early entrepreneur—and higher ice wine prices. Follow-on analyses provide insights about whether this effect is due to enhanced production or distribution knowledge or reflected prominence. These results point in the direction of reflected prominence as the preferred mechanism. Inniskillin gained prominence in 1991 from its Vinexpo award. This victory in Bordeaux spurred global interest in ice wine and a burgeoning demand for ice wines made in Ontario. This also created opportunities in the marketplace for other (geographically and) socially proximate entrepreneurs. Wineries whose founders ran in the same social circles as Inniskillin's founders were given credit for being similar and therefore worthy of similar valuations, especially when assumptions about similarity could not be based on geographic proximity.

By extending the parent-progeny account of new entrant success to incorporate a related network effect and then examining different mechanisms that might produce this effect, our project identifies another important structural determinant of the diffusion of competitive success from one organization to others that follow. However, we are not ready to generalize this specific evolutionary account to all industry settings. For instance, we find that commercial benefits from prefounding social ties are limited to reciprocated ties to the founders of one prominent incumbent firm. The novelty of this luxury product and the relatively recent explosion in the number of Ontario ice wine producers makes this result sensible. However, in more mature industry settings, a greater number of incumbent producers have the chance to establish their own commercial prominence. We might therefore expect to observe more general pricing benefits associated with ties to broader sets

of prominent incumbents. To examine this possibility, future research might examine a setting like the Ontario wine industry at a later stage of development or look explicitly at other more mature regions or industries. These kinds of studies will help us determine whether the sources of reflected prominence ultimately diffuse to broader sets of industry incumbents.

Similarly, our conclusion that the observed network progeny effects are rooted in the reflected prominence mechanism requires further analysis across a range of industry settings. Several industry commentators have suggested that producing high-quality ice wine depends less on winemaking prowess and more on the producer having the courage to leave high-quality grapes on the vine until after they have frozen. In other settings, this will not be the case, and new entrants might benefit on the production side from knowledge that flows through close social relationships. In very mature industry settings, commercial success often depends less on prominence or product quality and more on the ability to effectively place more commoditized products within established distribution channels. In these cases, socially connected entrants might gain valuable distribution knowledge from their professional friendship ties. Clearly, these kinds of contingencies are worthy of further investigation.

Finally, we find no evidence of corresponding commercial benefits for entrepreneurs who worked previously in other incumbent Ontario wineries, including Inniskillin. This raises questions about the interplay between spinoff/progeny effects and our network progeny effect. We know, for instance, that entrepreneurs who establish progeny firms are theorized to be advantaged in part because they are embedded in relevant social networks (Phillips 2002, p. 478). Given the limited occurrence of prior employment spells within Inniskillin (see Footnote 11) and the unique pattern prefounding employment experience more generally (see the discussion surrounding Model 1a), this is not an ideal setting to examine how prefounding employment spells and social ties influence organizational outcomes. Future research is therefore needed to examine the interplay between the occurrence of these two progeny variables and whether they are complements or substitutes for one another in their implications for organizational behavior and performance.

That said, our specific findings do have implications for research that examines the emergence of new industries within regions. Building on research that dates back to Marshall (1890), much is known about the competitive implications of localized agglomerations of related economic activity (Ellison and Glaeser 1997). After an entrepreneur initiates the process of

localized value creation, its success subsequently diffuses to other entrants through the well-documented spinoff process. For example, Klepper (2007) analyzes how Detroit emerged as the center of the U.S. auto industry and shows that early experiments by industry entrepreneurs were followed by a more predictable spinoff process in which experienced employees left to start successful new firms. However, newly emerging regions do not always house the established parents required to reliably spawn successful progeny. Our results isolate a parallel network foundation for the diffusion of earlier commercial successes to subsequent industry entrants.

In closing, we also note how our pattern of effects might lead to some speculation about the reciprocal relationship between organizational variables (like social ties) and geography. We know that social relationships are more prevalent among producers that reside within some predetermined agglomeration, or industry cluster. The results from the Ontario wine industry lead us to suspect that the ultimate location and shape of an industry cluster are themselves outcomes of random entrepreneurial acts seeded within an existing social (i.e., network) structure. In other words, one might be inclined to attribute the success of Inniskillin and its network progeny to the fact that they tended to reside within what became the dominant wine-producing region in Ontario—Niagara. Instead, it might be more accurate to propose that commercial success and, therefore, the resulting geographic configuration of Ontario's wine regions were themselves due to the prevailing distribution of entrepreneurs within a geographic and network structure defined by Inniskillin and the friendship ties of its founders.

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Appendix. Determinants of Prefounding Friendship Ties

Table A.1 summarizes the results of a logistic regression model of the incidence of prefounding ties to Inniskillin among the sampled Niagara wineries. The probability of observing a tie is positively related to a variable that counts the total number of other reported friendship ties. Because three of the four wineries involved in the initial ice wine experiment had founders with Austrian or German backgrounds (including Karl Kaiser), we created another variable set to one if the founding team includes an individual

Table A.1 Determinants of Prefounding Friendship Ties to Inniskillin

	Model A1
Constant	−0.27 (1.30)
Count of other prefounding ties	0.63* (0.21)
Related prefounding experience	−1.23 (1.22)
Amateur winemaker	−1.58 (1.40)
Austrian/German founder	2.19† (0.92)
Distance to Inniskillin ('00 km)	−0.06† (0.03)
N	50
Log-likelihood	−17.58

* $p < 0.05$; † $p < 0.10$.

with Austrian or German heritage. The parameter estimate has a positive sign and is thus consistent with prior research on homophily (Ruef et al. 2003) and tie formation (McPherson et al. 2001). As expected, the likelihood of observing a tie decreases with the distance between the two wineries. However, the probability of a friendship tie forming is not associated with an individual having prefounding industry experience or her being an amateur winemaker (i.e., an enthusiast) prior to founding.

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