

An Econometric Model of the Determination of Sports Participation in England

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Keywords: sports participation logit model socio-demographic variables

Abstract

Research Question

This paper grew out of funded by Sport England econometric analysis aiming to determine the main economic and demographic factors that influence sport participation. It is based on the ACTIVE PEOPLE SURVEY of 363,724 adults aged 16+.

The expected sport participation rates are derived from a logit regression model. It takes into account a plethora of economic and demographic variables outside the control of local authorities.

The Model

An equation is derived by performing a logit regression of the observed participation rates on a large number of economic and demographic factors.

The suggested variables are significant at the 5% level.

The regression model is calculated using Binary Logistic Regression in SPSS. This is calculated by using at first a very large number of independent variables.

Then by taking out each time the least significant variable, the model is re-estimated several times to reach a state where every independent variable included is strongly significant.

In doing so, we proceed from a general model to a specific one.

The model underlines the major demographic and economic trends that influence sports participation.

We included variables that indicate car ownership, house ownership, IMD score, voluntary work, sports provision, family size, age, gender, education, ethnicity, work status, income and region. The logit model for England using National Weighting is presented in Table 1.

Based on the Table 1, we can have a summary of positive and negative influences on sport participation. This can be seen in Table 2 (Demographic and Economic Factors that Affect Sports Participation).

Discussion of the Model

Positive influences on sports participation include availability of a car in a household, being younger than 44 years old, being a man, and having a good education. The most important underlying factors that influence sports participation are the level of income and the availability of free time.

There is a strong relationship between having free time and sports participation.

This is expressed in positive effects attached to full time students, part time workers, retired from work people and the less than 12 months unemployed.

Further, there is positive relationship between the household financial position and sport participation. This is expressed in three ways.

(i) There is a positive influence on participation attached to households with annual incomes greater than £31,200.

(ii) People with occupations classified as professional, managerial or skilled non manual are also more likely to participate in sports than others.

(iii) Finally a positive influence is attached to owning a house outright.

Households that have children are likely to participate in sports more as children get older. This is partly explained by the availability of free time for parents. As children become more independent parents have more time to participate in sport, they also have more opportunities to participate as a family unit (e.g. in swimming or fitness centres). Other positive demographic influences include being male, coming from an ethnic white background and living in the English regions North East and South West. South West has a very well developed sport economy centered on the marine and water sports industries.

North East, according to the SIRC study of the economic importance of sport in the English regions, has the highest percentage of sports-related consumer expenditure out of total spending. It fluctuates between 2.9% and 3% of total consumer spending, compared with around 2.5% for England as a whole.

Hence independent of the regression model evidence provide justification for the regional dummy variables included. It is important to underline that the regional element was not imposed on the model but derived by following the 'general to specific' approach mentioned earlier.

On the negative side, we can see from Table 2, that sports participation is influenced negatively in large households.

The existence of children is a negative factor, although as children become older the probability to participate increases (as mentioned above).

Demographic factors counting against sport participation include being female or coming from ethnic Asian or black background. Old age negatively influences sport participation.

This is true for all age groups older than 55. The state of retirement inflicts a positive shock but does not change the overall picture.

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