Financial Risk Management: The Role of a New Stadium in Minimizing the Variation in Franchise Revenues

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One of the absolutes in professional sports, and a reason for its success, is the uncertainty of the outcome of individual games, seasons, and championships (Mullin, Hardy, & Sutton, 2007). This uncertainty makes it difficult for franchise executives to forecast short and long-term revenues and budgets because the variation of on-field performance that is needed to attract on-site customers can impact potential consumer demand for individual franchises (Foster, Greyser, & Walsh, 2006). While revenue projections have some degree of uncertainty in almost all industries, in most, product quality is consistent. For example, when consuming a favorite carbonated beverage, one expects the quality of the product to remain the same each time the product is sampled. In professional team sports like the National Football League (NFL), team quality is a partial determinant of demand, yet it cannot be controlled like the quality of a consumer good can be. In fact, leagues such as the NFL have implemented salary caps and revenue sharing to promote and enhance uncertainty of outcome. An issue arising from this uncertainty is how a sport manager factors on-field product quality into the budgeting process.

One way to minimize the variation in revenues from year to year is, theoretically, to make the product more certain, thereby making demand more predictable. Notably, though it is an important component, the performance of the team is only part of the overall quality of the game-day experience. The team’s facility and operating staff are under greater franchise control and, therefore, can be consistent in their impact of the customer’s experience. The main reason owners solicit municipality support as well as spend their own money building new stadiums is to reap higher revenues from fully-loaded stadiums. Sport management practitioners have noted the perceived importance of retaining customers, and resulting revenues, through better experiences at facilities since control of the facility and customer experience is much greater than control of the on-field results (Christenson, Nagel, & Taylor, 2008; Veeck, 1962). Thus, providing a better facility may have a much more important impact on overall franchise revenues than on-field performance. If this is the case, when operating in a new facility, budgeting would become more predictable, thereby lowering financial risk and impacting rates of interest, bond rates, estimates of cash flows, the cost of capital, and capital structure (Brown, Rascher, Nagel, & McEvoy, in press). However, this idea has not been tested empirically.

In this paper, a theoretical model has been developed that confirms the product attributes not tied to on-the-field performance of the team (e.g. those tied to a stadium) are more controllable and have more predictable demand. Therefore, new stadiums should minimize financial risk, all else equal. We hypothesize that the variability in team attendance and the variability in revenue are expected to be lower in a newer stadium as compared to an older stadium. Further, it is expected that each attendee is worth more in terms of revenue in a new stadium as compared to an old stadium.

Empirically, the hypotheses were tested using individual team data from the NFL for an 11-year period. Total revenues, local revenues (include stadium revenues, but not national TV revenues), and attendance (as a proxy for stadium revenues, given that attendance and stadium revenues should vary together quite strongly) were tested. An interaction term between wins and whether the stadium was new or old was examined using OLS regression along with separate regressions for new and old stadiums.

A simple look at the mean and standard deviation of attendance and adjusted local revenues in an old and new stadium is consistent with the theory that new stadiums lower the variation in financial outcomes. Mean attendance climbs 9% in a new stadium, but the coefficient of variation (standard deviation/mean; CV) drops from 0.16 to 0.07. Revenues (in constant dollars) climb 43% in new stadiums, but CV drops from 0.25 to 0.20. The problem, of course, with this simple analysis is that it ignores other control factors that affect attendance and revenues. Thus, multiple regression was used.
In separate regressions on new and old stadiums (controlling for other factors), the coefficient on winning is much smaller (as is the t-statistic) in new stadiums, indicating that the importance of winning is lower in new stadiums in terms of attracting attendees. In testing adjusted local revenues, the findings are similar. A complete analysis will take place prior to the conference.

The results of this study tentatively indicate that a new stadium reduces volatility in NFL team revenues and therefore reduces financial risk. The accuracy of revenue forecasts will be enhanced for teams in new facilities. Teams playing in "older" facilities should strive to complete significant stadium renovations or work to move to new facilities. Though winning is certainly an important component of the overall customer experience and franchise revenues, the results of this study indicate that the presence of a new facility is a critical component in financial forecasting in the NFL.