

# AN EMPIRICAL ANALYSIS OF THE INFLUENCE OF MARKET CONCENTRATION OF INTERMEDIARIES ON THE PRICE-MAKING IN THE TWO- SIDED MARKET OF TELEVISION ADVERTISEMENT

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## ABSTRACT

In many two-sided markets, platforms use intermediary agents to reach consumers at one side of the market, but in the most recent models of two-sided markets the intermediaries are ignored. The purpose of this paper is to discuss that existence of intermediaries between platform and end-users in two-sided market is one of the factors that influences on the market concentration and price-level.

This paper derives suggestions for econometric modeling of demand in a TV-advertising market as a two-sided market with the presence of media sales houses (intermediaries who sell advertising slots of a particular channels). We use panel data on fifteen TV channels in Russia(Yekaterinburg) that spans the period January 2011–October 2016 and present our econometric analysis. The data is particularly interesting as we observe a period of January 2015-March 2015, when the Federal Law of Advertisement has been changed dramatically and market structure changed (for three months the market of TV advertisement was monopolized - one monopoly sales house sold out the advertisement on all TV channels, and after that in April 2015 this market has become an oligopoly market again).

We estimate the demand equation of advertisers. The obtained estimates show that the cost per advertisement minute is higher for channels, which do not contract out their ad sales. And the prices in concentrated market (monopoly) are found to be approximately 7% lower compared to oligopoly market.

**Keywords:** two-sided markets, TV advertisement, competition policy, concentration, intermediaries.

## **Introduction**

Nowadays there is no theoretical economic and law bases, which would allow to formulate the criteria of effective market structure for two-sided market on the level of intermediary (between platform and end users). The question of the influence of intermediaries on price making at two-sided market is almost unstudied nowadays. In the existing literature most authors assume that platform interacts with both sides of the market directly, but in practice some two-sided markets use intermediary agents to reach consumers at one side of the market. For example, TV channels, radio-stations, newspapers and websites transfer the right to exclusive sales of advertising opportunities to a group of intermediaries – media sellers. Platforms which sell software and video game consoles also use the services of intermediaries (for example, Nintendo World is the exclusive distributor of Nintendo game consoles).

The given subjects have a particular urgency applied to one of the most important media-segments of advertisement markets – the market of TV advertisement, which is a prime example of a two-sided market. In some countries, the right to trade advertising belongs to media sellers which number is regulated by government. Interestingly, there is no economic theory that would justify the necessity of these intermediaries and their number. The latter creates a serious concern among market participants and antitrust regulators as the number of intermediaries changes over time.

Two types of intermediaries can operate on this market. The first one is a distributor of a TV channel's signal (cable, satellite, IPTV), to whom a TV channel delegates the right to determine the prices that the viewers have to pay. The second one is a media seller – an intermediary which gets an exclusive right to sells advertisement on the certain TV channel.

Two-sided market of TV channels is characterized with a high concentration among intermediaries, both, media sellers and distributors. TV distributors have obtained a gatekeeping position in the TV market of many countries, due to a cost structure of natural monopoly, high economies of scale and high barriers to entry; that make it difficult the introduction of competition. To increase competition among signal distributors the authorities of some countries, for example Spain and USA, are trying to facilitate the access to broadcasting to independent TV channels<sup>1</sup>.

The business of media sellers is also a highly concentrated one, however least studied. Media seller, who specializes in selling ads, has the ability to work with lower costs of "search and bargaining" in the advertising market than an independent TV channel. National TV channels have a head office in the capital, while advertisers geographically can be located in any city in the country. The multiplicity and differentiation of advertisers, in particular, geographical, do the costs

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<sup>1</sup> see Bell at all (2007) for more details

of "search and bargaining" significant. Media seller can sell ads to multiple channels, eliminating the need for an advertiser to negotiate with each channel separately and thus also reduce costs. Seller, working with multiple channels, makes regular similar deals with advertisers, which increases the efficiency of media seller due to the effect of returns to scale. Media seller selling of multiple channels is serving the same advertiser with lower costs, than it each separate channel could do. Thus, the mediators assume legal control of compliance of advertising materials of the Federal law "On advertising": check one ad, the lawyer of the seller approves or rejects its placement on multiple channels.

The media seller gets another advantage while specializing only in the sale of advertising, improving it's skills and competencies and offering better service advertisers. In a sense this is a manifestation of the effect of returns to scale: the volume of orders is high enough, and with every next deal the seller has the ability to use information and skills acquired in the course of previously performed transactions. And we are talking not only about knowledge in the fields of media planning, marketing and advertising, but also about the presence of seller-expert's specific knowledge about the needs of advertisers (their target audience, previous experience of advertising campaigns and their impact, budget, etc.). Finally, monopolization of the business of media seller are also defined by specific features of the market: the impossibility of storing the product, the non-uniformity of demand over time (peak demand) and space (local specificity).

Media sellers are widely presented in the TV advertisement markets of Spain, Germany, Romania, China, Russia, etc. The number of media-sellers differs across countries and changes over time. A high concentration of media sellers raises a serious concern as evidenced by numerous changes in antitrust legislations.

The expansion of antimonopoly regulation of services for the distribution of television advertising in Russia occurred on January 1, 2011. In accordance with the amendments to the Federal Law "On Advertising"<sup>2</sup> dated December 18, 2009, federal television channels are not entitled to enter into contracts for the provision of advertising services with a media seller occupying a predominant position in sphere of distribution of television advertising. In the period 2011-2015 formal requirements of the Federal Law "On Advertising" were fulfilled: four media dealers worked on the market («Videointernational», «Alkasar», «Everest-S», «RTR-Media»).

Later, on July 4, 2014, the amendments to the Federal Law "On Advertising" were abolished, which again led to an increase in monopolization in the TV advertisement market. Since January

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<sup>2</sup> About changes in p. 14, 33, 36 of Federal Law «About Advertisement»: Federal Law of Russian Federation from 18.12.2009 №354 // Rossiskaya Gazeta.-2009 – 29 December. –pp.11. [in Rus].

2015, a monopolist seller was created on the Russian TV-advertising market - the company "VI", but three months later the largest media seller ceased to exist, the market returned to its original state - to the oligopoly.

Since January 2017 and to this day a single seller operates in the market of all on-air federal television channels: LLC "National Advertising Alliance".

Table 1. Chronology of changes in the market structure in the two-sided market of TV advertising at the level of an intermediary in Russia from 1992 to 2017.

	Market structure						
	Duopoly	Monopoly	Duopoly	Oligopoly	Monopoly	Oligopoly	Monopoly
Period	1992-1998	1998-2006	2006-2011	2011-2015	January-march 2015	April 2015-2016	2017-now
Media seller	Video-international, Premier-SV	Video-international	Video-international, Alkasar	Video-international, Alkasar, Everest-S, RTR-Media	VI	Video-international, Alkasar, Everest-S, RTR-Media	National Advertising Alliance

Previous attempts to regulate the number of media sellers seem to have no consistent economic reasoning since the antitrust legislation was not persistent and effective. As a result, the questions what market structure is optimal at the level of media sellers and how do the changes of media sellers concentration influences on prices remain unclear.

### Literature review

Economic analysis of advertising begins with Marshall (1890, 1919) and Chamberlin (1933), and is further developed by Stigler (1961), Comanor and Wilson (1969, 1974), Sutton (1974), Anderson and Renault (2006), Etro (2014) and others. These seminal articles pointed out main views on advertising and its effects on welfare and competition.

Economic analysis of two-sided markets was introduced in Roche and Tirole (2003, 2006), Evans (2003), Caillaud and Jullien (2003). This topic has immediately attracted many economists and consequently the amount of papers devoted to two-sided markets increased dramatically. One of the recent important works is of Weyl (2010) who investigates pricing in multisided platforms.

Different aspects of the functioning of TV advertising industry as a two-sided market are considered extensively in recent literature: Goatler (2001), Andersen and Kout (2005), Gantman and Shy (2007), Armstrong (2006), Peitz and Valletti (2008).

However, there is no research devoted to intermediaries in two-sided markets, which, for instance, exist in TV industry typically in most countries. The only papers to model a media

industry with an intermediary distributor are Crawford and Cullen (2007), and Crawford and Yurukoglu (2012). They investigate bundling strategies by TV distributors, but do not use a framework of two-sided markets and thus TV advertising market is not taken into account. Extremely scarce is the literature that examines pricing in two-sided markets involving a platform and an intermediary.

The paper of Berg et al. (2012) is a pioneer article to analyze the strategic interaction between intermediaries and a platform. The authors consider a case of two competing distributors of one independent TV channel. The authors assume that the distributors set end-user prices for viewers while the TV channel sets advertising prices. Their main result is that the distributors have incentives to internalize a negative externality imposed on viewers with TV advertising, but no incentives to internalize the effect of the TV channel's profit from advertising which is affected by end-user prices. The presence of an intermediary and imperfect vertical coordination between a TV channel and a distributor leads to three interesting results: end-user prices may be higher in a TV channel with ads than without ads; distributors may make a positive profit even when they are perfect substitutes; and an advertising cap may be welfare improving even when the non-regulated advertising level is too low compared to the social optimum.

First identified in Berg et al. imperfect vertical coordination is studied in Kind et al. (2014). The paper shows that these coordination problems hamper platforms to coordinate prices in two-sided markets. When two platforms let an independent distributor to set viewer prices in order to reduce competition between TV channels in the market of viewers, it does not lead to a la cartel outcome (as it could be in one-sided market). The problem is that interfirm price coordination on one side of the market complicates intrafirm price coordination. The authors show that this may lead to inefficiently high generalized prices, and possibly more if the wholesale contracts between a distributor and a TV channel consisted of a two-part tariff rather than a simple fixed fee.

Gabrielsen et al. (2015) also shows that the presence of intermediaries in two-sided markets creates an additional externality to platforms. The paper studies how competing platforms can internalize the externalities by imposing resale price maintenance (RPM) on intermediaries. RPM allows platforms to fully appropriate the revenue from both sides of the market, realizing her own incentives, and thus to restore its monopoly profits. The authors also derive welfare effects of RPM for some utility functions and find that when cross-group network externalities are positive in both ways, there is a threshold degree of platform competition above which RPM reduces welfare; when platform competition is higher than the threshold, RPM always improves the surplus.

To conclude, all models of two-sided markets with a platform and intermediaries presented above do not take into account a number of important factors. Firstly, intermediaries do not operate at zero costs: the costs of an intermediary specializing in some activity and providing services to

several platforms at once may be lower than a sum of platforms' costs, mainly because of economies of scale. Secondly, it remains unclear how the level of competition among intermediaries affects prices and social welfare. The latter is an important concern of the antitrust policy. The present paper studies a particular type of intermediaries in this market - media sellers - and offers an econometric model that analyzes the functioning of intermediaries and their price effects.

### **The econometric model**

Here we conduct an econometric analysis of the influence of the concentration of media sellers on pricing on the two-sided TV advertising market. We use monthly data on advertising in regional advertising blocks in Ekaterinburg for the period from January 2011 to October 2016 for fifteen TV channels.

The proposed model evaluates the inverse function of aggregate demand of advertisers for contacts with viewers provided by different TV channels and has the following form:

$$lCPM_{it} = a_{it} + \gamma_{it} * Duration\_ad_{it} + \delta_{it} * lag1\_TVR_{it} + \theta_{it} * monopoly_t + \mu_{it} * seller_{it} + \beta_{it} * trade\_p_{it} + \omega_{it} * bc_{it} + \varepsilon_{it} \quad (1),$$

Where  $lCPM_{it}$  – logarithm of the cost of placing one second of the commercial on the channel  $i$  at time  $t$ ;

$a_{it}$  – constant;

$lDuration\_ad_{it}$  – logarithm of the number of seconds sold by the channel  $i$  for advertising at time  $t$ ;

$lag1\_TVR_{it}$  – lag variable, rating of channel  $i$  at time  $t - 1$  (the rating shows the percentage of the audience watching the channel in average for one minute, the total number of residents aged four years and older);

$monopoly_t$  – dummy variable, which is equal to 0, if in a given month there were several media sellers on the TV advertising market or equal to 1, if in a given month there was a single media seller on the market;

$seller_{it}$  – dummy variable, which is equal 0 if the channel sells advertising opportunities through an external media seller, or variable is 1 if the channel sells advertising on its own;

$trade\_p_{it}$  – the volume of retail trade per capita Sverdlovsk region in rubles;

$bc_{it}$  – the percentage of viewers of the  $i$ -th channel at the age of 25-55 years with income average or above;

$\varepsilon_{it}$  – the regression residuals.

Modeling of the reverse function of advertising demand will be explained, first of all, by

the research objectives: only such specification of the model will allow to estimate: how the cost of advertising changes when the concentration changes in the market of media sellers and how the presence of an intermediary in the market affects the price.

Secondly, media channels and TV channels determine the cost of advertising, based on the fixed size of the advertising offer. The offer of advertising time on the TV channel is practically inelastic, due to the fact that the Federal law "on advertising" determines that the total duration of advertising distributed in the TV program should be no more than 9 minutes per hour.

Table 2. Variables and data source

Statistical characteristic	The designation of the variable	Data source
Logarithm of the cost of placing 1 second of the commercial	ICPM	Project TV Index, TNS Russia
Logarithm of the number of seconds sold by the channel i for advertising	IDuration_ad	Project TV Index, TNS Russia
TV channel's rating	TVR	Project TV Index, TNS Russia
Dummy variable the presence of a single media seller on the market	Monopoly	The Alliance of media sellers "Alliance TV+"
Dummy variable, which is equal 0 if the channel sells advertising opportunities through an external media seller	seller	The Alliance of media sellers "Alliance TV+"
The volume of retail trade per capita Sverdlovsk region in rubles	Trade_p	The Federal state statistics service for Sverdlovsk region
The percentage of viewers of the channel i at the age of 25-55 years with income average or above	bc	Project TV Index, TNS Russia

Table 3. Statistical characteristics

Statistical characteristic	Number of observations	The average value of the variable	Standard deviation	Minimum value	Maximum value
1	2	3	4	5	6
Logarithm of the cost of placing 1 second of the commercial.	1050	3.87	1.21	1.18	7.12
Logarithm of the number of seconds sold by the channel i for advertising	1050	11.17	0.54	9.49	12.92
TV channel's rating	1050	.81	.81	.01	3.13
Dummy variable the presence of a single media seller on the market	1050	.03	.16	0	1

Dummy variable, which is equal 0 if the channel sells advertising opportunities through an external media seller	1050	.25	.43	0	1
The volume of retail trade per capita Sverdlovsk region in rubles	1050	18.29	3.81	9.4	28.72
The percentage of viewers of the channel i at the age of 25-55 years with income average or above	1047	46.73	7.19	25.7	73.14

Empirical estimation of equation (1) expects the following values of angular coefficients:

$\gamma_{it} < 0$  – it is assumed that the coefficient for the variable amount of sold advertising will be negative due to the implementation of the law of demand. The theoretical substantiation of the inverse dependence of the volume of advertising demand and advertising prices is demonstrated in the work of Andersen and Coate(2005). This hypothesis has been tested in Wilbur's(2003) work.

$\delta_{it} > 0$  – it is expected a significant positive sign in the coefficient of the variable rating of the channel, because the greater the percentage of the audience watching the channel i, the more interesting the channel for the advertiser, the higher the desire of the advertiser to pay for the channel. Theoretical substantiation of this hypothesis is presented in the paper Andersen and Coate. Empirical testing of the hypothesis is presented in the paper Kasuga and Shishikura(2006).

$\theta_{it} > 0$  – it is expected that the higher the concentration on the market of media sellers, the higher the cost of advertising; this hypothesis has not previously been considered in the literature either from the theoretical or empirical point of view.

$\mu_{it} > 0$  – it is assumed that the sale of advertising through the internal sales Department is carried out at a higher price than when selling through an external seller. This hypothesis has not been previously considered in the literature either from the theoretical or empirical point of view.

$\beta_{it} > 0$  – it is assumed that the coefficient for the variable retail turnover per capita will be positive, because the higher the population's spending on the purchase of goods in the region, the higher the possible additional revenue of enterprises from attracting additional customers through advertising, and the higher the desire and ability to pay for advertising; this hypothesis was not considered in theoretical studies. In empirical work of Hammervold and Solberg(2006) the positive relationship between the level of GRP and the cost of advertising is shown. In this study, we have considered monthly data for the market of TV advertising, but monthly data on the



volume of GRP of the Sverdlovsk region is not in the form of statistical compilations, because it uses monthly data on retail trade turnover.

$\omega_{it} > 0$  – it is expected that the more the channel's most solvent audience aged 25-55 years with an average income and higher, the greater the desire to pay for advertising on this channel. This hypothesis was not considered in theoretical studies, but was tested in the following empirical papers: Wilbur (2008), Kasuga and Shishikura(2006).

For econometric analysis of equation (1), three main regressions were evaluated: linear regression with least squares method, regression with fixed individual effects, and regression with random individual effects.

Table 4. The results of the econometric regression estimations

Estimation method, independent variables	The dependent variable is the cost of one advertising seconds, RUB.			
	1	2	3	4
Method of estimation	Regression with least squares method	Regression with random effects	Regression with fixed effects	
Logarithm of the number of seconds sold by the channel i for advertising	-0.0037 (.00005)	-0.0053 (.00008)	-0.0054 (.00009)	
TV channel's rating	124.00 (3.57)	113.19 (8.16)	100.73 (10.55)	
Dummy variable the presence of a single media seller on the market	-7.14 (1.77)	-6.85 (1.18)	-6.23 (1.15)	
Dummy variable, which is equal 0 if the channel sells advertising opportunities through an external media seller	44.44 (6.68)	64.04 (15.19)	91.24 (19.43)	
The volume of retail trade per capita Sverdlovsk region in rubles	–	–	–	
The percentage of viewers of the i-th channel at the age of 25-55 years with income average or above	–	–	–	
Constant	36.87 (13.55)	56.15 (16.09)	56.15 (16.09)	
R <sup>2</sup>	0.61	0.59	0.54	

Note 2: All values are significant at 5% level; «–» means that a parameter is not significant.

To select the most adequate regression, a pairwise comparison of the evaluated models was performed.

Wald's test tested the hypothesis that all individual effects are equal to zero. Since the p-level is <0.01, the main hypothesis is rejected. Thus, a regression model with fixed effects is better suited for describing data than a model of end-to-end regression.

With the help of the Breusch-Pagan test, the presence of a random individual effect was checked. Since the p-level is  $< 0.01$ , the main hypothesis is rejected, therefore, the model with random effects describes the data better than the model of continuous regression.

The results of Hausman's test indicate that in this case a model with fixed individual effects is suitable.

As a result of the evaluation of equation (1), a statistically significant relationship between the cost of advertising and the rating of the channel is determined, with the growth of the rating of the channel by 1 unit, the cost of advertising on this channel increases by 100%. This coefficient also makes it possible to estimate the value of the external effect for advertisers from the channel consumption by viewers and characterizes how the volume of additional advertiser's profit from advertising on channel  $i$  increases with the number of viewers of this channel.

The results of the evaluation of the demand feedback function show a significant feedback between the cost of advertising and the volume of advertising (-0.00054). Advertising on the TV channel creates a negative external effect for viewers, respectively, this effect is taken into account by TV channels and media sellers in determining the cost of advertising. TV channels with less advertising set higher prices for advertisers.

Variables "retail sales" and "percentage of the spectators of the channel  $i$  at the age of 25-55 years with income average or above" are not statistically significant.

The results of the calculations indicate that the TV channel, which independently sells advertising opportunities, sells its advertising services at a higher price than the TV channels that use the services of an external media seller (dummy variable for the implementation of advertising opportunities of the channel through the internal sales department or external seller is positive and statistically significant).

The lower cost of advertising through seller may be associated with the following factors: savings on scale; the fact that the media seller sells advertising in "sets; the fact that seller determines the cost of advertising without regard to the external effect, which has a change in the volume of advertising messages broadcast channel on the demand of viewers for this channel.

The coefficient for the presence of a single media seller on the market is statistically significant and negative. Consequently, the creation of a single media channel for all TV channels has led to a decrease in the cost of advertising on TV.

## **Conclusion**

TV advertising industry is a two-sided market where advertisers and viewers are terminal sides and TV channels are platforms. Advertisers are willing to place their advertisements and possess a positive network effect from the number of viewers. In turn, viewers dislike

advertisement and therefore TV channels should produce a quality TV content to make the viewers watch their telecast. In some countries, TV-channels do not directly sell their advertising but delegate this role to media sellers who become a reseller of advertising on an intermediate market. However, the existence of media sellers and their number is a matter of the antitrust policy. Surprisingly, literature on media economics has not yet considered the functioning of TV advertising industry with media sellers. Thus it is of a great interest to study how the traditional operation of TV advertising industry changes if we allow for media-sellers.

In this paper we suggest an econometric model to estimate the influence of the concentration of media sellers on pricing on the two-sided TV advertising market. The results of the calculations indicate that the TV channel, which independently sells advertising opportunities, sells its advertising services at a higher price than the TV channels that use the services of an external media seller. The coefficient for the presence of a single media seller on the market is statistically significant and negative. Consequently, the creation of a single media channel for all TV channels has led to a decrease in the cost of advertising on TV.

One direction for future research is to suggest the model of two-sided market, in which two competing platforms (TV channels) use two independent intermediaries or one common intermediary, and model how the changes of market concentration of intermediaries influences prices and social welfare.

## References

1. Anderson, S.P., Coate S., Market Provision of Public Goods: The Case of Broadcasting/S.P.Anderson, S.Coate// Review of Economic Studies. – 2005. - № 72. - P. 947-972.
2. Anderson, S. P., & Renault, R. (2006). Advertising content. The American Economic Review, 96(1), 93-113.
3. Armstrong M (2006) Competition on two-sided markets. RAND J Econ 37(3):668–691
4. Bel, G., J. Calzada, and R. Insa (2007), "Access Pricing to a Digital Broadcasting Platform", Journal of Media Economics 20, 29-53.
5. Bergh, H. N., Kind, H., Reme, B., Sorgard, L. Competition between Content Distributors in Two-Sided Markets/H.N.Berg, H.Kind, B.Reme, L.Sorgard // SNF Working Paper. – 2012. –№ 11/12. – P.1-29.
6. Bernard Caillaud and Bruno Jullien, «Chicken & Egg: Competition among Intermediation Service Providers,» RAND Journal of Economics, The RAND Corporation, vol. 34(2), pages 309-28, 2003.

7. Chamberlin, E. H. (1933). *The theory of monopolistic competition* (Vol. 6). Cambridge, MA: Harvard University Press.
8. Comanor, W. S., & Wilson, T. A. (1969). Advertising and the advantages of size. *The American Economic Review*, 59(2), 87-98.
9. Comanor, W. S., & Wilson, T. A. (1974). Advertising and market power (No. 144). Harvard University Press.
10. Crawford, G.S. and J. Cullen (2007), "Bundling, Product Choice, and Efficiency: Should Cable Television Networks Be Offered a- la Carte?", *Information Economics and Policy* 19, 379-404.
11. Crawford, G.S. and A. Yurukoglu (2012), "The Welfare Effects of Bundling in Multichannel Television Markets", *American Economic Review* 102, 643-685.
12. Etro, F. (2014). Some thoughts on the Sutton approach. *Journal of Economics*, 112(2), 99-113.
13. Evans, D.S. *The Antitrust Economics of Multi-Sided Platform Markets // Yale Journal on Regulation*. – 2003. - № 20 (2). – Pp. 325-381.
14. Gabrielsen T.S., Bjorn O. J., Teis L. L. Resale price maintenance in two-sided markets. *Working Papers in Economics, Department of Economics, University of Bergen No 08/15, 2015*
15. Gantman N. and O.Shy *Broadcasting Competition and Advertising Quality: A Two-sided Market Approach 2007, Unpublished Paper*
16. Glen Weyl, "A Price Theory of Multi-Sided Platforms," *American Economic Review*, 2010, 100(4).
17. Goettler, R.L., Shachar, R. *Spatial Competition in the Network Television Industry/R.L. Goettler, R.Shachar// RAND Journal of Economics*. – 2001. - № 32 (4). – P. 624-656.
18. Hagiu, A. *Merchant Or Two-Sided Platform?//Review of Network Economics*. – 2007– №6(2). – pp.115-133.
19. Hammervold, R., & Solberg, H. A. (2006). TV sports programs – Who is willing to pay to watch? *Journal of Media Economics*, 19, 147-162.
20. Kasuga, N., & Shishikura, M., (2006). Determinants of profit in the broadcasting industry: Evidence from Japanese micro data. *Information Economics and Policy*, 18, 216- 228.
21. Kind, H., Nilssen, T., Sorgard, L. *Inter-Firm Price Coordination in a Two-Sided Market./H.Kind, T.Nilssen, L.Sorgard*. - Bergen, 2014.
22. Marshall, A. (1919). *Industry and Trade: A Study of Industrial Technique and Business Organization; and of Their Influences on the Conditions of Various Classes and Nations*. MacMillan and Co., London.

23. Peitz, M. and T. M. Valletti (2008): "Content and advertising in the media: Pay-TV versus free-to-air", *International Journal of Industrial Organization*, 26(49), 949-965.
24. Rochet, J.Ch., Tirole, J. An Economic Analysis of the Determination of Interchange Fees in Payment Card Systems // *Review of Network Economics*. – 2003–№ 2. – Pp. 69-79.
25. Rochet, J.Ch., Tirole, J. Platform Competition in Two-Sided Markets// *Journal of European Economic Association*. – 2003- № 1. – Pp. 990-1029
26. Stigler, G. J. (1961). The economics of information. *The Journal of Political Economy*, 213-225.
27. Sutton, C. J. (1974). Advertising, concentration and competition. *The Economic Journal*, 84(333), 56-69.
28. Wilbur, K. C. (2008). A Two-Sided, Empirical Model of Television Advertising and Viewing Markets, *Marketing Science*, 27 (3), 356-378
29. Data for the TV advertising market of Ekaterinburg. URL: <http://www.alyanstv.ru/>
30. Data of the media audience, TNS Russia, TV Index project. URL: <http://www.tns-global.ru/>
31. Short-term economic indicators of Sverdlovsk Region website of the Federal state statistics service of Sverdlovsk region and Kurgan region <http://sverdl.gks.ru/>