Determinants of Professional Sports Demand: A Vector Autoregressive Analysis

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Introduction

Estimating consumer demand and understanding a variety of influential factors of the demand are important tasks for policy makers. Economists, therefore, have focused on the ways to estimating more accurate consumer demand (Fort, 2005). Though sport consumer demand has also been treated as one of the critical topics in the sport industry (Matheson, 2006), there is little information about sports demand with a metropolitan area level. Estimating sport demand with a local level provides more detailed and specific information and allows policy makers to find similarities and differences among the areas. Two metropolitan statistical areas (MSA) in the ‘Rust Belt’, Cleveland (OH) and Detroit (MI), were selected as the focus for this study because both cities have been labeled amongst the poorest in the country after experiencing the collapse of traditional industry. Each has attempted to revive their economies by attracting sport related industries to the area. These two former gigantic manufacturing dependent cities in the USA have been attempting to retain their position within the automobile related industries. However, the financial crisis resulting from the failure of the subprime mortgage market has had a marked effect on the USA’s economy since 2007 and caused the collapse of GM Motors and Chrysler Ltd. This hit Detroit and Cleveland hard as both cities continued to try and redefine their place within the postindustrial age.

Governmental officials in both of the cities have been trying to bring professional sport teams or other types of entertainment facilities (e.g., casino) to serve as an economic development tools. The cities, like any other MSAs in the USA, also make tremendous efforts to develop the areas as tourist destinations by building new sport and entertainment related facilities such as Rock and Roll Hall of Fame. It is clear that sport-driven development policies have been positioned as central to the economic regeneration of the cities for last two decades (e.g., Rosentraub, 2006).

The purpose of the study is to examine the determinants of professional sports demand in the cities. It is necessary to examine the sport demand of the two cities to know whether the sport driven development policies will be effective. Examining key determinants of professional sports demand of the regions will provide valuable information for policy makers to design and develop economic regeneration scheme of the cities through sports.

Methodology

Three major professional sports leagues were selected for examining sport demand: Major League Baseball (MLB), National Basketball Association (NBA), and the National Football League (NFL) as both cities have a team in each of these major sports leagues. The study employed a vector autoregressive (VAR) model to examine the determinants of sport demand. While the results from ordinary least square (OLS) sometimes show biased or spurious relationship among variables, the VAR model usually provides more robust relationships (Greene, 2004). The unit root test, cointegration test, and impulse response were performed to gain more reliable results. The log-log form was used in the analysis to estimate the sports demand. Dependent variables are attendances of each professional team of the two cities. The study employed ticket price, winning percentage, relative ticket price of competitors, population, and per capita income of the MSA as independent variables based on economic theory.

Results

The study finds three critical determinants of professional sport demand: winning percentage of a team, population, and per capita income. All three variables show positive relationships with attendance of the sporting events and elastic demand elasticity. However, ticket price and relative ticket price of competitors are not statistically significant, even if they show negative signs.
Implications

Determinants of sports demand in these two cities may provide valuable information to policy makers. The results highlight that two external variables, population and per capita income, play an important role in determining sports demand in the area. The findings of the study imply that economic environment is a very important factor that affects sports demand. In particular, the demand elasticity of population shows extremely elastic which indicates sports demand is very sensitive to the change of population in the area. Because the demand elasticity of per capita income is also elastic, it is argued that marketers need to focus on economic circumstances to bring more people to sporting events. The findings from the study also suggest that external variables such as economic factors are more powerful sports demand determinants than internal elements such as ticket prices. A comparative analysis of the two cities will also be presented at the conference to highlight similarities and differences relates to the determinants of sports demand.

References


