TV Sports Viewers – Who Are They?

A Norwegian Case Study

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Abstract

This article reports on empirical data from Norway which indicates that popular sports contests are also popular TV programmes. Individual sports, such as biathlon and cross-country skiing headed the popularity list, while football and ski-jumping came joint third. However, although football (only) came third, a higher proportion of football fans were willing to pay for watching it on TV than fans of other sports. This can explain why football has been the most successful sport pay-TV in Europe. Those interested in football were more interested in cultivating their favourite teams/athletes than fans of other sports. The analysis also indicates that the uncertainty of outcome is not as important for peoples' interest in sport as the literature in sport economics has argued.

Keywords: interest in TV sports, willingness to pay, uncertainty of outcome, individual sports, team sports.

Introduction

The nature of sports broadcasting has changed dramatically over the last two decades. Many commercial broadcasters have used sports programmes to recruit subscribers and maximise rating figures. This has brought about fierce competition for the most popular products, which in turn has led to the strong price escalation for sports rights that has become evident in recent years. Consequently, sports governing bodies have become aware of the enormous revenues that TV broadcasting can generate, and therefore have put substantial efforts into promoting themselves favourably towards the media.

Despite the fact that popular sports programmes can attract large TV audiences, recent history also contains many incidents of unprofitable sports rights acquisition (Desbordes, 2006; Solberg, 2006b; Fort, 2003). Several broadcasters have been hit by the "winner's curse", where those that won the rights too late discovered having overpaid and were thus unable to make the acquisition economically viable. Although there are many reasons for this development, it also illustrates that commercial broadcasters need more information about the factors that influence the demand for sports programmes.

This article analyses how certain factors influence peoples' interest for different TV sports programmes. The main research objective is to shed more light on the differences between those who are interested in specific sports and those who are not. This also involves a sport-wise comparison.

The first section provides an overview of the body of literature that has analysed the demand for sport and also some of the literature on sport broadcasting. This is followed by a discussion of the problems associated with identifying and estimating the demand for TV programmes. The third section presents results from an empirical survey of Norwegian TV viewers, which measured peoples' interest in various TV sports – and the factors influencing their interest. The final section discusses the lessons that can be learned from these results.

Literature Review

The literature that is relevant to the demand for TV sports programmes comes from two different disciplines: Analyses of the "demand for sport" as well as of "sport broadcasting". Viewers of TV sports programmes are heterogeneous, and their motives for watching can vary considerably. Some might be interested in watching sport of good quality, while others are mainly interested in cultivating their favourite teams or athletes. Such aspects complicate the job of estimating the demand for specific programmes. It also calls for a subcategorising of the groups on the demand side, where several themes are evident in the literature. Wann, Melnick, Russel, & Pease (2001) distinguished between *sports fans* and *sports spectators/consumers*. They defined sports fans as individuals who are interested in following a sport, team and/or athlete, and sports spectators/consumers as those who actively witness a sporting event in person or through some form of media, such as television, radio, etc. Kenyon (1969) and McPherson (1975) distinguish between *direct sport consumers* and *indirect sport consumers.* Direct sport consumption involves personal attendance at a sporting event. Indirect sport consumption involves exposure to sport through some form of mass media, such as television, radio or the Internet, which is the main topic in this article.

Over the years, a great number of sports economists have analysed the demand for sports. This research has particularly focused on the *uncertainty of outcome* and *competitive balance*, with special attention given to team sports. See Borland & Macdonald (2003) for an overview of this research. Much of this research concentrated on spectatorship at the arenas, or in other words on *direct sport consumption.* In recent years, the body of literature analysing aspects of sport broadcasting (indirect sport consumption) has grown considerably. This covers aspects of both the supply side and demand side, such as analysis of the characteristics of TV sports programmes as commodities (Gaustad, 2000); analyses of the sale procedures of sports rights (Cowie & Williams, 1997; Solberg, 2006a; Andreff & Bourg, 2006); comparisons between the North-American and European TV sports markets (Cave & Grandall, 2001; Solberg, 2002a; Hoehn & Lancelfield, 2003; Szymanski, 2006); vertical integrations with TV broadcasters acquiring stakes in sports clubs (Stotlar, 2000; Gerrard, 2001); and the regulation of sport broadcasting such as the European Listed Events (Boardman & Hargreaves-Heap, 2000; Solberg, 2002b). Several authors (Buraimo 2005; Buraimo, Forest & Simmons, 2005; Baimbridge, Cameron, & Dawson P., 1996) have investigated to what degree TV sport viewing represents a substitute to ordinary spectatorship, on the basis of empirical data from the English Premier League. In recent years, analyses focusing particularly on the demand for TV sport have also emerged (Desbordes, 2006; Forrest, Simmons, & Burraimo, 2006; Hammervold & Solberg, 2006; Solberg & Hammervold, 2004).

The Demand for Sport and TV Sports Programmes – A Theoretical Context

TV sport viewing is for most people a leisure activity. Whether people watch (and how much) depends on their interest in the programmes in question relative to alternative activities, both other TV programmes as well as other leisure activities. The broadcasting of the most popular (and expensive) sports programmes is characterised by a high degree of sunk costs (Solberg, 2006). Sports right fees are independent of the number of viewers who follow the programmes, with the exception of contracts that include royalty fees. This makes it extremely important for the broadcaster to have information about the potential viewers. Who are they? Which sports are they interested in? What characterises the fans of specific sports? Which sports are they willing to pay to watch?

According to microeconomic theory, the demand for goods and services will be influenced by factors such as the direct price, prices of other goods and services and income (Pindyck & Rubinfeld, 1999: 107). Additionally, there can also be many individual factors, and their influence will vary from one good to another depending on the nature of the product.

Some peculiarities complicate the job of precisely measuring indirect sport consumption such as TV sport viewing. One reason for this is that the price for a specific TV (sports) programme is zero unless it is being provided on pay-per-view basis. Viewers of public service broadcasters may have to pay licence fees. In addition, those receiving the signals by cable and satellite operators will have to pay subscription fees. Such fees, however, do not correspond with the how much the viewers are watching. That cable and satellite operators offer the viewers packages consisting of a bundle of channels, while the specific channels offer a wide range of programmes further complicates the job of identification the demand for individual programmes.

Advertising broadcasters make their revenues from selling commercials. Advertisers want maximum contact, and therefore the fees that they pay correspond to the size of the audience who follow the programmes. The viewers can watch the programmes free of charge, but pay a "time cost" by spending some minutes of their spare time on watching commercials. This is different for pay TV broadcasters, whose revenues either come from subscription fees and/or pay-per-view fees. These revenues come from the *consumer surplus* viewers otherwise would have retained to themselves if the programme(s) were offered free of charge.

Despite the distinction between sport spectating at arenas (direct sport consumption) and TV sport viewing (indirect sport consumption), many similarities exist between the two activities. Some of the factors that have received attention in the literature on direct sport consumption are:

- Uncertainty of outcome

- Team identification

- Group affiliation motives

Uncertainty of outcome. This concept refers to one of the key factors for sports competitions as a commodity, namely that spectators wish there to be some degree of uncertainty for the outcome of the competition. According to Noll (1974), the more uncertainty the results of the games, the higher the public demand for the sport. The uncertainty of outcome is an important characteristic that makes sport contests different from other goods and services (Gratton & Taylor, 2000). It applies to individual sports as well as team sports and has to do with the joint nature of production in professional sports

(Gerrard, 2000). The concept was introduced in the literature by Walter Neale in his well known article: "The Peculiar Economics of Professional Sports". He used a heavy-weight boxing championship match between Jou Louis and Max Schmelling as an illustration, and identified what has been called the *Louis-Schmelling paradox*. Neal argued that Joe Louis, who was the World Champion, would benefit more from meeting evenly matched contenders than he would from meeting weaker contenders. The stronger the contender was, the larger the profits for Louis for fighting him would be (Neal, 1964). Since then, the importance of this paradox has been discussed and investigated in a large number of articles by sports economists.

Team identification. Many sport spectators feel psychologically connected to a team and/or an individual player/athlete. A number of analyses have focused on aspects related to *team identification* (Guttmann, 1986; Hirt, Zillmann, Erickson, & Kennedy, 1992; Real & Mechikoff, 1992; Sloan, 1989; Wann, 1997; Wann & Branscombe, 1993). The term has also been used to describe a fan's loyalty to a specific player (Rinehart, 1998; Wann, 1996, 1997, 2000; Wann, Dolan, McGeorge, & Allison, 1994; Wann & Schrader, 1996). Several studies have measured team identification by means of the *Sport Spectator Identification Scale* (SSIS) (Gayton, Coffin & Hearns, 1998; Straub, 1995; Uemukai, Takenouchi, Okuda, Masusmoto, & Yamanaka, 1995), an instrument that was developed by Wann & Branscombe (1993).

Group affiliation motive. Sport spectating is, for many people, a social activity (Danielson, 1997). Whether it occurs at home, at a bar, or at the arena, sport is often consumed in a group environment. For some individuals, it is precisely the social nature of sport spectating that attracts them to it. They are motivated by the group affiliation motive, that is, a desire to spend time with others (Gantz & Wenner, 1995; Guttman, 1986; Pan, Gabert, McGaugh, & Branvold, (1997); Sloan, 1989; Smith, Patterson, Williams, & Hogg, 1981).

In addition, other factors, for example the quality of the athletes and/or teams as well as the aesthetic performance can also influence the viewers' interest in watching.

Some of these factors were investigated in a survey of Norwegian TV viewers, the results of which are presented in the following sections.

Methods – Survey

Questionnaires

The respondents graded their interest in the 14 TV sports by means of a scale from 1 to 10, with 10 indicating high interest and 1 low interest. The scale did not have any neutral value, which some researchers argue to be a methodological weakness. However, this scale was deliberately selected, because in telephone interviews, the respondents find it easier to visualise a scale from 1 to 10, rather than alternative scales from 1 to 5 or 1 to 7.

The questionnaire covered sports that historically have been the most popular among Norwegians. The survey also aimed to compare peoples' interest in sports programmes relative to other programmes. Therefore the respondents were also asked to grade their interest for news programmes, documentaries, cultural programmes, films, debates and reality shows. Traditional background variables such as gender, age, income and similar variables were also included in the questionnaire. In addition, the survey investigated attitudes towards specific dimensions such as:

- *The uncertainty of outcome.*

- *Identification with teams/players/athletes.*

- *Group affiliation.*

- *The quality* of the sport

- *Willingness to pay* for watching TV sport. This question only had a yes or no alter-native – i.e. whether the respondent was willing or unwilling to pay.

The purpose with these latter dimensions was to investigate the characteristics of those that were interested in the sports.

Data Collection and Sample

The survey was conducted during the last two weeks in November 2004, by *Norfakta Markedsanalyse,* a Norwegian market research institute. The data was collected by Computer Assisted Telephone Interviewing (CATI). The respondents were selected by speaking to the one within the household with the most recent birthday, and a call-back routine was launched if this person not was present. The sample was drawn randomly within households with a telephone (land line or mobile) in Norway. The proportion of mobile users only was set to 15%. The respondents' lowest age was set to 15 years. A total of 5260 persons were contacted, and 1,000 respondents were interviewed. This indicated a response rate on 19 percent, which is lower than what usually is achieved on such surveys (around 25%), mainly because of the length of the questionnaire. There was a slight over-representation among women and among the age group between 30-59 years. However, Norfakta is an experienced research institute and was therefore able to correct the sample for potential biases by means of weighting matrix with regard to variables such as gender, age and geography. We therefore regard this research to be representative for the Norwegian population older than 15 years.

Logistic Regression

In relation to the analysis, we were mainly interested in the characteristics of those who regarded themselves as interested or very interested in the specific sports. These rep-resent the majority of the potential viewers – and hence the ones who directly and in-directly generate the revenues for the broadcasters. Those who graded their interest for the specific sports from 6 to 10 were categorised as one, while those from 1-5 were graded as zero in the logistic regression.

The next section presents the empirical results – covering the descriptive analysis, factor analysis and logistic regression analysis.

Results

Table 1 reveals news programmes as the most popular category and also that their popu-larity ranged far above any other programme categories. This corresponds with the re-sults from previous research, which also put news programmes at the top of the popu-larity ladder, and far above any other programme categories (Solberg, 2002). Biathlon came second, while films came third.

Table 1 also shows that winter sports such as *biathlon* and *cross-country skiing* headed the sport-popularity list. This was no surprise considering that Norwegian competitors traditionally have been successful in these sports on an international level (Olympics Games, World Cup series and World Championships). *Football* and *ski-jumping* shared third place. The survey revealed that men were significantly more interested

Table 1. *Interest for TV Programmes – Mean Values / Standard Errors (scale from 1-10) N=1000*

		Total	Men	Women	T-test for differences p-value
News programmes	Mean:	8,19	8,28	8,09	
	Stand. error	(2,009)	(1,879)	(2,126)	0,145
Biathlon	**Mean:**	**6.12**	**6.31**	**5.93**	
	Stand. error	**(3.127)**	**(2.951)**	**(3.280)**	**0.051**
Films	Mean:	6,00	5,99	6,01	
	Stand. error	2,484	(2,476)	(2,494)	0,859
Cross-country	**Mean:**	**5.80**	**5.84**	**5.75**	
	Stand. error	**(2.954)**	**(2.820)**	**(3.082)**	**0.614**
Debates	Mean:	5,46	5,44	5,48	
	Stand. error	2,535	(2,421)	(2,643)	0,804
Sport in general	**Mean:**	**5.39**	**6.30**	**4.51**	
	Stand. error	**(3.093)**	**(3.035)**	**(2.891)**	**0,000**
Ski jumping	**Mean:**	**5.23**	**5.71**	**4.76**	
	Stand. error	**(2.838)**	**(2.694)**	**(2.898)**	**0.000**
Football	**Mean:**	**5.23**	**6.09**	**4.39**	
	Stand. error	**(3.302)**	**(3.303)**	**(3.079)**	**0.000**
Cultural programmes	Mean:	5,15	4,74	5,56	
	Stand. error	2,281	(2,245)	(2,246)	0,000
Quiz shows	Mean:	5,05	4,78	5,31	
	Stand. error	2,397	(2,278)	(2,482)	0,000
Alpine skiing	**Mean:**	**4.97**	**5.20**	**4.74**	
	Stand. error	**(2.632)**	**(2.464)**	**(2.769)**	**0.060**
Handball	**Mean:**	**4.77**	**4.61**	**4.93**	
	Stand. error	**(2.872)**	**(2.596)**	**(3.111)**	**0.780**
Athletics	**Mean:**	**4.40**	**4.75**	**4.07**	
	Stand. error	**(2.615)**	**(2.549)**	**(2.638)**	**0.000**
Skating	**Mean:**	**3.99**	**4.31**	**3.68**	
	Stand. error	**(2.632)**	**(2.604)**	**(2.624)**	**0.000**
Motor sport	**Mean:**	**3.89**	**4.97**	**2.85**	
	Stand. error	**(2.828)**	**(2.845)**	**(2.386)**	**0.000**
Cycling	**Mean:**	**3.43**	**3.84**	**3.04**	
	Stand. error	**(2.323)**	**(2.243)**	**(2.334)**	**0.000**
Reality shows	Mean:	3,38	3,22	3,54	
	Stand. error	2,520	(2,401)	(2,624)	0,041
Snowboard	**Mean:**	**2.87**	**2.97**	**2.77**	
	Stand. error	**(2.257)**	**(2.318)**	**(2.193)**	**0.150**
Ice Hockey	**Mean:**	**2.57**	**3.11**	**2.06**	
	Stand. error	**(2.069)**	**(2.172)**	**(1.821)**	**0.000**
Boxing	**Mean:**	**2.43**	**3.39**	**1.50**	
	Stand. error	**(2.297)**	**(2.655)**	**(1.345)**	**0.000**
Basketball	**Mean:**	**2.21**	**2.36**	**2.07**	
	Stand. error	**(1.754)**	**(1.809)**	**(1.688)**	**0.010**

in the sports than women – with the exception of *handball* and *snowboarding,* while the difference almost was significant for *alpine skiing* and *biathlon*. Biathlon headed popularity list for both genders. Cross-country skiing was number two among men and number three among women. Football came second among men, but was only number six among women.

Factor Analysis

Factor analysis is a statistical technique that can be used to group respondents with similar attitudes together, which in this case was their interest in the sports in question. Table 2 presents the results from a factor analysis that was based on the respondents' interest in the 14 different sports.

The first (and most explanatory) factor was very comprehensive and covered eight sports. It was dominated by individual sports (both winter and summer), with handball the only team sport. These are all sports where Norwegians have performed successfully in international championships.

The second factor covered action-oriented sports, i.e., motor-sport and boxing, while football and ice-hockey belonged to the third factor. The fourth factor included basketball and snowboarding. The most popular sports were found in factor one and three, while those in factor two and four were far down the popularity ladder.

In the initial analysis we only included factors with Eigenvalues >1, but we found these too comprehensive. The items loaded on only two factors, where the first covered eight variables and the second had five. In addition football loaded on both factors. We therefore conducted several experimental analyses, varying the number of factors and found the one including four factors as most interesting. This was the analysis that best corresponded with our expectations and the theory relevant to this issue. By increasing the number of factors from four to five, handball became a factor of its own, so that the first factor only consisted of individual sports. Apart from that, the pattern presented on Table 2 remained unchanged.

Table 2.   *Rotated Component Matrix*

	Component			
	1	2	3	4
Biathlon	.873			
Cross-country skiing	.898			
Ski-jumping	.832			
Skating	.788			
Alpine skiing	.753			
Athletics	.703			
Handball	.581			
Cycling	.595			
Motor sport		.816		
Boxing		.709		
Ice hockey			.703	
Football			.739	
Basketball				.822
Snowboard				.730

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 6 iterations.

Table 3 is constructed on the basis of the original frequency tables and shows the percentage that graded their interest in the interval from 6 to 10. The table also represents the basis for the dependent variables in the logistic regression, and covers the sport that was most popular within each of the four factors. In addition, cross-country skiing was also included due to its history as one of the most (if not *the* most) popular sports in Norway.

Table 3. *Interested in Sports – Percentage (6-10)*

	Total	Men	Women
Biathlon	60	64	56
Cross-Country skiing	55	56	54
Football	47	58	35
Motor sport	27	38	15
Snow Board	13	13	12

The pattern that is evident in Table 4 corresponds with the results in Table 1, which show that as many as 60% and 55% respectively regarded themselves as interested in *biathlon* and *cross-country skiing*, and 47% in *football*. These percentages were considerably lower for *motor sport* (27%) and *snow board* (13%). The gender-difference was particularly evident for football and motor sport, and to some degree also for biathlon.

Table 4. *Logistic Coefficients (B-values) from the Logistic Regression Analyses*

Variables	Biathlon	Cross-country skiing	Football	Motor sport	Snow Board
Gender	-,432*	-,669***	,579***	1,185***	not sign.
Age	,046***	,061***	not sign.	not sign.	not sign.
Education	not sign.	not sign.	not sign.	-,519***	not sign.
Income	,001**	not sign.	not sign.	not sign.	not sign.
Sport interest	,404***	,391***	,427***	not sign.	not sign.
Multi sport interest	,191***	,190***	not sign.	,122***	not sign.
News programmes	not sign.	,134**	not sign.	not sign.	not sign.
Cultural programmes	not sign.	not sign.	not sign.	-,098**	,185***
Film	not sign.	,091*	not sign.	,139***	,139**
Reality programmes	not sign.	,074*	not sign.	,118***	not sign.
Willing to pay	not sign.	not sign.	,830*	not sign.	not sign.
Uncertainty of outcome	not sign.	not sign.	not sign.	not sign.	,157***
Favourite teams/competitors	not sign.	not sign.	,132***	not sign.	not sign.
Quality	,120***	,110**	,076*	not sign.	not sign.
Constant	-6,139	-7,681	-4,363	-1,896	-3,972

* = Significant on 1% level, ** = Significant on 5% level, *** = Significant on 10% level, not sign. here means not significant on 10% level.

Logistic Regression

Logistic regression is a statistical technique that allows one to predict a discrete outcome, for example group membership, from a set of variables that may be continuous,

discrete, dichotomous, or a mix of any of these. Generally, the dependent or response variable is dichotomous, such as presence/absence or success/failure. In this case, the dependent variables were based on the pattern described in Table 3. Those who graded their interest from 6 to 10 were categorised as *one* and the others (from 1 to 5) as *zero*. Table 4 presents the logistic coefficients (B-values). Note that the table only includes the variables that had a significant impact on at least one of the independent variables. The appendix provides more detailed information for each of the regressions.

The empirical results reveal that football and motor sports are "male sports". These two sports were considerably more popular among men than women, a pattern that corresponds with the information in the other tables. According to the logistic regression, those interested in biathlon and cross-country skiing were more likely to be women than men. This may at first sight, looks like a contradiction to the findings in Table 1, which revealed that men were more interested in cross country skiing and biathlon than women. The reason for this discrepancy is that that the logistic regression analysis measures the partial relationships between a numbers of variables, including those other than gender. In other words, the fact that Table 1 showed that women were less interested in biathlon and cross-country skiing than men was not necessarily because they were women, but could be due to other reasons. The logistic regression analysis calculates the relationship between the dependent variable and 15 independent variables, while a t-test only focuses on the importance of one independent variable. Therefore, a logistic regression analysis identifies the relationships between the variables more precisely than t-tests. Table 1 also illustrates that those interested in biathlon and cross-country skiing were older than the others. This was no surprise. For several decades, athletes from the Nordic countries here dominated international cross-country competitions. Norway (5) and Finland (1) won all medals in the inaugural 1924 World Championship in Chamonix, which was later also given the status of Olympic Games. The Nordic domination continued after the Second World War, although the former Soviet Union had success in the fifties. The World Championship in 1960 was the first time ever that an athlete from outside Norway, Sweden, Finland or the Soviet Union won a medal in an international championship (an Italian skier won bronze medal in the 30 kilometres)[1]. The concept of Modern Winter Biathlon was introduced in 1955[2]. The Nordic countries and Soviet Union also dominated this sport during its early history. Although athletes from other nations have been successful since the 1990s, Norwegian athletes have nevertheless continued winning a number of medals in international competitions.

Frequency tables showed a strong correlation in interest between these two sports, with a correlation coefficient on 0,828. Nevertheless, the logistic regression provided different results for four independent variables. Three of the variables that influenced the interest in cross-country skiing did not have any influence on the interest in biathlon, while one variable that influenced the interest in biathlon did not influence the interest in cross-country skiing.

Those who were interested in the three most popular sports (biathlon, cross-country skiing and football) regarded themselves as more interested in sport in general than others. In addition, fans of cross-country, biathlon, and motor sports were multi-sport interested. Those interested in the "top-three" sports were also more concerned about the quality than those who were uninterested.

Football was the only sport where those who were interested were also more willing to pay for watching than others. Another idiosyncrasy was that football fans were more interested in their favourite teams/players than fans of other sports were.

Respondents who revealed a high interest in the sports were not concerned about the uncertainty of outcome, except for the group that was interested in snowboarding. These findings do not correspond with the view of many economists (see next section).

The survey also revealed that motor sport fans were different from those interested in other sports. Enthusiasts of motor sport were less educated and disliked cultural programmes, whilst they enjoyed reality programmes.

The survey indicated that the desire to socialise with others while watching TV sport was not a characteristic of any of those who were interested in the specific sports.

Discussion – Conclusions

This article – which is based on data from a sample of 1000 Norwegians – reveals that popular sports are popular TV programmes. Biathlon was the highest ranked TV sport and was only overtaken by news programmes on the overall list. Cross-country skiing and football followed next on the sport list. This picture corresponds with TV rating statistics from both Norway and other nations. Programmes from international events such as the Olympics and the World Cup soccer finals, have headed these statistics in practically all continents (Solberg, 2002b). The same applies to popular domestic competitions and tournaments, although national variations exist with regards to which sports that headed these lists.

The factor analysis revealed that one group of viewers shared an interest in many sports (factor 1). This was the factor that explained the largest proportion of the variance (34%), and it included traditional winter sports and other sports where national athletes and teams have performed successfully in international championships. This factor included all the sports on the upper half on the popularity ladder – except for football. The factor analysis also indicated that those who shared interest in other sports were considerably more focused. The factors two, three and four only included two sports, while factor one included eight.

This article casts doubts as to how important the *uncertainty of outcome* is for the interest in a sport. The logistic regression uncovered that those interested in four of the five sports we investigated were not more concerned about the *uncertainty of outcome* than others. The results challenge the view among many sports economists who have highlighted the importance of the uncertainty of outcome, particularly for team sports (see Borland & McDonalds, 2003 for more details). The prevailing orthodoxy concerning the importance of the uncertainty of outcome has been used as a platform for arguments about the need for reformations of sports in order to uphold the interest from spectators. One such example was the well known article by Hoehn & Szymanski (1999), which argued that a reformation of European football into a closed, American-style super league was necessary to secure sufficient competitive balance among the clubs – both at a European- and the national level. Such a view is not supported by the findings in this article, which indicate that viewers of TV sports value other aspects more than the uncertainty of outcome. Our view is supported by Gratton & Taylor (2000), who summarized the empirical findings in this field and argued that the uncertainty of outcome and maintenance of competitive balance may not be as important to the success of professional team sport leagues as the previous economic literature has suggested. Hence, a scenario where some few clubs or athletes dominate their sports for some period of time may not be as damaging as sports economists have argued.

It has been traditionally argued that sport spectating is for many people a social activity (Danielson, 1997). However, this article does not indicate that such attitudes characterise viewers of TV sports programmes. Indeed, this was the picture with those who were interested in all the five sports that were analysed by logistic regression. Those who were interested in these sports were not different from those that were uninterested. One reason for this can be that sport spectating at arenas involves the consumption of other goods and services, and also takes more time than TV viewing. This particularly applies to spectators from outside the host destination, i.e. sport tourists. We argue therefore that the social dimension of spectating is more important when people attend a sport arena than when they watch sport on TV.

The article reveals interesting sport-wise differences with regards to team identification (including identification with individual athletes). While football fans cultivated their relationship to their favourite teams and players, this was different for fans of other sports. Those interested in football were emotionally involved with their favourite teams and players according to the logistic regression analysis. They also spent considerable time on updating themselves on the latest new about their favourites, for example on the Internet and other media. Those who were interested in sports such as biathlon, cross-country skiing, motor sports and snow board were more interested in the competitions than in specific athletes.

Football has been the most successful European sport on pay TV since the 1990s in terms of revenue generation (Solberg, 2002a; Szymanski, 2006). This article provides some explanations to this dominance. The logistic regression revealed that those interested in football were also more willing to pay to watch it on TV than supporters of other sports. This was a major difference between football and other sports. Biathlon and cross-country skiing both came above football on the popularity ladder, but supporters of these sports were less motivated to pay than football supporters were. This pattern may not only apply to Norway, but also to the rest of Europe. In Europe, football has earned most of its TV rights revenues from pay TV broadcasters. The sport has been the number one revenue-generator also in nations that have been significantly more successful in other sports (Solberg, 2004). However, if competition from alternative programmes grows fiercer, pay TV broadcasters which acquire live football rights may have to supplement their programmes with other content. Involving in so called club channels which offer supplementary programmes about clubs and players can be one alternative. This article indicates that football fans are interested in more than just live matches. Other options, such as the Internet and mobile phones another alternative.

Finally, although the readers of this article must have the low response rate (19%) in mind, we nevertheless regard this research to be representative for the Norwegian population older than 15 years. Norfakta, which collected the data is an experienced research institute and have conducted a large number of surveys over the years. This has enabled them to correct the sample for potential biases by means of weighting matrix with regard to variables such as gender, age and geography. We therefore believe that the conclusions should be of interest for TV broadcasters, transmission companies and others involved in sport broadcasting. The same applies to the many stakeholders involved in the production of sports contests, such as clubs, sports federations and event organisers.

Notes

1. http://www.fis-ski.com/uk/disciplines/cross-country/fiswscmedals.html?category=&sector=CC&season=1962&nbr=4&search=Search
2. http://www.biathlonworld.com/eng/history/page_000085.htm

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Appendix

Factor Analysis – Total Variance Explained

Component	Total	Initial Eigenvalues % of Variance	Cumulative %	Rotation Total	Sums of Squared % of Variance	Loadings Cumulative %
1	5.910	42.214	42.214	4.826	34.468	34.468
2	2.192	15.659	57.873	1.703	12.167	46.635
3	.869	6.204	64.077	1.643	11.732	58.368
4	.773	5.519	69.596	1.572	11.229	69.596
5	.661	4.724	74.320			
6	.577	4.124	78.445			
7	.543	3.881	82.326			
8	.483	3.450	85.776			
9	.457	3.266	89.043			
10	.400	2.858	91.901			
11	.369	2.637	94.538			
12	.343	2.450	96.988			
13	.262	1.869	98.856			
14	.160	1.144	100.000			

Extraction Method: Principal Component Analysis.

Logistic regression

A logistic regression model estimates regression coefficients that can be read as the rate of change in the "log odds" as X changes. The calculated exp(B) is the expected effect of the independent variable on the "odds ratio", which is the probability of the event divided by the probability of the non-event. For example, if exp(B) = 2, then a one unit change in X would make the event twice as likely to occur. Exp(B) equal to 1 means that there is a 50/50 chance that the event will occur with a small change in the independent variable. Negative coefficients lead to odds ratios less than one: if exp(B) =.50, then a one unit change in X leads to the event being less likely to occur.

Logistic Regression: Biathlon

Variables	B	S.E.	Wald	Sig.	Exp(B)
Gender	-,432	,237	3,311	,069	,649
Age	,046	,009	29,754	,000	1,047
Education	,000	,118	,000	,997	1,000
Income	,001	,001	4,205	,040	1,001
Sport interest	,404	,052	60,095	,000	1,497
News programmes	,076	,061	1,536	,215	1,079
Cultural programmes	-,038	,051	,560	,454	,963
Film	,006	,048	,014	,904	1,006
Reality programmes	,058	,046	1,601	,206	1,060
Willing to pay	-,292	,310	,884	,347	,747
Uncertainty of outcome	-,047	,038	1,490	,222	,954
Favourite teams/competitors	,041	,042	,971	,325	1,042
Multi sport interest	,191	,045	17,778	,000	1,211
Quality	,120	,044	7,382	,007	1,127
Constant	-6,139	,787	60,917	,000	,002

Model summary: -2 Log likelihood = 600,366; Cox & Snell R Square = 0,414; Nagelkerke R Square = ,565; Hosmer and Lemeshow Test: df = 8, p = 0,711, $Ç^2$ = 5,427

Logistic Regression: Cross-country Skiing

Variables	B	S.E.	Wald	Sig.	Exp(B)
Gender	-,669	,232	8,298	,004	,512
Age	,061	,009	49,322	,000	1,063
Education	,059	,108	,293	,588	1,060
Income	-,001	,000	2,536	,111	,999
Sport interest	,391	,051	59,208	,000	1,479
News programmes	,134	,060	4,927	,026	1,143
Cultural programmes	-,013	,050	,068	,795	,987
Film	,091	,047	3,635	,057	1,095
Reality programmes	,074	,045	2,757	,097	1,077
Willing to pay	-,242	,282	,737	,391	,785
Uncertainty of outcome	-,049	,037	1,745	,187	,952
Favourite teams/competitors	,036	,041	,750	,387	1,036
Multi sport interest	,190	,044	18,355	,000	1,209
Quality	,110	,044	6,238	,013	1,116
Constant	-7,681	,838	84,022	,000	,000

Model summary: -2 Log likelihood = 630,402; Cox & Snell R Square = 0,418; Nagelkerke R Square = ,560; Hosmer and Lemeshow Test: df = 8, p = 0,060, $Ç^2$ = 14,937

Logistic Regression: Football

Variables	B	S.E.	Wald	Sig.	Exp(B)
Gender	,579	,209	7,664	,006	1,784
Age	-,011	,008	2,138	,144	,989
Education	,088	,105	,693	,405	1,092
Income	,000	,000	1,563	,211	1,000
Sport interest	,427	,049	75,454	,000	1,532
News programmes	-,024	,060	,159	,690	,976
Cultural programmes	-,021	,049	,177	,674	,979
Film	,043	,046	,889	,346	1,044
Reality programmes	-,047	,043	1,162	,281	,954
Willing to pay	,830	,279	8,863	,003	2,293
Uncertainty of outcome	,043	,036	1,451	,228	1,044
Favourite teams/competitors	,132	,040	10,755	,001	1,141
Multi sport interest	,069	,046	2,251	,134	1,071
Quality	,076	,046	2,720	,099	1,079
Constant	-4,363	,748	34,061	,000	,013

Model summary: -2 Log likelihood = 644,395; Cox & Snell R Square = 0,416; Nagelkerke R Square = ,555; Hosmer and Lemeshow Test: df = 8, p = 0,514, $Ç^2$ = 7,208

Logistic Regression: Motorsport

Variables	B	S.E.	Wald	Sig.	Exp(B)
Gender	1,185	,211	31,580	,000	3,269
Age	-,001	,007	,010	,919	,999
Education	-,519	,106	23,796	,000	,595
Income	,000	,000	,271	,603	1,000
Sport interest	,040	,045	,796	,372	1,041
News programmes	,010	,055	,032	,857	1,010
Cultural programmes	-,098	,045	4,684	,030	,907
Film	,139	,043	10,705	,001	1,150
Reality programmes	,118	,039	9,140	,003	1,125
Willing to pay	,167	,240	,486	,486	1,182
Uncertainty of outcome	,016	,033	,228	,633	1,016
Favourite teams/competitors	-,041	,039	1,097	,295	,960
Multi sport interest	,122	,043	7,898	,005	1,130
Quality	-,023	,041	,315	,575	,978
Constant	-1,896	,643	8,681	,003	,150

Model summary: -2 Log likelihood = 728,743; Cox & Snell R Square = 0,186; Nagelkerke R Square = 0,271; Hosmer and Lemeshow Test: df = 8, p = 0,095, $Ç^2$ = 13,533

Logistic Regression: Snow Board

Variables	B	S.E.	Wald	Sig.	Exp(B)
Gender	-,197	,291	,456	,500	,822
Age	-,007	,009	,514	,473	,993
Education	-,235	,152	2,372	,124	,791
Income	-,002	,001	2,764	,096	,998
Sport interest	,058	,060	,944	,331	1,060
News programmes	-,062	,073	,724	,395	,940
Cultural programmes	,185	,062	9,007	,003	1,203
Film	,139	,060	5,369	,021	1,149
Reality programmes	,024	,051	,222	,637	1,024
Willing to pay	,420	,313	1,802	,179	1,521
Uncertainty of outcome	,157	,044	12,663	,000	1,170
Favourite teams/competitors	-,012	,053	,053	,817	,988
Multi sport interest	,078	,056	1,942	,163	1,082
Quality	,026	,057	,213	,644	1,026
Constant	-3,972	,921	18,613	,000	,019

Model summary: -2 Log likelihood = 447,979; Cox & Snell R Square = 0,089; Nagelkerke R Square = 0,180; Hosmer and Lemeshow Test: df = 8, p = 0,503, $Ç^2$ = 7,313