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Domestic vs. foreign football matches: are viewers interested in the same features?

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ABSTRACT

Previous research on broadcast football (soccer) focused exclusively on domestic matches, overlooking the potential audience that foreign football matches may have on domestic television. This research aims to reveal the determinants of audience for foreign football matches and compare them with domestic ones. The dataset comprises 528 free-to-air matches (2017–2020), broadcasted in Russia. Ordinary Least Squares regressions model the data. Our findings evidence that derbies and high-quality matches increase the broadcast demand for both domestic and foreign matches. However, we offer evidence that scheduling elements and the uncertainty of outcome have a different impact on domestic and international matches in the same setting.

Introduction

The development of professional sports smoothly led to the emergence of such a phenomenon as the demand for sporting products, which is essentially represented in a contest between two teams (Baimbridge et al., 1996). Throughout the past several decades, sports economics papers were based on the exploration of the determinants of the demand for live sporting events attendance (Borland & Macdonald, 2003; Schreyer & Ansari, 2022). However, the demand for sporting products is not based entirely on attendance in the stands. The constant evolution of sports led to the occurrence of television broadcasts. Indeed, professional sports in general and football¹ (soccer), in particular, can rightfully be considered as one of the major and versatile platforms for broadcasting and media development (Cave & Crandall, 2001). However, based on the literature reviews done by Borland and Macdonald (2003), García and Rodríguez (2009) and Schreyer and Ansari (2022) where authors thoroughly investigated the demand for sports studies, it can be stated that despite extensive research on the demand for football tickets, the broadcast demand for football matches did not enjoy the same relevance in the literature at that time.

However, the scope of interest in scientific literature on the demand for broadcasted professional football has increased in recent years. Research in this area has already been carried out in several major football leagues, such as the English Premier League (Cox, 2018; Forrest et al., 2005; Scelles, 2017), the German Bundesliga (Brandes et al., 2008), the Italian Serie A (Caruso et al., 2017; DiDomizio, 2013), the Spanish La Liga (Buraimo & Simmons, 2009; Pérez et al., 2015), the Brazilian League (Gasparetto & Barajas, 2018), and the Norway Football League (Johnsen & Solvoll, 2007). Furthermore, national teams' tournaments are also receiving noticeable attention regarding their

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¹In this work, "football" refers to Association Football or Soccer.

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broadcast demand (Feddersen & Rott, 2011; Nüesch & Franck, 2009; Uribe et al., 2020; Van Reeth & Osokin, 2019).

Nevertheless, a research gap can still be found. Most research in this area is focused on exploring factors influencing consumer behavior for domestic televised football, omitting the increased amount of transnational football broadcasts, which blurs geographic boundaries and provides an alternative option for consuming foreign football matches. Indeed, the phenomenon of televised football enabled the process of buying and selling broadcasting rights for airing foreign competitions in the domestic market and vice versa. For instance, previous literature has provided evidence that clashes between broadcasted domestic and international games lead to a reduction in demand for domestic matches in the UK (Buraimo, 2008; Buraimo & Simmons, 2009; Forrest and Simmons 2006). However, Nielsen et al. (2019) present contrary findings, demonstrating that the attendance of Danish matches remained unaffected during clashes with English Premier League matches on TV. Considering the unique characteristics that different domestic markets might possess, this current research shifts its focus to Russian data and the features of its broadcast market.

Currently, only three papers examining the factors influencing foreign football matches within a domestic market have been found. Schreyer et al. (2018) analyzed TV demand for German football games and found support for the Uncertainty of Outcome Hypothesis (UOH) in domestic league games but not in knockout tournaments. Nalbantis and Pawlowski (2018) tested preferences in the U.S. and found that American viewers do not value game uncertainty when watching European soccer, contrary to within-country evidence suggesting a preference for tighter games. Nalbantis et al. (2023) explored U.S. audience data for Bundesliga matches and identified significant substitution effects with Premier League broadcasts, indicating competition for viewers among different European leagues. However, these studies leave a gap that our paper aims to address: a comparative analysis of broadcast demand for both domestic and foreign football matches within the same country and period. This approach provides a more integrated understanding of how different football competitions influence viewership in a single national context.

Our objective is to determine whether the determinants of broadcast demand differ based on whether it is a domestic or foreign match. Given the widespread global appeal of football and the substantial revenue streams associated with international broadcasts, it is relevant to gain a comprehensive understanding of the determinants that this study unveils. This research makes several significant contributions to the field of sports economics. Firstly, it fills a notable gap in the literature by providing a comparative analysis of the broadcast demand for domestic and foreign football matches within the same period and country. Secondly, it expands the understanding of consumer behavior in the context of televised sports, particularly in emerging markets like Russia. Lastly, the findings offer practical implications for broadcasters, advertisers, and policymakers, helping them to optimize strategies for maximizing viewership and engagement.

The paper is structured as follows: The next section reviews relevant literature to provide a theoretical foundation for the study. This is followed by the Methods section, which details the dataset, variables, and econometric modeling techniques employed. The Results section presents the empirical findings of the study. The Discussion section interprets these findings in the context of existing literature. Finally, the paper concludes with a summary of the key findings, their implications, and suggestions for further research.

Literature review

Research on the determinants of TV demand for football matches has evolved considerably since Kuypers (1996) identified game importance, quality, and fan affiliation as key drivers in the English Premier League (EPL). Subsequent studies have expanded on these initial findings, exploring various factors that influence viewership across different leagues and contexts.

Beyond Kuypers (1996), several other studies have explored broadcast demand in the EPL, including Forrest et al. (2004) and Cox (2018). However, research on broadcast demand has also

extended to various national contexts, offering a broader perspective on the factors influencing viewership. For example, Feddersen and Rott (2011) emphasized the significance of local derbies and star players in attracting television audiences in Germany. García and Rodríguez (2002) found that rivalry matches and the presence of top players were crucial determinants of broadcast demand in Spain. Sung et al. (2019) analyzed Major League Soccer (MLS) in the United States, discovering that while local viewership is influenced by team quality and visiting superstars, it is less sensitive to outcome uncertainty. Additionally, Gasparetto and Barajas (2018) investigated broadcast demand in Brazil's two largest markets, Rio de Janeiro and São Paulo, and found that while both markets value derby matches and prefer weekday games, Rio de Janeiro fans show loss aversion, whereas São Paulo supporters favor more certain outcomes. These diverse findings highlight the importance of tailoring broadcast strategies to local market preferences. Despite extensive research on world major football leagues, empirical studies are still lacking in several countries, underscoring the need for further investigation in underexplored regions, such as Russia.

A recurring theme in the literature is the significance of outcome uncertainty. Forrest et al. (2005) found that this uncertainty was a major driver of TV demand in the EPL, a finding echoed by García and Rodríguez (2006) for the Spanish La Liga. However, the impact of outcome uncertainty varies across leagues. DiDomizio (2013) reported a weak link between uncertainty and TV audiences in the Italian Serie A, while Caruso et al. (2017) observed limited effects in their broader analysis.

Beyond outcome uncertainty, the concept of match quality has been central in understanding TV demand. Scelles (2017) highlighted competitive intensity, using league title contention and UEFA qualifications as proxies, to show its profound influence on EPL viewership. Buraimo (2008) supported this by demonstrating that higher attendance, driven by match quality, correlates with increased TV viewership due to the engaging atmosphere. Additionally, Buraimo (2008) discusses the market value of players as a crucial determinant, reflecting the talent on the pitch.

The interplay between team quality and star players also shapes TV demand. Nüesch and Franck (2009) and Gasparetto and Barajas (2018) found that cumulative team points significantly impact TV audiences, as evidenced in Brazil. This contrasts with Serrano et al. (2015), who associated match quality with the market value of players, challenging the conventional emphasis on outcome uncertainty.

The examination of TV demand extends beyond domestic markets. Schreyer et al. (2018) analyzed EPL broadcasts in Germany, finding that outcome uncertainty and the market value of starting squads significantly increased TV share among German audiences. Nalbantis and Pawlowski (2018) explored European matches in North America, revealing that American viewers prefer matches with surprising results, indicating a U-shaped response to outcome uncertainty. Recently, Nalbantis et al. (2023) examined US audience data for Bundesliga matches, further emphasizing the complex nature of cross-market demand, such as the negative impact of scheduling clashes between different leagues.

Despite these advancements, significant gaps remain. Most studies focus on single-market analyses, overlooking the impact of transnational broadcasts that offer alternative viewing options for foreign sporting events. Furthermore, comparative analyses of domestic versus foreign football matches within the same market and period are scarce.

This study relies on the framework offered by Borland and Macdonald (2003) and updated by Schreyer and Ansari (2022) for demand studies on professional sports. Our paper, then, addresses the aforementioned research gaps by conducting a comparative analysis of broadcast demand for domestic and international football matches within a single market. By examining the determinants of TV demand for both domestic and European football matches, this research seeks to uncover the complex dynamics of televised football demand and provide new insights into the evolving preferences of football fans that previous research has overlooked.

While existing studies have provided substantial insights into the determinants of televised football demand, only a few have explored the audiences of broadcast overseas football matches on domestic television and, to the best of our knowledge, no comparison with local demand has been done so far. Therefore, there remains a need for additional analyses that consider the overseas broadcasts on domestic viewership and compare their potential differences. This study aims to fill this gap by

focusing on the Russian market, thereby contributing to the broader understanding of global sports economics, and informing strategic decision-making in the industry.

Methods

Data

We collected data on football matches broadcasted in Russia from the 2017 to 2020 seasons using the *MediaScope* website. Additionally, secondary data were sourced from *Oddsportal.com* for betting odds and *Transfermarkt* for team market values.

In Russia, three free-to-air channels broadcast sports events: Channel One, Rossiya 1, and Match TV. Channel One and Rossiya 1 specialize in national team competitions like the FIFA World Cup and European Championships. In contrast, Match TV exclusively broadcasts club competitions, holding the rights for Russian football competitions, UEFA club tournaments, and European domestic leagues and cups (Sportspromedia, 2020).

MediaScope provided data on football broadcasts as part of its TV Index project, which collects general and anonymous data on TV viewership using People Meter technology. This technology monitors TV consumption by viewers aged 18 and older in Russian cities with populations over 100,000 (Mediascope, 2021).

Our initial dataset contained 634 observations, including national team matches, replays, and reviews. These were excluded to focus solely on live club football broadcasts, resulting in a final dataset of 528 live matches aired on Match TV. Table 1 provides a detailed description of the included records.

Match TV holds the broadcasting rights for various domestic and international football competitions in Russia. While the channel aims to attract the largest possible audience by selectively broadcasting matches, this selection process should consistently apply to both domestic and international games. Table 2 provides a detailed breakdown of the number of matches from domestic and foreign competitions included in our dataset.

The Russian Football Premier League constitutes the largest share of football broadcasts on Match TV (29.5%), followed by UEFA tournaments, the English Premier League, Serie A, LaLiga, Bundesliga, and the Russian Cup. Given the significant coverage of Russian domestic competitions, Table 3 details the participation structure of Russian clubs in the Russian Football Premier League, Russian Cup, and Match Premier Cup. These domestic competitions include a total of 187 matches, with each team playing either home or away, resulting in 374 club records. The most frequently broadcasted Russian clubs on Match TV are Spartak Moscow (15% of all domestic matches), Football Club Zenit (12.3%), Football Club CSKA (8.8%), Football Club Lokomotiv (8%), and Football Club Rostov (7.8%).

Variables

Dependent variable

The dependent variable in this study is the audience indicator called “Rating,” which represents the average number of viewers for a TV program, expressed as a percentage of the population. *MediaScope* calculates the rating of a football broadcast using a specific formula below (Mediascope, 2021):

Table 1. Data array of football matches that were used in research.

Year	The initial number of games	Observations included in the study	Observations included in the study, %
2017	124	104	83
2018	135	108	80
2019	145	115	79
2020	230	201	87

Table 2. Broadcast football matches in the dataset – by tournament name.

Tournament name	Number of games	Percentage in the dataset, %
Audi Cup	1	0.2
Belarus Cup	3	0.6
Bundesliga	28	5.3
Championship of Belarus	2	0.4
England Super Cup	3	0.6
English League Cup	5	0.9
English Premier League	33	6.2
FA Cup	6	1.1
French League Cup	1	0.2
German Cup	2	0.4
International Champions Cup 2018	2	0.4
Italian Cup	5	0.9
LaLiga	26	4.9
Ligue 1	3	0.6
Match Premier Cup	10	1.9
Portuguese Cup	1	0.2
Russian Cup	22	4.2
Russian Football Premier League	155	29.5
Serie A	31	5.9
Spanish Cup	3	0.6
Spanish Super Cup	3	0.6
UEFA Champions League	98	18.5
UEFA Europa League	81	15.3
UEFA Super Cup	4	0.8

Table 3. Matches of Russian clubs in domestic tournaments.

Club	Number of games	Percentage of the total games, %	Club	Number of games	Percentage of the total games, %
Football Club Akhmat	15	4	FC Orenburg	7	1.9
Amkar Perm	3	0.8	FC Rostov	29	7.8
Anzhi Makhachkala	4	1.1	FC Sochi	10	2.7
Arsenal Tula	17	4.6	FC Tambov	8	2.1
Avangard Kursk	2	0.5	FC Tosno	4	1.1
Dynamo Moscow	16	4.3	FC UFA	7	1.9
Dynamo Saint Petersburg	1	0.3	FC Ural	15	4
FC Enisey	5	1.3	FC Rotor	2	0.5
FC Alania	1	0.3	FC Rubin Kazan	20	5.1
FC CSKA	33	8.8	Spartak Moscow	56	15
FC Krasnodar	23	6.2	Tymen	1	0.3
FC Krylya Sovetov	10	2.7	FC Volgar	1	0.3
FC Lokomotiv	30	8	Zenit Saint Petersburg	46	12.3
FC Khimki	3	0.8	SKA Khabarovsk	2	0.5
Spartak Nalchik	1	0.3	Terek ²	2	0.5

$$\text{Rating} = \frac{\text{amount of consumers watching a broadcast}}{\text{general population(target audience)}}$$

Rating is widely used in studies and is considered a reliable predictor of consumer demand for televised football (Buraimo & Simmons, 2015; Feddersen & Rott, 2011; Wills et al., 2020). Since Match TV is a free-to-air public channel, this study benefits from analyzing a freely accessible product, as there are no financial barriers for viewers interested in watching football matches.

²Terek was renamed to Football Club Akhmat in 2017.

Table 4. Independent variables of the study.

Factors	Variable	Description	Expected Sign
Time	Weekday	The dummy variable is equal to 0 if the game was played on the weekend and 1 if the game was played during the week	-
	Weekend		+
	Afternoon	If the game was played in the Afternoon and ended before 19:00 the variable equals 0/if the game was played in the Evening and ended before 21:00 the variable equals 1/if the game was played at night and ended after 22:00 the variable equals 2	-
	Evening Night		+
Quality of the game	Derby	The dummy variable takes on a value of 1 if the playing teams are rivals. The value is 0 otherwise	+
	Match quality	The indicator that is calculated from the sum of the market value of the football club players for the given season (2017-2020)	+
Uncertainty of a match	Uncertainty of Outcome Hypothesis (UOH)	The variable that is investigated using the Theil Index (betting odds)	+
Format	Round-robin /Knockout	The dummy variable that takes on a value of 1 if the game is in a knockout format and 0 if the game is played in a round-robin format	+
Period of the match	Pandemic	The dummy variable if the match was played during the pandemic (1) or if the match was played before the pandemic (0)	+

Independent variables

The explanatory variables are grouped into four categories: time, quality of the game, format, and period of the match. Table 4 provides a detailed description of these groups and their respective variables, as well as the expected sign of each variable based on the previous literature.

The first group, “Time,” includes dummy variables for Weekend and Weekday to analyze viewer preferences for watching football matches on different days. Several studies, such as those by Gasparetto and Barajas (2018), Kringstad et al. (2018), Caruso et al. (2017), Buraimo and Simmons (2015), and Osokin and van Reeth (2019), have employed these variables. Osokin and van Reeth (2019) found that Russian viewers prefer to watch national teams’ matches on weekdays rather than weekends. Given the unique scheduling of national teams’ competitions, it is important to examine this variable in the context of club competitions. Based on the existing research on European football (Caruso et al., 2017; Kringstad et al., 2018), it is expected that Russian fans would prefer weekend matches for club games.

Other variables in the “Time” group pertain to the time of the game: afternoon, evening, or night. This group includes three categorical variables: 0 if the match was played in the afternoon and ended before 19:00, 1 if the game was played in the evening and ended between 19:00 and 22:00, and 2 if the game was played at night and ended after 22:00. This approach was also used by Osokin and van Reeth (2019). Taking into account Osokin and van Reeth (2019) and Feddersen and Rott (2011) results, we expect that prime times would drive higher audiences. However, we recognize that market preferences may vary by game type or country. In this sense, our empirical results will be crucial in revealing the preferences of Russian supporters for club matches.

The “Quality of the game” group consists of two parameters. First, the Derby dummy is used to test the potential interest of the general audience in high-stakes matches between rivals. Caruso et al. (2017) found that derby matches produce an average 0.4% increase in television audience interest. Table 5 lists the matches designated as Derby for this study, which are games between principal rivals in the same domestic league.

Secondly, as highlighted in the literature review, Match Quality is a crucial factor in sports demand research. In our research, Match Quality was calculated based on the total market value of players using data from *Transfermarkt*, a comprehensive database of transfer transactions (Transfermarkt, 2021). This method, for instance, was previously employed by Wills et al. (2020), among others. The existing empirical research highlights the significance of both derby matches (Gasparetto & Barajas,

Table 5. Derby matches in this study.

Matches considered derby in this study			
CF Real Madrid	Atlético de Madrid	FC Juventus	AC Milan
CF Real Madrid	FC Barcelona	FC Juventus	Napoli
Borussia Dortmund	Bayern	FC Inter	AC Milan
Borussia Dortmund	Schalke 04	FC Inter	FC Juventus
Chelsea	Liverpool	SC Benfica	FC Porto
Chelsea	Manchester United	Spartak Moscow	Zenit Saint Petersburg
Chelsea	Tottenham	Spartak Moscow	FC Lokomotiv
Chelsea	Arsenal	Spartak Moscow	FC CSKA
Liverpool	Arsenal	Spartak Moscow	Dynamo Moscow
Manchester United	Arsenal	FC CSKA	Dynamo Moscow
Manchester United	Manchester City	FC Rostov	FC Krasnodar

2018) and overall match quality (Schreyer et al., 2018) in driving broadcast demand, suggesting that we can expect positive coefficients for these variables in our estimations as well.

The third group of potential determinants of consumer demand for football includes the uncertainty of outcome hypothesis introduced by Rottenberg (1956), which posits that the more unpredictable the match, the higher the demand. Several studies in sports demand use the Theil Index to measure the uncertainty of outcome (Gasparetto & Barajas, 2018; Schreyer et al., 2018). This index is calculated based on the three possible outcomes of football matches – win, lose, or draw – derived from betting odds (Oddsportal, 2021).

Betting odds were collected from the *Oddsportal* website and included the probabilities for a home team win, a draw, or an away team win for each match in the dataset. These odds were then transformed into probabilities using the formula provided below.

$$Probability\ percentage = (1/Decimal\ odds) * 100$$

Based on the received probabilities, Theil Index was calculated using the formula below:

$$TheilIndex = \sum_{i=1}^3 p_i \log\left(\frac{1}{p_i}\right)$$

where:

p_i = calculated probability of home team win, draw, and away team win, respectively.

The smaller the difference between the three probabilities (home team win, draw, away team win), the higher the Theil Index. A Theil Index close to 1 indicates greater uncertainty, while a value close to 0 indicates more predictability. The Theil Index was selected as the measure of Uncertainty of Outcome in this study due to its suitability in the context of free-to-air broadcasting data, where viewership is not constrained by team allegiance or geographic location. Unlike traditional measures based on Home Win Probability, which assume a fixed preference for home teams based on stadium location, our analysis considers matches where the distinction between home and away teams in broadcast consumption is less pronounced. This approach allows for a comprehensive comparison between domestic and foreign football matches, ensuring a robust assessment of whether Uncertainty of Outcome significantly influences viewer demand across different leagues and competitions. Due to the heterogeneous nature of our sample, we acknowledge that different patterns may emerge according to the subsample under analysis. Nonetheless, we expect that the classical Uncertainty of Outcome Hypothesis holds true and, then, Russian supporters would show interested in competitive football matches.

³Some more derbies between listed clubs could be distinguished, namely: Arsenal – Tottenham; Liverpool – Manchester United; FC Juventus – Torino; FC Barcelona – Espanyol, etc. However, any of those matches were broadcast on Match TV during the research period.

The fourth group of factors includes the Format dummy. This variable is assigned a value of 1 if the game is in a knockout format (cup tournaments) and 0 if it is in a round-robin format (league tournaments). Several authors have investigated the impact of tournament format on the demand for football matches, with mixed results (Osokin & van Reeth, 2019; Pawlowski & Nalbantis, 2015). Despite the lower number of both domestic and foreign cup matches in the dataset, it is essential to estimate the significance of Russian and European cup competitions on televised demand for Match TV. We expect a positive coefficient for the Format Dummy because knockout matches are often considered more attractive to fans (Gasparetto & Barajas, 2020; Shakina et al., 2020).

Buraimo and Simmons (2015) examined the impact of in-game attendance on TV ratings of professional football and found that a vibrant stadium atmosphere attracts a higher television audience. This raises interesting questions about the effect of matches played without or with few fans during the pandemic on TV viewership, considering both the lack of stadium spectators and the increased remote work for the general population. To evaluate this, a dummy variable is used, taking the value of 1 if the match was played during the pandemic and 0 if it was played before the pandemic. Given the reduced opportunity for fans to attend matches in person during the pandemic, it is expected that the coefficient for this dummy variable will be positive, reflecting an increased consumption of football via television.

Econometric modelling

Ordinary Least Square (OLS) regressions are used as a research tool. The general model is as follows:

$$\text{Rating}_{ict} = \beta_0 + \beta_1 f_{ict} + \beta_2 w_{ict} + \beta_3 h_{ict} + \beta_4 d_{ict} + \beta_5 p_{ict} + \beta_6 q_{ict} + \beta_7 UO_{ict} + \sigma_c + \gamma_t + \varepsilon_{ict}$$

where:

β_1 – β_7 represents the regression coefficients of independent variables, that shows the change in rating concerning one unit change in each independent variable;

Rating represents the dependent variable of the study – Match TV channel's rating;

f is the format dummy, that can be either round-robin or knockout;

w is a day-of-the-week variable;

h is a part of the day categorical variables (afternoon, evening or night);

d is a dummy variable of rivalry between two clubs;

p is a pandemic dummy variable;

q represents the quality of the match;

UO represents Uncertainty of Outcome Hypothesis;

σ represents fixed effects for each competition;

γ denotes fixed effects for each season;

ε is the model's random error term;

i is a given match;

c is a given competition;

t is a given season.

The first model – baseline – includes data on all 528 football matches that were broadcast on Match TV for the period from 2017 to 2020. This model enables us to investigate the general determinants of football matches among all competitions for the Russian market. The second model estimates only domestic football matches – all domestic (Russian) tournaments. The third model inspects all international matches, aiming to compare their determinants with those from model two. Finally, models four and five exclusively focus on round-robin tournaments (league matches), namely the Russian Football Premier League (model 4) and the Top 5 European leagues (model 5). In our analysis, all models include fixed effects for both competitions and seasons. This controls for unobserved heterogeneity related to specific competitions and temporal variations, ensuring that the estimated effects of the independent variables are not confounded by these factors.

The approach of employing multiple models serves to dissect the complexities of televised football demand comprehensively. By starting with a baseline model, we establish general determinants potentially applicable to the entire Russian market. Subsequent models focus progressively on more specific subsets: the second model narrows down to domestic football matches, allowing insights into factors unique to Russian domestic football, while model four focuses exclusively on the RFPL. Models three and five explore all foreign matches and then only top European leagues respectively, enabling an examination of how factors influencing demand vary between foreign and domestic competitions. This tiered approach not only captures overarching trends but also unveils crucial differences in strategic decision-making in sports broadcasting.

Several pretests were conducted to ensure the robustness of the regression models. Firstly, the assumption of little to no multicollinearity among independent variables was verified using the Variance Inflation Factor (VIF). Across all models in this study, VIF values were slightly above 1, indicating no significant multicollinearity issues. Secondly, the normality of the variables' distributions was assessed using Q-Q Plots, revealing no deviations from normality. This finding suggests that no log transformations of variables were necessary. Thirdly, the linearity and absence of outliers in the relationship between independent and dependent variables were confirmed, aligning with the requirements of the study. Lastly, the assumption of homoscedasticity was tested using the Breusch-Pagan test, which identified heteroscedasticity in all three models: Russian competitions (p-value = .001), foreign competitions (p-value = .003), and Top 5 European Leagues (p-value = .01). To address this issue, robust standard errors (RSE) were employed to ensure unbiased standard errors of the regression coefficients despite the presence of heteroscedasticity.

Results

Table 6 below presents the model outputs, highlighting differences across models.

The general model

The baseline model reveals some insights. Firstly, there is an unexpected decline in viewers' interest as competitions progress to the knockout stage, with ratings decreasing by 0.32%. Conversely, weekends exhibit a significant positive effect as anticipated, with football matches broadcasted on weekends experiencing a 0.09% increase in television ratings on Match TV. Matches ending between 19:00 and 21:00 ("evening" slots) also boost ratings by 0.23%, while matches concluding after 22:00 ("night" slots) yield a similar increase in TV ratings.

The rivalry between clubs significantly enhances ratings, showing a positive increase of over 0.27%, aligning with expectations. However, the uncertainty of outcome, measured by the Theil Index, proves insignificant across all tournaments in the dataset. This suggests that Russian television audiences' viewership decisions are influenced more by sports or scheduling specifics than by the potential unpredictability of match outcomes.

Surprisingly, matches played during the pandemic did not alter how Russian audiences consume televised football games. Furthermore, Match Quality yielded insignificant results in this analysis. One potential explanation could be that the market values of players, used as a proxy for Match Quality, were already adequately reflected within the competitions themselves, such as the UEFA Champions League, UEFA Super Cup, and UEFA Europa League, which feature top clubs from each league in the study as distinct and independent entities.

These preliminary findings, particularly regarding the variables Pandemic, Uncertainty of Outcome, and Match Quality, serve as an initial exploration. However, the subsequent models in this research reveal that the "General" model, which aggregates information across all tournaments, may not be the most suitable for understanding demand variations, underscoring the importance of distinguishing between different broadcasted competitions.

Table 6. Empirical outputs for each sample of the study.

VARIABLES	(1) General	(2) Russian Competitions ⁴	(3) All foreign competitions ⁵	(4) RFPL ⁶	(5) Top 5 Leagues ⁷
1.Playoff	-0.315*** (0.0594)	0.598*** (0.0961)	-0.123** (0.0475)	-	-
1.Weekend	0.0892** (0.0378)	0.0138 (0.0438)	-0.0114 (0.0303)	0.0210 (0.0518)	-0.0258 (0.0364)
1.Evening	0.229*** (0.0502)	0.0743 (0.0523)	0.0933* (0.0476)	0.0699 (0.0564)	0.0925* (0.0484)
2.Night	0.223*** (0.0582)	0.0378 (0.0653)	0.000242 (0.0512)	0.0276 (0.0684)	-0.0142 (0.0546)
1.Derby	0.268*** (0.0471)	0.319*** (0.0709)	0.104*** (0.0339)	0.361*** (0.0870)	0.127*** (0.0387)
1.Pandemic	-0.000993 (0.0775)	-0.268*** (0.0937)	0.00222 (0.0791)	-0.106 (0.112)	0.0832 (0.0774)
Match Quality	2.25e-05 (4.18e-05)	0.00223*** (0.000218)	0.000119*** (4.24e-05)	0.00234*** (0.000239)	9.80e-05** (4.36e-05)
Theil Index	-0.0701 (0.210)	-0.128 (0.435)	0.324** (0.148)	-0.287 (0.455)	0.262* (0.156)
Competitions dummies	Yes	Yes	Yes	Yes	Yes
Season FE	Yes	Yes	Yes	Yes	Yes
Constant	1.500*** (0.120)	0.177 (0.220)	0.301*** (0.0934)	0.870*** (0.220)	0.313*** (0.0973)
Observations	528	187	155	155	121
Adjusted R ²	0.622	0.633	0.661	0.637	0.626

Robust standard errors are in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Russian vs. all foreign competitions

An analysis comparing Russian domestic football and foreign football matches broadcasted in Russia examines the coefficients from models 2 and 3. Model 2 explores the determinants of television audiences in Russia for domestic tournaments such as the Russian Football Premier League, Russian Cup, and Match Premier Cup, while model 3 focuses on all foreign matches broadcasted free-to-air in Russia during the study period.

For Russian competitions, interest in televised matches shows a significant association with knockout tournaments. Specifically, matches in the Russian Cup and Match Premier Cup exhibit a notable increase in ratings by 0.6% compared to league games. Conversely, for foreign leagues and cups, there is a decrease in ratings by 0.12% for knockout matches, indicating a preference among Russian audiences for round-robin formats in foreign tournaments.

Schedule-specific variables such as weekend and night matches do not show significant effects on ratings for both Russian and foreign tournaments. However, evening matches of foreign tournaments have a significant positive impact, increasing ratings by 0.09% at a 10% significance level, unlike the insignificant result observed for Russian tournaments.

Rivalry matches between clubs are consistently positive predictors of higher television ratings for both Russian domestic tournaments and foreign leagues and cups. However, the impact is more pronounced for domestic matches, with an overall increase of 0.3%, compared to a 0.1% increase for foreign derbies.

During the COVID-19 pandemic, matches broadcasted on Match TV for Russian domestic competitions experienced a decrease in ratings by 0.27%. In contrast, there was no observed change in demand for foreign competitions aired during the pandemic.

⁴Russian Competitions include all domestic tournaments: Russian Cup, Match Premier Cup and Russian Football Premier League.

⁵Foreign leagues and cups broadcasted on Match TV.

⁶RFPL – Russian Football Premier League.

⁷The Top 5 European Leagues are: English Premier League, Bundesliga, Serie A, LaLiga and Ligue 1.

Matches featuring teams with higher market values of starting lineups and substitutions, indicating higher quality and star power, correlate with increased ratings for both Russian and foreign leagues and cups. However, the effect is marginal, with an increase of approximately 0.002% for Russian competitions and 0.0001% for foreign tournaments.

Regarding uncertainty of outcome, measured by the Theil Index, there is mixed evidence. Unexpectedly, Russian viewers show indifference to uncertainty in domestic tournaments, while they exhibit higher interest in uncertain outcomes of the foreign league and cup matches, leading to a 0.32% increase in ratings.

The comparison of the Russian football premier league and the top 5 European leagues

Given the differences in the format variable observed previously, it is important to focus on tournaments categorized solely under league competitions. Therefore, in this comparative analysis, where the playoff variable is absent, we directly compare the coefficients between models 4 and 5.

The results for schedule-specific variables in this comparison show varied outcomes. Matches aired on weekends and at night do not significantly impact ratings for both the Russian Football Premier League (RFPL) and foreign Top 5 league matches broadcasted on Match TV. However, evening matches in the Top 5 foreign leagues show a slight but statistically significant increase of 0.09% points in TV ratings in the Russian market.

When considering derby matches broadcasted on Match TV, there is noticeable interest among Russian audiences, leading to increased ratings for games featuring rival clubs. Domestic rivalries contribute to a more substantial increase in television ratings (0.36%) compared to foreign derbies (0.13%).

The absence of a pandemic effect is clear, indicating no significant changes in viewer interest among Russian audiences for both RFPL and Top 5 foreign leagues during periods despite the limited or no in-stadium attendance.

There is a slight increase in viewer interest noted for overall match quality, resulting in a marginal increase of 0.002% in ratings for both the RFPL and the Top 5 European leagues. Additionally, the analysis suggests that the uncertainty of outcome indicator holds significance only for viewers during broadcasts of the Top 5 foreign league matches, correlating with a 0.26% increase in ratings.

Discussion

Day of the week

The Weekend dummy variable exhibited no statistically significant impact on television audience ratings in both comparative models, suggesting that Russian viewers' decision to watch televised football matches is not strongly influenced by the day of the week. This finding holds true for both domestic and foreign competitions.

The lack of significance for the Weekend variable aligns with mixed findings in the existing literature on television audience behavior for football matches. Our results contrast with findings by Forrest et al. (2005), who observed higher viewership for English Premier League matches on weekends, and with those of Osokin and van Reeth (2019), who noted a preference among Russian audiences for weekday broadcasts of FIFA World Cup and European Championship matches. Conversely, our results are consistent with the findings of Feddersen and Rott (2011), who found no significant effect of weekend scheduling on television audience size during matches involving the German national team. We hypothesize that the non-significant impact observed in our study may be attributed to the predominance of league matches in both models, which are typically broadcasted on weekends, leaving viewers with limited alternatives for weekday viewing.

Part of the day

Matches concluding after 22:00 showed no significant impact on broadcast ratings, consistent with previous findings by Osokin and van Reeth (2019) concerning Russian broadcasts. This observation suggests that football matches aired after 22:00 are primarily watched by dedicated football enthusiasts in Russia.

While the Night variable did not emerge as a significant predictor of Russian television audience interest in televised football, the Evening time slot yielded consistently positive and statistically significant results in both comparative models. Specifically, it increased television ratings for foreign competitions encompassing all leagues and cups, as well as exclusively for the Top 5 European football leagues. The findings underscored an identical rise in ratings of 0.093% for matches from foreign leagues and cups, particularly those aired during Match TV's prime-time slot from 19:00 to 21:00. This outcome resonates with the findings of Osokin and van Reeth (2019), who observed heightened demand for matches broadcast during prime-time hours. Although the Evening variable yielded a positive yet insignificant result of 0.07% for Russian domestic competitions, it suggests that, to a certain extent, Russian viewers prioritize optimal viewing conditions, such as the timing of broadcasts, more prominently when tuning into foreign competitions compared to domestic tournaments.

Given that broadcasters may be limited by the number of international matches they hold rights to, they can still improve viewership by optimizing the scheduling of available content. This could involve strategically placing high-profile matches or key moments from their existing inventory in prime-time slots to maximize audience engagement. Additionally, broadcasters could enhance the appeal of their broadcasts through attention grabbers (Eliaz & Spiegler, 2011), such as supplementary content, such as pre-match analysis, interactive features, and exclusive interviews, to further attract viewers and leverage peak viewing times effectively.

Derby

The derby dummy highlights the significant appeal of rivalry between teams to Russian football TV viewers, leading to increased ratings for both domestic and foreign competitions, including the RFPL and Top 5 foreign leagues (Caruso et al., 2017). This finding contrasts with Schreyer et al. (2018), who found no effect of derby matches on television audiences in their study of EPL broadcasts in Germany. However, our results align with Gasparetto and Barajas (2018), who observed increased television audience demand for football matches in Rio de Janeiro and São Paulo, as well as Caruso et al. (2017), who reported a 0.4% increase in TV viewership for derby matches in Italy.

Moreover, the consistency of our findings with both live and broadcasted games in the Russian Football Premier League underscores the broad appeal of derby matches. This observation is consistent with the research of Baydina et al. (2021), who noted that derby matches also stimulate increased ticket demand for the RFPL matches.

The significant boost in viewership associated with derby matches highlights their potential to drive higher ratings. Although Russian broadcasters may not influence the scheduling of European matches, they do have some leverage over the timing of domestic games. By strategically scheduling high-profile derby matches during less popular times, broadcasters can potentially enhance overall viewership for the RFPL. This approach could help maximize audience engagement and make the most of their broadcast rights, ultimately improving ratings across the entire domestic tournament.

Quality of the match

The Match Quality variable exerts a positive and significant influence on television audiences in Russia for both domestic and foreign tournaments, indicating that matches featuring teams with higher total market values of players increase television ratings. Despite the modest yet statistically significant

increase in ratings observed during broadcasts of matches with higher Match Quality on Match TV, these findings are consistent with Borland and Macdonald (2003), who identified an increased demand for football matches characterized by higher content quality in their literature review. Similarly, Schreyer et al. (2018), in their analysis of the English Premier League's demand in Germany, utilized a comparable proxy to measure Match Quality and reported similar outcomes, highlighting increased television viewership in Germany for EPL games involving teams with higher combined market values.

While TV channels cannot influence the on-field quality of players, they can enhance viewership by focusing on selecting high-quality matches for broadcast (Kim et al., 2022; Li, Kim, Ryu & Kim, 2023). For international matches, pursuing contracts with high-profile tournaments and games can significantly boost audience figures (Nalbantis et al., 2023). Similarly, for domestic broadcasts, prioritizing games featuring top teams or players (Feddersen & Rott, 2011), and ensuring they are scheduled at optimal times, can maximize viewer engagement and ratings.

Format of the tournament

The Playoff dummy variable exhibits contrasting effects across models. Russian domestic tournaments aired on Match TV experience an increase in ratings for knockout matches, whereas matches of foreign tournaments show opposite results. Specifically, Russian Cup and Match Premier Cup matches attract greater interest from televised audiences in Russia, resulting in a significant increase in ratings by 0.6%. This finding aligns with previous research by Osokin and van Reeth (2019) and Gasparetto and Barajas (2020), who observed heightened audience engagement as tournaments progress through the knockout stages.

Several factors may contribute to this observed impact. Firstly, in knockout competitions, the heightened audience interest may stem from the inherent uncertainty associated with such formats. Unlike regular league matches, cup matches often feature unexpected results, as noted in the 2018 Russian Cup final between Avangards Kursk, from the Russian first division (domestic second tier), and Tosno, a team from the RFPL. This unpredictability appeals to viewers' preference for competitive and potentially surprising matchups, as highlighted in Osokin and van Reeth's (2019) findings regarding national team competitions.

Moreover, considering the demand and supply dynamics of televised football matches, knockout tournaments like cup competitions are broadcast less frequently than round-robin leagues over a season. This scarcity of knockout matches may further elevate viewer interest among Russian audiences.

Conversely, the 0.12% decrease in ratings observed for foreign competitions aligns with findings by N. Kim and Kim (2012), who noted diminishing marginal utility for viewers as matches progress through knockout stages. Russian sports television audiences may exhibit less interest in watching matchups between big foreign clubs and smaller ones in cup competitions, contributing to this observed decline in ratings.

Pandemic

The Pandemic variable reveals distinct audience responses to matches broadcasted without fans during the COVID-19 outbreak, both for domestic and foreign competitions. Specifically, Russian domestic competitions exhibit a significant decline in ratings for matches aired amid the pandemic, whereas foreign competitions show no discernible change in ratings. Given the absence of analogous studies, drawing direct comparisons with prior research remains challenging. However, two potential explanations may elucidate the observed decline in ratings for Russian domestic competitions.

Firstly, in response to the unforeseen circumstances of the pandemic, Match TV swiftly secured broadcasting rights for matches from the Belarusian Football League (Kommersant,

2020). Additionally, following the resumption of the Top 5 European leagues post-suspension, Match TV increased its coverage significantly, transitioning from airing merely five Bundesliga matches before the pandemic to 23 matches thereafter. This influx of matches from commercial channels onto public platforms might have diluted viewer interest in domestic competitions.

Secondly, the pandemic-induced absence or limited presence of fans in stadiums could psychologically diminish the perceived importance of matches aired during this period. As Buraimo (2008) suggests, higher stadium attendance correlates with increased television ratings due to the vibrant atmosphere that translates on screen. Consequently, the sight of empty stadiums during broadcasts of Russian tournaments might have contributed to the observed decrease in ratings.

Uncertainty of outcome

One of the central debates in sports economics, and particularly in this study, revolves around Rottenberg's Uncertainty of Outcome Hypothesis (UOH). Regarding Russian domestic competitions, our findings indicate that uncertain matches do not significantly impact the overall television audience of football matches on Match TV. This result aligns with existing literature which has provided ambiguous evidence regarding the influence of UOH on consumer interest. For instance, García and Rodriguez (2006) concluded in their study on demand for Spanish La Liga that uncertainty of outcome does not predict consumer interest in matches.

Similarly, a recent study on attendance demand in Russia by Baydina et al. (2021) found no significant association between uncertainty of outcome and stadium attendance in the Russian Football Premier League (RFPL). From these findings, it can be inferred that the strong club affiliations among Russian viewers with domestic football clubs may explain our results. Viewers are inclined to watch matches involving their favorite or top Russian teams irrespective of the match's uncertainty of outcome. This interpretation supports and extends the findings of Baydina et al. (2021) and contradicts Cox's (2018) proposition that matches with higher certainty appeal more to live attendance, while uncertain matches attract larger television audiences.

In contrast to the findings for Russian domestic tournaments, we observed a significant and robust, albeit relatively weak, relationship between the uncertainty of outcome and transnational television demand for all foreign competitions, particularly the Top 5 European leagues broadcast in Russia, which supports Rottenberg's UOH. This result contrasts with studies focused on domestic competitions within their home markets (Buraimo & Simmons, 2015; Caruso et al., 2017), and with the latest research on foreign matches (Bundesliga) to overseas audiences (USA) by Nalbantis et al. (2023), but aligns with Schreyer et al. (2018) research demonstrating that uncertainty of outcome increases transnational television demand for English Premier League matches in Germany.

Consequently, the general audience of the public sports channel Match TV in Russia exhibits a preference for watching foreign matches where the uncertainty of outcome is higher, leading to an increase in ratings by 0.09, as opposed to matches involving clubs with disparate strengths. This highlights that despite exploring the same market, television audiences in Russia are motivated by different factors when choosing to watch televised football matches, particularly concerning uncertainty of outcome. Therefore, while uncertainty of outcome does contribute to higher viewership for foreign matches, its impact is less pronounced compared to factors such as match quality or strategic scheduling, which may offer more substantial avenues for increasing audience engagement.

Limitations

We acknowledge several limitations that may affect the breadth and depth of our findings. One significant constraint is the lack of granular viewership data, such as minute-by-minute ratings, which

could provide richer insights into audience behavior. Recent research has utilized such detailed data to explore the viewership dynamics (Alavy et al., 2010; Bizzozero et al., 2016; Buraimo et al., 2020, 2022; Richardson et al., 2023). The absence of this fine-grained data in our study restricts our ability to explore deeper into temporal variations and audience engagement during specific moments of matches. Nevertheless, the continued relevance of average viewership figures in recently published studies underscores the ongoing importance of aggregate data in understanding television audience behavior (Nalbantis et al., 2023, Li et al., 2024). Moreover, the uniqueness of our dataset, encompassing audience metrics for various foreign tournaments within a single domestic market, presents an intriguing setting for analysis despite this potential limitation in the dependent variable.

As outlined in the methodology section, Match TV, like many television channels, strategically selects matches to maximize viewership and, consequently, advertising revenue. This practice often prioritizes high-profile games in prime time slots. Regrettably, our study did not explore the specific criteria guiding Match TV's match selection process, owing to the multitude of factors influencing these decisions across different rounds and tournaments. Future research employing advanced econometric techniques could explore the determinants behind channel selection strategies and their implications for television audience dynamics – a similar approach can be seen in Li et al. (2024).

Additionally, another limitation is the inability to compare viewership between Russian clubs competing in domestic versus international competitions comprehensively. This study would ideally have included such comparisons to elucidate differences in audience interest between these contexts. However, due to the limited number of broadcast matches featuring Russian clubs in international competitions during the research period, conducting a robust econometric analysis was not feasible. Instead, our study relies on the assumption that viewers maintain a consistent interest in football, and the novelty of our analysis would be the comparison between the overall determinants of domestic and overseas football matches. Moreover, the limited number of observations for certain teams and team-pair combinations made it impractical to implement team- and team-pair fixed effects in our analysis. Future research could benefit from larger datasets, allowing for the inclusion of such fixed effects to better capture team-specific characteristics and the dynamics between teams over time. Therefore, we believe that our findings provide initial insights on this matter that can serve as a foundation for future investigations with more comprehensive data.

Lastly, our study is constrained by its temporal scope, covering only 2017 to 2020. Although adequate for panel data analysis, this period may not capture long-term trends or shifts in viewership behavior due to evolving audience preferences, broadcasting strategies, or the impact of the COVID-19 pandemic (Coche & Lynn, 2020). Additionally, the focus on a single broadcaster, Match TV, may limit the generalizability of our findings to other networks or media platforms (Baecker et al., 2023). The study also does not address differences in consumption based on gender and age (Clark et al., 2009; Tainsky et al., 2014), variations by individual competitions (Gasparetto & Barajas, 2020), or the overlap between domestic and international matches (Nalbantis et al., 2023). Expanding the analysis to include multiple broadcasters and diverse markets, along with larger datasets and additional explanatory variables, could provide a more comprehensive understanding of viewership trends and allow for better comparison across different contexts.

Conclusion

This study contributes to the underexplored area of demand for foreign football competitions within a domestic market, building upon prior research (Schreyer et al., 2018, Nalbantis & Pawlowski, 2018, Nalbantis et al., 2023). By comparing the preferences of Russian television audiences for both domestic and foreign leagues, we leveraged a robust dataset and contextual framework, facilitating insightful cross-comparisons. The comprehensive data provided by *MediaScope* enabled the analysis performed, revealing distinct disparities in demand dynamics within the Russian market.

Our findings underscore that Russian viewers exhibit a keen interest in uncertainty and team quality when consuming foreign televised football matches, aligning with some prior studies (Schreyer

et al., 2018) while diverging from others (Nalbantis & Pawlowski, 2018). Notably, our research highlights the positive impact of derby matches on demand for foreign broadcasts in Russia, contributing a novel perspective to the literature. Moreover, this study pioneers the exploration of combined demand for both domestic and international football matches, introducing a unique analytical niche in transnational football broadcasting demand. Additionally, by extending the work of Osokin and van Reeth (2019) through the introduction of new variables into a different setting, we enrich the understanding of specific characteristics influencing the domestic club television market.

In the broader context of sports television demand, where previous studies predominantly focused on attendance, our research expands the scope to include television viewership. Empirical evidence, particularly concerning the uncertainty of outcome hypothesis, reveals mixed findings across different samples. Russian domestic tournaments do not exhibit significant television interest driven by uncertainty, whereas foreign tournaments demonstrate an opposite pattern. Furthermore, our study enhances insights into the influence of team quality and star presence on both attendance and TV demand across various sports.

Our study provides actionable insights into broadcasting demand dynamics in football. We identify specific drivers of customer demand for televised football in Russia, highlighting preferences for knockout stages, derby matches, and superior team quality during domestic tournaments. We assume that it offers strategic recommendations for optimizing Match TV's football scheduling, proposing selective broadcasting strategies for foreign cup matches based on audience preferences and market conditions.

Our research also encourages further exploration of televised demand for football in diverse domestic and international contexts. Replicating similar analyses in other countries could broaden our understanding of broadcasting demand dynamics in football. Investigating the interplay between television broadcasting and stadium attendance, particularly in UEFA tournaments within emerging markets, presents an intriguing avenue for future research. Extending our findings to encompass other team sports beyond football could yield valuable comparative insights as well.

In conclusion, our study's primary contribution lies in unveiling the distinct determinants that shape demand for international and domestic matches broadcast within a single market. These findings not only enrich theoretical understanding and practical applications but also lay the groundwork for continued research in this field.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The dataset has been built using secondary data from available online sources mentioned in the manuscript. Authors can be contacted for more elucidations.

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