Title
Reputation and Firm Survival in a Competitive Environment: Empirical Evidence from the German Wine Industry

I want to submit an abstract for:
Conference Presentation

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Keywords
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Research Question
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Methods
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Results
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Abstract
When service attributes in general and service quality in particular are difficult to observe, consumers tend to use past quality as an indicator of present or future quality. Thus, a firm's decision to produce high quality services eventually leads to the gradual emergence of a reputation. A seller who chooses to enter the high quality segment of the market must, therefore, initially invest in his reputation via the production of superior quality. During the initial investment period, the producer must sell his products at less than cost, because he cannot command the prices associated with high quality until his reputation is established. This, in turn, implies that in equilibrium high quality items must sell for a premium above their costs of production. This premium represents the return on the initial investment in reputation (Shapiro 1983).

It is certainly useful in this context to distinguish between individual firm reputation and collective reputation (Landon and Smith 1998: 629). While the former is based on the past quality of the firm's output, the latter may be defined as the average quality produced by a group of firms to which an individual firm belongs. It is typically
less costly for consumers to acquire information on collective quality that can then be used as an indicator of the quality produced by individual firms in that group.

Moreover, the premium that a reputable firm earns induces it to maintain its reputation. Without premiums for high quality products, firms would find that an "opportunistic" strategy of quality reductions is profit maximizing: While quality reductions typically yield immediate cost savings, the adverse effects on reputation will arise only in the longer run. If, however, an opportunistic strategy allows profits to be made, it would always dominate, unless higher profits can be earned via a faithful strategy of quality maintenance. Nevertheless, there always remains room for potential quality cutting by producers. Due to moral hazard and adverse selection reasons, perfect guarantees are not feasible.

Using an unbalanced panel of 1,489 German wineries over the period 1994-2013 with 14,058 winery-year-observations (the data set has been compiled using the most prestigious German wine guide - the "Gault Millau" – of which the first edition appeared in 1994), I test the hypothesis that firms that have acquired a certain reputation for the quality of their products are less likely to exit the market. Choosing the wine industry for this study makes sense, because production requires sector-specific human capital as well as machinery for which no alternative use exists. Therefore, moral hazard is unlikely to occur.

Thus, I estimate the impact of reputation (as measured by wine experts) on firm survival. The estimates are of the following general form:

\[(1) \text{FS} = \beta_0 + \beta_1 \text{REP}_1 + \beta_2 \text{REP}_2 + \beta_3 \text{REP}_3_4_5 + \beta_4 \text{VDP} + \beta_5 \text{VDP} \times \text{REP} + \beta_6 \text{TT} + \beta_7 \text{D94} + \beta \Sigma \text{FC} + \beta \Sigma \text{RD} + \xi\]

where FS: firm survival (number of years listed in wine guide (Min. 1; Max 20; Mean 9.44; Std Dev 6.59))
REP: reputation (as measured by wine guide (Min. 0.5; Max 5.0; Mean: 1.62; Std Dev 1.13; Std Dev between 0.88; Std Dev within 0.50))
REP_1 … REP_3_4_5: Dummies indicating reputation values 1, 2 and 3 and more
VDP: membership in VDP (Association of German Quality Wine Producers; 0=no; 1=yes)
VDP * REP: interaction of VDP membership and reputation dummies REP_1 … REP_3_4_5
D94: winery included in first edition already (dummy variable; 0=no; 1=yes)
TT: Linear time trend (1994=1, 1995=2 … 2013=20)
ΣFC: vector of firm characteristics (acreage, number bottles produced per year, etc.)
ΣRD: vector of region dummies (n=13)

Table 1
Survival Model of Impact of Individual and Collective Reputation on Firm Survival

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Robust Std. Err.</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>REP_1</td>
<td>1.668</td>
<td>0.281</td>
<td>5.94***</td>
</tr>
<tr>
<td>REP_2</td>
<td>2.722</td>
<td>0.288</td>
<td>9.46***</td>
</tr>
<tr>
<td>REP_3_4_5</td>
<td>3.259</td>
<td>0.370</td>
<td>8.81***</td>
</tr>
<tr>
<td>VDP</td>
<td>5.337</td>
<td>26.462</td>
<td>0.20</td>
</tr>
<tr>
<td>VDP_REP_0.5</td>
<td>0.052</td>
<td>0.269</td>
<td>0.19</td>
</tr>
<tr>
<td>VDP_REP_1</td>
<td>0.056</td>
<td>0.270</td>
<td>0.21</td>
</tr>
<tr>
<td>VDP_REP_2</td>
<td>0.051</td>
<td>0.270</td>
<td>0.19</td>
</tr>
<tr>
<td>VDP_REP_3</td>
<td>0.070</td>
<td>0.268</td>
<td>0.26</td>
</tr>
<tr>
<td>VDP_REP_4</td>
<td>2.287</td>
<td>0.905</td>
<td>2.53**</td>
</tr>
<tr>
<td>VDP_REP_5</td>
<td>2.659</td>
<td>1.163</td>
<td>2.29**</td>
</tr>
<tr>
<td>D1994</td>
<td>0.809</td>
<td>0.195</td>
<td>4.16***</td>
</tr>
<tr>
<td>TT</td>
<td>0.696</td>
<td>0.073</td>
<td>9.55***</td>
</tr>
</tbody>
</table>

Firm Characteristics included
Region Dummies included
CONSTANT -3.926 26.603 -0.15+
N of Wineries 1,489
N of Failures 346
N of Observations 14,058
LL Null Model -2,019.2
LL Full Model -1,137.3
Wald Chi2 3,802.1***
+ not significant; * p < .10; ** p < .05; *** p < .01

It appears from Table 1 above that - other things equal - the higher the reputation of a firm the more likely it is to survive in a highly competitive environment, where even the largest producers have negligible market shares only. Moreover, it appears that the impact of reputation on firm survival is not linear, suggesting that exit costs increase exponentially. Finally, VDP membership has a positive impact on survival only for wineries with a high individual reputation. These findings are robust across a variety of specifications and corroborate empirical evidence obtained from hedonic price models (e.g. Frick 2004, Frick and Simmons 2013).

Literature