Cross-Ownership in the NBA and WNBA: Characteristics of Substitution and Complementarity in Attendance Patterns

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Background & Introduction

The Women’s National Basketball Association (WNBA) was formed in 1996, and began play in 1997 under the central control of the existing National Basketball Association (NBA). During its early years, the NBA retained national television and sponsorship revenue while paying player salaries centrally, and WNBA teams’ NBA counterparts running the franchises retained all local revenue (Lombardo, 2001). However, within 10 years of the inaugural season, the league encouraged individual NBA ownership stake in the WNBA teams. This movement led to a cross-ownership scenario (Mongeon & Winfree, 2013) for a number of NBA owners, likely resulting in efficiencies due to the multimarket scenario, where the teams’ common resources could be shared in the production and sale of the games (Gimeno & Woo, 1999).

Given the support of the local teams in the formation of the WNBA, and subsequent cross-ownership, the question of whether the NBA and its WNBA counterpart compete with one another is an important, yet largely unexamined, inquiry for sports economists. While the existence of a WNBA team allowed for more event nights in existing arenas during the summer months, they also required additional resources as attendance declined. Though the league has struggled to keep afloat on its own revenues during its 18 year existence—with six teams folding between 2002 and 2009—the league continues to operate with the support of the NBA.

The apparent lack of sustainable interest in the WNBA during this time raises the question of why the NBA continued to support the league, and what it gained (or continues to gain) from doing so. There are a number of hypotheses as to why this is the case, many of which are rooted in the suggestion that the league is used to sustain interest from certain market groups in both the WNBA and their NBA counterparts. However, very little research has investigated operations of the WNBA, the characteristics of its consumers (McCabe, 2008; Spencer & McClung, 2001), and where these cross over. If consumers do, in fact, show interest in both teams, then the question turns to whether this increases their total spending at the arena, or substitute purchases.

Therefore, this work evaluates whether the WNBA exists as a complement or a substitute to NBA teams. More specifically, I assess whether WNBA fans are also NBA fans with a proprietary data set from an NBA/WNBA team that identifies individual customer purchases over the course of ten years. While there has been important work in the context of substitution of professional sports demand (Winfree & Fort, 2008; Winfree, 2009; Mills & Rosentraub, 2014; Mills, Winfree, Rosentraub & Sorokina, 2014), this is the first analysis of substitution and market segmentation in the WNBA.

Data & Methods

The proprietary data used for this analysis come directly from an NBA team and contain more than 512,000 ticket purchase transactions during almost the entire WNBA counterpart’s existence. Approximately 22 percent of the transactions relate to WNBA games. The data include single game, special package, and season ticket purchases from 1999 through 2008, along with substantial demographic information including consumer home zip code, age, gender, income, education, occupation, and number of children, among others. The data also include important consumer-related variables that include prior purchases, total price paid, number of ticket purchased, the date of the purchase, the date of the game, row and section, and customer identification numbers. I integrate this data with team-level information such as current team record, playoff appearances, All-Stars, winning streaks, and other pertinent information that may influence demand for both the WNBA and the NBA team from multiple sources (Basketball Reference; WNBA.com; ESPN.com).
I begin with simple summarization of WNBA and NBA consumer demographics, in addition to those identified as both WNBA and NBA fans. This initial summary should prove informative for the general management audience in understanding the role of individual differences in fandom of each league. I follow with identification of lead-lag relationships between NBA and WNBA purchases. Because the data contain the full purchase history of the two teams during this time—whether any purchases were made at any point prior to the date of purchase—it is possible to identify whether consumers were first purchasers of the WNBA or the NBA team (with reasonable assumptions regarding transactions taking place prior to the beginning of the data set).

From this information, the impact of WNBA attendance can be measured as it relates to increases in demand for the NBA counterpart, holding constant team quality and other important economic characteristics. Lastly, the use of team-specific information allows for estimation of demand as it relates to the success of the WNBA/NBA counterpart in the same market, highlighting a possible decision choice of total payroll distribution across both teams to maximize profits.

Discussion and Implications of Project
This work is ongoing and a full analysis will take place prior to presentation at the NASSM Conference. However, preliminary evidence shows considerable overlap of NBA and WNBA purchases within individual accounts, though the total purchases are largely dominated by either one or the other.

There are important implications in understanding the role of cross-ownership that may inform future research into the WNBA and other sports organizations. First, the importance of the WNBA in increasing interest in the NBA provides information about the operations of the full portfolio of NBA teams. If characteristics of one team impact demand for the other, there are also clear implications for managers related to dynamic pricing considerations. Lastly, recent research has looked to work stoppages and substitutability between leagues of the same sport, and different sports. The NBA and WNBA would be an appropriate arena to extend this inquiry.