

The Impact of Market Competition and the Internet on Journalistic Performance in Developing and Transitional Countries

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Abstract: This study uses a sample of national media markets to examine the relationship between increasing competition in the advertising market and overall journalistic performance. The findings suggest that as the news media's share of the advertising market falls in a country, so, too, does the quality of the journalism produced by that country's news media. It suggests that as Internet penetration increases in a country, it negatively affects the overall quality of journalism produced.

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Since the 1990s, media companies around the world have faced an explosion of market competition. The advent of the Internet and low-cost digital production technologies, political change and deregulation in many countries, and the development of new communication devices and applications have lowered barriers to entry into media markets around the world. That, in turn, has vastly increased the competition for audience attention and for audience and advertiser dollars.

Among media experts, there is significant debate about the long-term implications of these changes and whether, on balance, they are positive or negative developments for traditional media and society. Traditional economic theory holds that competition benefits consumers by providing more choice, higher-quality products, and lower prices as producers try to attract customers (Smith, 1776). During the 20th century, much of the research on news media and market competition reached similar conclusions, based on studies of newspapers in markets with low-to-moderate competition (Lacy, Atwater, & Qin, 1989; Lacy & Blanchard, 2003; Lacy & Riffe, 1994; Litman & Bridges, 1986).

In recent years, however, media market conditions have changed dramatically. Worldwide, the number of media outlets continues to expand even as audience-size-per-outlet stagnates or declines (Coffey, 2007; Gross, 2002; European Federation of Journalists, 2004; Foster, 2012; Hume, 2011; South East Europe Media Organization (SEEMO), 2005; UNESCO, 2012). At the same time, low-cost production technologies and distribution platforms have exponentially increased the number and diversity of news sources and viewpoints available in the marketplace of ideas, although there is considerable debate about the quality of some the information thus distributed.

What is clear, however, is that in many countries, the fragmentation of audiences and advertisers across this new competition has reached the level where the survival of numerous individual media companies and, arguably, entire media sectors, is questionable. Indeed, in 2014, UNESCO began

developing an index of media “sustainability” or “viability”¹ to be added as a new chapter to its existing Media Development Index (MDI). UNESCO’s move was in response to media experts who had argued that in the 21st century, assessing the economic conditions under which media operate and the prospects for their long-term viability was a necessary part of assessing national media development.

Of particular concern in discussions of media viability are news media because of the critical role journalism plays in society, government and economic development (Compaine, 1985; World Bank, 2002). Much has been written about the shrinking news audience that has become apparent in many countries (Mindich, 2005; Patterson, 2000; Potter, 2000). Far less attention has been paid to the increased competition for advertising revenue that news media face and the impact competition in the advertising market has on the quality of journalistic performance.

This study addresses that research question using a sample of national media markets to examine the relationship between increasing competition in the advertising market and overall journalistic performance.

Previous Research

In classical economics, competition is defined as substitute products that provide the buyer with similar utilities at a similar price. Since the 1960s, a significant body of research has examined the effects of competition on the quality of journalism produced by news organizations. That work suggests that as compared to monopoly markets, low-to-moderate competition improves journalistic quality as measured by such things as balance and fairness, lack of sensationalism, strong local news coverage, accuracy, relevance, comprehensive coverage, coverage of stories of interest to different groups in society, presentation of multiple points of view, and coverage that helps readers develop a sense of common values and community (Becker, Beam & Russial, 1978; Bae, 2000; Bogart, 1989; Cho, 2002;

¹ At this writing, whether the new chapter in the MDI will be termed “media sustainability” or “media viability” is still being debated. The goal of the new chapter is to measure the ability of a nation’s media to provide journalism of a quality that supports national development, and not just its ability to simply survive regardless of content.

Gladney, 1990, 1994; 1996; Just, 1999; Kenney & Lacy, 1987; Lacy, Fico, & Simon, 1989; Rarick & Hartman, 1966; Rosenstiel, Gottlieb, & Brady, 1999).

The mechanism by which competition affects media content quality has been called the “financial commitment model,” which suggests low-to-moderate competition results in media organizations increasing their financial investment in content quality as a competitive strategy (Lacy, 1989, 1992, 2000; Litman & Bridges, 1986). That, in turn, can improve circulation and ratings and, therefore, financial performance (Cho, Thorson, & Lacy, 2004; Chen, Thorson, & Lacy, 2005; Just, 1999; Lacy & Fico, 1991; Powers, 1993; Rosenstiel, Gottlieb, & Brady, 1999; St. Cyr, Lacy, & Guzman-Ortega, 2005). But economic theory argues that media organizations’ financial commitment to content quality depend on positive financial returns from the investment and, ultimately, the overall level of profit a media organization achieves (Lacy & Riffe, 1994; Lacy & Blanchard, 2003; Waterman, 1989/90; Wildman & Siwek, 1988).

Since the advent of the publicly accessible Internet in the mid-1990s, research on media competition also has examined the impact of high-levels of media competition on content quality in both news and entertainment markets. That work suggests that high levels of competition can result in lower-quality content (Hollifield, Vlad & Becker, 2004; Hollifield, Becker & Vlad, 2006; Jacobsson et al., 2008; Becker et al., 2009; van der Wurff & van Cuilenberg, 2001). Those studies have found that as high-levels of competition erode the financial strength of media organizations, media begin producing low-cost, lowest-common denominator content. In news media, the result can be more focus on crime, celebrity, sports, and sensationalism and other cheap-to-produce news. Additionally, increased competition has been associated with efforts to reduce overhead costs through staff layoffs, reduced salaries, and the hiring of less experienced and less professionally prepared staff members. The result is that journalists in highly competitive, news markets in developing countries may have little professional education or training, which, combined with low wages, may make them susceptible to bribery or other

forms of outside influence and less likely to oppose their employers when the media organization succumbs to influence peddling ” (Hollifield, Vlad & Becker, 2004; Hollifield, Becker & Vlad, 2006; Jacobsson et al., 2008; Becker et al., 2009; World Association of Newspapers, 2014).

There is evidence, however, that the relationship between market competition and journalism performance is complex (Becker et al., 2009, Russi, Siegert, Gerth, & Krebs, 2014). A study using a small sample of Western European newspapers in mostly economically strong countries found that higher levels of competition and competition intensity were associated with higher levels of financial commitment to the editorial budget, so long as the competing newspapers had the resources available to support more investment (Russi, Siegert, Gerth, & Krebs, 2014). The study concluded that resource availability was a key element in determining financial commitment, but that resource availability could be influenced by factors other than competition. Those conclusions were in line with earlier work by this research team, which suggested that market competition alone is insufficient as an explanation of variations in journalism performance across different countries and media systems.

Taken together, however, previous research suggests that the relationship between media competition and media content quality is curvilinear. Low-to-moderate competition appears to produce higher-quality content, while higher levels of competition that begin to erode media organizations’ financial strength and, thus, the resources they need to produce quality content negatively impact measures of journalistic performance (Hollifield, Becker & Vlad, 2006).

Critical to understanding the relationship between market competition and journalism quality is understanding the impact of increased competition on news organizations’ revenue sources. Most news organizations around the world operate, at some level, in a dual-product or two-sided market. That is to say, news, as a product, is created and sold to audiences, while the audiences created by the news products are then sold to advertisers. Although news organizations’ dependence on advertising varies

across national media systems, in most countries, advertising is a key source of the revenue necessary to support news production.

Traditional economic theory models advertising as a nuisance for audiences and argues that news organizations have to balance the need to sell more advertising against the possibility of driving away audiences with too much clutter (Anderson & Coate, 2005). Indeed, early research on the effects of competition on journalistic performance found that even in conditions of low-to-moderate competition, competition was associated with lower total ad lineage, ROP advertising (Shaver & Lacy, 1999), operating margins, cash flow margins, and earnings predictability (Lacy, Shaver, & St. Cyr, 1996). Presumably these findings reflected both the fragmentation of advertisers across multiple sellers and the strategic decisions by media executives to create a favorable balance for audiences between advertising and editorial content.

Prior to the opening of the Internet, however, news media organizations had significant market power in relationship to their advertisers because news markets could be seen as monopolistically competitive. Because each audience member had only a small number of news providers available, news organizations were able to largely monopolize the attention of their respective audiences. The assumption that most audience members subscribed to only one newspaper or tuned into one newscast is known in economic theory as “single-homing behavior.”

The Internet, however, enables audiences to access multiple sources of news with a few clicks of a mouse. This encourages multi-homing behavior, which theory suggests weakens the relationship between individual news organizations and their audiences. As the news organization-audience relationship weakens, so, too, does the news organization’s market power with its advertisers, as it becomes harder for advertisers to reach their target audience through that news outlet. This sequence of events encourages entry by new advertising sellers since audiences are more mobile across content providers (Anderson, Oystein, Kind, & Peitz, 2012). Similarly, the Internet further encourages

advertising market entry because economics demonstrates that entry will occur as long as expected profits exceed costs, and the costs of setting up web sites and apps are lower than acquiring printing presses and broadcast towers. As market entry among advertising sellers increases, the supply of advertising space available increases, resulting in falling advertising prices, particularly among suppliers with lower fixed costs.

In summary, then, both traditional economic theory and more recent economic research that accounts for the Internet predict that increased competition in news markets will lead to a glut of advertising space and lower advertising prices (Anderson & Coate, 2005; Anderson et al, 2012). Both theories predict that media organizations will suffer from more competition. These predictions, when combined with previous research based on the financial commitment model and the relationship between financial performance and news-content quality, suggest that high-levels of competition in news media markets will reduce the quality of the journalism produced and, therefore, be detrimental to audiences and society.

Examination of this body of research leads to the following hypotheses concerning highly competitive markets:

H1: Journalistic performance increases with more advertising expenditure per media outlet.

H2: The development of the Internet will increase media competition and will lead to worse journalistic performance.

Methodology

This study uses analysis of secondary data to test these hypotheses. The research extends the authors' previous work by using direct estimates of annual advertising expenditures in as many countries and across as many years as such data were available alongside standardized measures of national journalism quality. Previously, the authors had used GDP as a surrogate measure for advertising based upon the strong correlation found between annual GDP and annual advertising

expenditures in countries where both figures were available (Hollifield, Vlad & Becker, 2004). That research found weak support for the hypothesis that the relationship between competition and journalism quality is curvilinear. This study uses more direct measures and more cases to revisit the question.

The data for this project were gathered from a variety of sources. Key measures of both independent and dependent variables were taken from the International Research and Exchanges Board (IREX) Media Sustainability Index. IREX is a non-profit organization based in Washington, D.C., that focuses on higher education, independent media, Internet development, and civil society in the United States and internationally.

In 2001, in cooperation with USAID, IREX developed a Media Sustainability Index (MSI) to evaluate the global development of independent media (IREX, 2001). That initial report focused on 20 countries in Europe and Eurasia. In 2005, IREX gathered data in an additional 18 countries in the Middle East and North Africa (IREX 2006 MENA). In 2006 and 2007, the project grew to include 37 countries in Sub-Saharan Africa (IREX, 2008 AFRICA). The most recent reports are EUROPE AND EURASIA 2014 (for year 2013), AFRICA 2012 (which covers 2012 through online country reports online), and MENA 2010-2011 (which covers 2010 and has country reports online).

IREX assesses media sustainability using five objectives: 1) legal and social norms that protect and promote free speech and access to public information; 2) journalism that meets professional standards of quality; 3) multiple news sources that provide citizens with reliable and objective information; 4) media that are well-managed businesses, allowing editorial independence; and 5) supporting institutions that function in the professional interests of independent media. The countries' media systems are assessed based on up to nine indicators for each of the five objectives. Some indicators have been added or redefined across time. The range of scores is from 0 to 4 for each indicator. The scores for all the indicators for each objective are averaged to obtain a single score for the

objective.

To score a country, IREX assembles in each country a panel of experts made up of local media representatives, members of NGOs and professional associations, and academic institutions. Each panel is given the objectives, indicators and explanation of the scoring system. Panelists review the information individually, then assemble to discuss the indicators and objectives. A written analysis of the discussion is sent to IREX. IREX staff in-country and in Washington, D.C., also review indicators and objectives, scoring countries independently. The final score for a country is an average of the panel score and the IREX staff score.

The second criterion, journalism that meets professional standards of quality, is a measure of professional performance and serves as the key dependent variable for the analyses that follow. The criterion contains the following eight criteria: 1) Reporting is fair, objective, and well sourced; 2) journalists follow recognized and accepted ethical standards; 3) journalists and editors do not practice self-censorship; 4) journalists cover key events and issues; 5) pay levels for journalists and other media professionals are sufficiently high to discourage corruption and retain qualified personnel within the media profession; 6) entertainment programming does not eclipse news and information programming; 7) technical facilities and equipment for gathering, producing, and distributing news are modern and efficient; and 8) quality niche reporting and programming exists (investigative, economics/business, local, political) (IREX EUROPE AND EURASIA, 2014).

Starting with the EUROPE AND EURASIA Media Sustainability Index 2006/2007, IREX has created a “country at a glance” section that includes data on the number and type of media outlets, and sometimes advertising revenue and internet usage. There is limited consistency in these data within the same country from one year to another and across countries. Sometimes print media are divided into dailies, weeklies and “others;” other times only the total number of publications is listed. In some cases, number of publications registered is mentioned, while in other cases only “active publications” are

counted. Approximations are often used (such as “+100”). The number of television or radio stations is sometimes provided, while licenses are listed in other cases. The lack of consistency is partially due to the extremely fluid media landscape in many transitional countries, particularly where numbers of media outlets are concerned. In Ukraine, for instance, IREX reported 42,500 registered publications in 2012 (IREX, 2014), out of which approximately 3,100 were published periodically. This volatility is the result of a variety of factors, such as the economic and political situation, the elections cycle, and the move from print editions to online editions.

Some emerging democracies have recently created institutions that record number of media outlets, circulation, distribution and audiences. The results that they produce are even more questionable than the IREX ones, so the IREX measures were used as one of the independent variables in the analysis.

Data on advertising expenditures in the countries studied were obtained from ZenithOptimedia, a global media services network (Austin, Barnard, Hutcheon, 2014). ZenithOptimedia offices buy media campaigns in every country covered by the report, gathering historical ad expenditure figures from the sources in each country deemed most reliable. The figures are as net as possible – that is, they take the discounts negotiated between agency and media owner into account, and exclude agency commission and production costs, where possible. The net figures are generally compiled by an independent body that conducts a survey of advertisers, advertising agencies and media owners.

Figures in the ZenithOptimedia report that are in constant prices are adjusted for consumer price inflation (Austin, Barnard, Hutcheon, 2014). For those markets where expenditure are measured and supplied in U.S. dollars rather than in local currency, ZenithOptimedia applied the U.S. inflation index to calculate the relevant constant price data. ZenithOptimedia converted local-currency figures into U.S. dollars at the average exchange rate for 2012. The company reports that it does not apply different exchange rates to different years since currency fluctuations can obscure the underlying trends

in ad expenditure.

To create the sample for the study, countries were examined to determine if data were available for each of the variables measured. In the end, 21 countries had sufficient advertising data from ZenthOptimedia and journalistic performance data from IREX for inclusion in the study. These 21 countries are shown in Table 1.

INSERT TABLE 1 HERE

Included are two African countries, Egypt and South Africa, 10 Asian countries, including three from Asia Minor (Armenia, Azerbaijan and Georgia), one Central Asian country (Kazakhstan), five from the Middle East (Bahrain, Kuwait, Lebanon, Oman and Qatar), eight Eastern European countries (Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Moldova, Romania, Serbia and Ukraine) and Russia, which spans Europe and Asia. While these are not a probability sample of the roughly 200 nation states of the world, they do represent diversity in geography and cultures.

It must be noted that the data are far from perfect. In addition to the volatility in national media landscapes and the variance in how IREX reports numbers of media in different countries that already have been noted, there are other issues. The national advertising expenditure data cannot capture the distribution of advertising revenues across media. The model used here assumes all media have access to and compete for annual advertising expenditures and that advertising market-share is thus evenly distributed across media in a country. In fact, however, in some countries such as many from the former Soviet region in Asia, the central or local administration controls a large portion of total national advertising expenditures either directly or through advertising by state-owned companies or firms controlled by business people with close ties to the government. The government uses that power to fund a selected group of pro-government media outlets at the expense of more independent media. Other internal structures exist that distort advertising markets in some countries. Such individual conditions are not controlled in the available data.

Findings

As previously outlined (Jacobsson & Jacobsson, 2003; Hollifield, Becker & Vlad, 2006; Becker et al., 2009), we are critical of the common notion that more media (outlets) are always better than fewer for audiences and society. Moreover, we believe that if there were an ideal number of media outlets for a given country, that number would be a function of many things, where one crucial factor would be the level of revenues for media organizations, such as subscription fees and advertising expenditure.

Further, we argue that the development of the Internet has increased competitive pressures and shifted advertising resources from traditional news media companies to Internet-based non-news media outlets such as for example search engines .

Comparative Case Study Analysis

The first step in the analysis was to examine the relationship between advertising revenue per media outlet (see below for a more precise definition of this measure) and journalistic performance in the 21 countries for which data were available. Those countries were clustered by region and then subregion as shown in Table 1. Figures 1-21 show the data from these analyses.

INSERT FIGURES 1-21 HERE

While it is clear that the analysis is quite limited because of the small number of countries for which data on the ratio between advertising revenue and media outlets are available, it also is clear that not all of the countries follow the predicted pattern. Egypt provides only two data points, and they could be read as supportive. South Africa provides three, and they are less clearly consistent with prediction. Armenia and, more clearly, Georgia are roughly in line with prediction. Azerbaijan and Kazakhstan show periods consistent with the prediction, and periods where the data move in the opposite direction. The limited data points for Bahrain, Kuwait, Lebanon, Oman, Qatar and the United Arab Emirates make it difficult to examine the relationship, though Qatar is clearly consistent with expectation. Belarus is at odds with expectation, as is Bosnia and Herzegovina. Bulgaria and Croatia are more consistent with

expectation. The lines for Moldova are opposite to prediction. Romania seems to be supportive, but the small number of data points makes it difficult to argue the case. Serbia and Ukraine, on the other hand, are consistent with the hypothesis, as is Russia, though the data points are very limited.

In an effort to maximize the comparisons, we aggregated the data and conducted additional analyses.

Aggregate Analysis

In this section we will use econometric analytical tools common in economics literature to empirically analyze our hypotheses using our sample of 21 countries.

In a first step, we created a ratio between the level of advertising expenditure in a country and the number of media outlets in that country (*adpermed*). To construct our measure of advertising expenditure-per-media-outlet, we summed advertising expenditure for newspapers, magazines, TV, radio and Internet from the Zenith data set and then divided this sum by the number of total media outlets. We choose these specific expenditure channels as they all contain firms with journalistic products.² Our measure for journalistic performance was the IREX measure of professional journalism (*IREXPJ*).

Where there were data for both *adpermed* and the IREX journalism performance (*IREXPJ*) measure for a country it made a data point. For example, in Romania, we had one data point, for year 2005. In Georgia, we had six data points, for 2004, 2008, 2009, 2011, 2012, and 2013. Overall, this approach gave us 81 data points.

In our second hypothesis, we predict that Internet development will divert advertising expenditure from news-producing media outlets, such as newspapers and their digital companion sites, to Internet-based outlets such as search engines that do not employ journalists. To measure the extent to which the Internet diverts resources from legacy news media, we constructed a measure of the share

² Cinema and outdoor advertising expenditures were dropped from the analysis.

of Internet advertising expenditure by calculating the ratio of Internet advertising expenditure to total advertising (creating the variable *shareint*). We hypothesize that a larger share of Internet advertising expenditures being diverted to online sellers will lead to worse journalistic performance overall.

The Data

The dataset has 21 countries with observations between 2001 and 2014. Table 2 shows summary statistics on our key variables.

INSERT TABLE 2 HERE

As can be seen in Table 2, the mean value of professional journalism is relatively low suggesting that the countries in the sample do not have well developed news media sectors. Further, the index does not vary greatly, as also can be seen in the case study graphs, indicating that professional journalism changes slowly over time. The Zenith variables for advertising expenditure by sector indicate a very large variation in levels ranging between a minimum of \$16 million USD and a maximum of \$10.9 billion USD. As previously mentioned, both the mean and the variation of the total number of media outlets are very high.

To get an overview of the dataset for 21 countries between 2001 and 2013, we first have a look at two scatter plots between our dependent variable for journalistic performance (*IREXPJ*) and the explanatory variables of advertising expenditure per media outlet (*adpermed*) and the share of Internet advertising expenditure (*shareint*). Note that one observation point corresponds to one country for one year:

INSERT FIGURE 22 HERE

INSERT FIGURE 23 HERE

A quick glance at Figures 22 and 23 indicates support for our hypotheses. The simple correlation coefficient between *IREXPJ* and *adpermed* is 0.3052 (statistically significant at the 0.01 level)³ while the correlation between *IREXPJ* and *shareint* is -0.2740 (statistically significant at the 0.0001 level).

Regression Analysis

In order to better estimate the relationships of interest we then used multivariate regression analysis as professional journalism most likely is affected by more than one factor. The analysis began with a simple OLS multiple regression model followed by a panel data regression model with country- and time fixed-effects. The country fixed-effects account for differences between the countries that do not change over time, while the time fixed-effects account for factors that are common across countries but vary across time. The country fixed-effects could, for example, pick up differences in culture, the media institutional setup, political systems, laws etc., while the time fixed-effects could pick up changes in the international economic system, such as the financial crisis in 2009.

Let us first specify a simple regression model without fixed effects;

$$IREXPJ_{it} = \alpha + \beta_1 adpermed_{it} + \beta_2 shareint_{it} + u_{it} \quad (1)$$

The dependent variable is the IREX professional journalism index (*IREXPJ*) where the subscript *i* stands for country *i* and *t* for year. Hence, each observation is one country, one year. On the right hand side α is a constant, which is also the intercept of the estimated regression line. The coefficient β_1 is the effect of the addition of \$1 million US dollars on the dependent variable. The β_2 coefficient is the effect of an increase of the share of Internet advertising expenditure by 1 percentage point on the dependent variable. Finally, u_{it} is the error term.

It is, however, very likely that this multivariate analysis suffers from omitted variable bias as there probably exist variables that affect the dependent variable but are not included in our model. The consequence of this is either over- or underestimation of the coefficients of our included variables. In

³ If we were to drop the outliers with, say *adpermed*>5, then the picture would be even clearer.

our sample, it is likely that different countries exhibit different characteristics, or cultures, that do not change much, or at all, over time. These characteristics are also likely to affect our dependent variable. One way of accounting for this problem is, as previously mentioned, to specify a model using panel data techniques with country and time fixed effects as in equation 2:

$$IREXPJ_{it} = \alpha_i + \beta_1 adpermed_{it} + \beta_2 shareint_{it} + year_t + u_{it} \quad (2)$$

The fixed-effects model in equation 2 differs in two respects from the model in equation 1. First, as we now include country fixed-effects, the model will calculate one intercept per country, and so α thus becomes α_i . Again, this will account for country-specific factors that do not change over time. Further, we now have time fixed-effects captured by the $year_t$, which captures factors that affect countries equally but varies across time.

As can be seen in the case study section, there is quite a lot of noise in the individual countries with respect to the data on the IREX professional journalism index and especially so with respect to the measure of advertising expenditure per media outlet. This, together with very short time-series on the country level will make year-to-year analysis problematic especially since some of the time series even have gaps in them. In order to reduce the level of noise we create two average values for each country and each variable in our analysis. That is, for the variables $IREXPJ_{it}$, $adpermed_{it}$ and $shareint_{it}$, we create one average for the years 2001-2005 and one average for 2009-2013 by country. Using these two observations per country, we run the fixed effects regressions. Hence, we gain by reducing noise but lose many observations.

We summarize the results from the different model specifications 1-4 in Table 3.

INSERT TABLE 3 HERE

In model 1, which corresponds to equation 1 less the variable $shareint_{it}$ we see a positive and statistically significant relationship between our independent variable and advertising-per-media-outlet. The interpretation is that the addition of each \$1 million US dollars-per-media-outlet will, on average,

increase the professional journalism index by 0.06 units. Considering that the average value of the IREX professional journalism index is 2.018 this represents an increase of about 3%. The constant implies, unrealistically of course, that if we were to have zero dollars per media outlet, we would achieve an average index of 1.774.

Controlling for the share of Internet advertising in model 2 reduces the impact of *adpermed_{it}* slightly and also reduces the level of significance, implying that the variable *shareint_{it}* should be included in the model. Further, the coefficient of *shareint_{it}* implies that if the share of advertising increases by one percentage point, the IREX index would decrease by 0.0229 (which corresponds to a relative change of about 1.1%). This coefficient is significant at the 0.05 level. Hence, the results of the first two models support both our hypotheses.

We should note, though, that the explanatory power of these models is quite low with an R^2 of 0.0931 and 0.1470 respectively. This, among other things, suggests that we have not included all relevant variables and the estimates may therefore be over- or underestimated. Naturally, it is very difficult to compare different countries with different cultures and institutions. One way of compensating for that is using panel data analysis with fixed effects, which we now turn to in models 3 and 4. We can immediately see that the coefficient for *adpermed_{it}* does not change by much from models 2 to 3 and 4, which is reassuring. However, the coefficient becomes statistically insignificant in models 3 and 4, which is not completely surprising as the number of observations in models 3 and 4 is only 30. We can see that the coefficient of our other variable of interest, *shareint_{it}*, shrinks (or more correctly, becomes less negative) in model 4 as compared to model 2 and also loses its statistical significance. However, it remains negative.

The regression analysis thus lends some support to both our hypotheses, even though the small number of cases makes it impossible to establish that support with statistical certainty. The loss of statistical significance in the fixed effects models indicates that our modeling needs further work. One

obvious problem is the “noisiness” of the “number of media outlets data,” in particular. More accurate estimates of the number of media outlets would help a lot in gaining precision but also in terms of the number of observation points. As is evident in our analysis, we need to reduce the noisiness by creating averages, which in turn dramatically reduces the number of observations and in turn, statistical power. One way of further reducing data noisiness and illustrating the between-country differences is to construct average values for the entire period between 2001 and 2013 for our key variables. Figure 24 shows this for the variables of professional journalism and advertising per media outlet.

INSERT FIGURE 24 HERE

The figure seems to cluster individual countries in groups based on geographic and cultural closeness. The specific mechanisms behind this clustering are beyond this paper but would be an interesting avenue for further research.

An additional issue affecting the ability to establish significance is the relative lack of variance in the data available on journalistic performance. IREX and other media development NGOs focus their efforts in developing countries where the conditions of journalism production are challenging. Thus, measures of journalism performance in developed countries such as those in North American and Western Europe that are consistent with the indices developed for developing countries are unavailable. Consequently, the cases used in this analysis are clustered at one end of the media performance scale. The small range of variance in the dependent variable influences the outcome of statistical tests.

It would also be very helpful to have data on media market concentration and media firm-level advertising expenditures. This would, for example, enable us to separate out countries that have identical numbers of media firms but different levels of advertising market share. In other words, in some countries, advertising expenditures may be unevenly distributed, with a small number of big firms (oligopoly setting) claiming most of the market share, while in other countries the firms all have more or less equal shares of total advertising expenditures (more of a perfectly competitive setting). We

hypothesize that the level of market concentration is yet another omitted variable that affects our independent variable.

Another weakness in our analysis is the possibility of reverse causality, that is, the dependent variable might cause changes in one or more of the independent variables. For example, according to the financial commitment approach (Lacy, 1989, 1992, 2000; Litman & Bridges, 1986), news media firms compete for advertising revenues by enhancing journalistic performance. Possible remedies for these kinds of problems are performing instrumental variable analysis or finding data in a natural experiment setting, both of which are, as far as we know, quite difficult.

Conclusions

Despite the analytical limitations posed by the availability and quality of the data needed to study these research questions, the findings in this work were consistently in the directions hypothesized. The study suggests that as the news media's share of the advertising market falls in a country, so, too, does the quality of the journalism produced by that country's news media, although changes in media quality can be slow. Additionally, the study suggests that as Internet penetration increases in a country, it negatively affects the overall quality of journalism produced, presumably by siphoning off advertising revenue that previously had been captured by news media organizations. It must be noted, however, that the relationships found were weak, suggesting that there are intervening variables that were not included in the model.

In general, however, this study provides at least some additional support for the contention that, contrary to traditional economic theory, high levels of competition can be detrimental to the production of high quality journalism – particularly where Internet competition influences advertising market share. These findings are consistent with the authors' previous work regarding the relationship between market competition and journalistic performance, particularly in developing countries

characterized by high levels of competition (Jacobsson & Jacobsson, 2003; Hollifield, Becker & Vlad, 2006; Becker et al., 2009)

Although the scope and quality of data on media market conditions and journalism performance in countries around the world pose major challenges to the ability to study media viability issues, those issues remain critical to both media industries and society. Media experts who have been involved in developing UNESCO's new MDI chapter on media viability have noted that simply identifying the key variables necessary to media viability is, in itself, insufficient to the goals of measuring media viability in individual nations and the impact of those market conditions on the media's contributions to democracy, human rights and economic development (Personal Communication, 2015). The critical next step in media viability assessment, some of those experts have argued, is to develop specific benchmarks that account for the interplay of the economic, technical and regulatory conditions across different countries and thereby improve our understanding of the relationships between market conditions and journalism performance. This study makes a small first contribution to that effort by testing the impact of advertising market share and Internet penetration on journalism performance in a sample of developing countries. In addition to challenging the idea that increasing news media competition is always beneficial to society, the findings also suggest a number of additional variables that should be introduced into future models of news media viability.

Hence, we look forward to continuing our research on this critically important topic.

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Table 1: Countries in sample

| Country | Region | Sub Region |
|----------------------|---------------|-----------------------|
| Egypt | Africa | North Africa |
| South Africa | Africa | Sub Saharan Africa |
| Armenia | Asia | Asia Minor |
| Azerbaijan | Asia | Asia Minor |
| Georgia | Asia | Asia Minor |
| Kazakhstan | Asia | Central Asia |
| Bahrain | Asia | Middle East |
| Kuwait | Asia | Middle East |
| Lebanon | Asia | Middle East |
| Oman | Asia | Middle East |
| Qatar | Asia | Middle East |
| United Arab Emirates | Asia | Middle East |
| Belarus | Europe | Eastern Europe |
| Bosnia & Herzegovina | Europe | Eastern Europe |
| Bulgaria | Europe | Eastern Europe |
| Croatia | Europe | Eastern Europe |
| Moldova | Europe | Eastern Europe |
| Romania | Europe | Eastern Europe |
| Serbia | Europe | Eastern Europe |
| Ukraine | Europe | Eastern Europe |
| Russia | Europe & Asia | Eastern Europe & Asia |

Table 2: Summary statistics for key variables

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---------------|-----|-------|-----------|--------|-------|
| IREXPJ | 206 | 2.018 | 0.573 | 0.48 | 3.43 |
| adpermed | 84 | 1.032 | 1.933 | 0.0158 | 12.19 |
| shareint | 261 | 1.539 | 3.242 | 0 | 22.54 |
| TotMed | 93 | 4003 | 11024 | 7 | 66735 |
| ZENTotal | 261 | 825 | 1804 | 16.1 | 10903 |
| ZENNewspapers | 261 | 146 | 220 | 0 | 1001 |
| ZENMagazines | 247 | 83 | 197 | 0 | 1299 |
| ZENTelevision | 261 | 392 | 912 | 3.14 | 5646 |
| ZENRadio | 261 | 57.1 | 141 | 0 | 743 |
| ZENCinema | 261 | 7.8 | 24.1 | 0 | 168.4 |
| ZENOutdoor | 261 | 102.6 | 298.5 | 0 | 2015 |
| ZENInternet | 261 | 40.3 | 216.2 | 0 | 2158 |

Note: the unit for the Zenith measures is Million USD and the unit for the share of internet advertising expenditure out of total expenditure is percent. The unit for adpermed is million USD per media outlet.

Table 3: Results of model specifications 1-4

| Independent variable | (1) | (2) | (3) | (4) |
|---------------------------|------------------------|-----------------------|----------------------|----------------------|
| adpermed _{it} | 0.06233*** (0.0219) | 0.0491** (0.0222) | 0.0537 (0.0443) | 0.03690 (0.0543) |
| shareint _{it} | | -0.0229** (0.0103) | | -0.0049 (0.0070) |
| Intercept | 1.774*** (0.0461) | 1.857*** (0.0586) | 1.764*** (0.0772) | 1.785*** (0.0852) |
| Country fixed effects | no | no | yes | yes |
| Time fixed effects | no | no | no | yes |
| Clustered standard errors | no | no | yes | yes |
| Years | all | all | averages | averages |
| F statistic | 8.11 (0.0057) | 6.72 (0.0020) | 1.47 (0.2404) | 0.59 (0.6265) |
| Observations | 81 | 81 | 30 | 30 |
| R ² | 0.0931 | 0.1470 | 0.1632 | 0.2070 |

Significance levels for coefficients: *p<0.10, **p<0.05, ***p<0.01.
p-values in parentheses under F-values.

Figure 1. Egypt: Professional journalism and news media spending including the Internet per outlet

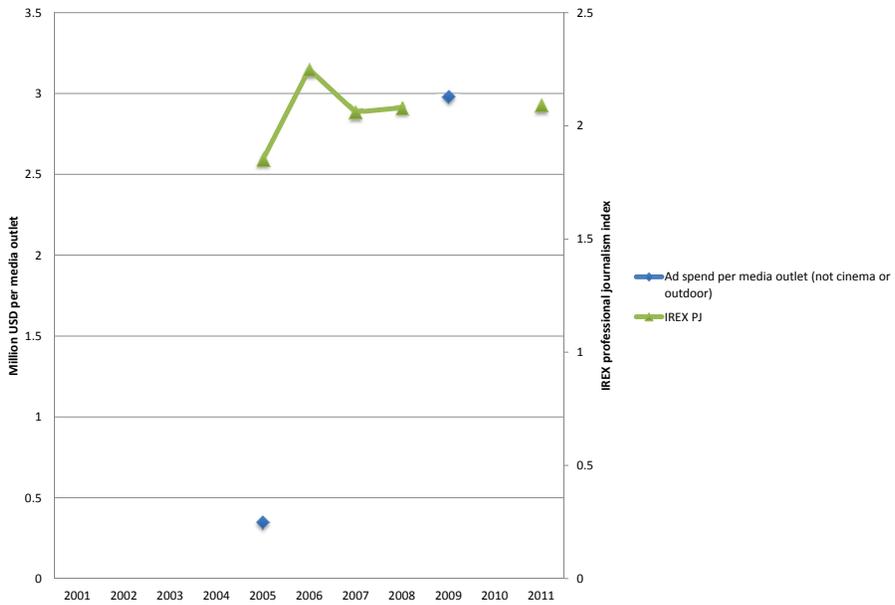


Figure 2. South Africa: Professional journalism and news media spending including the Internet per outlet

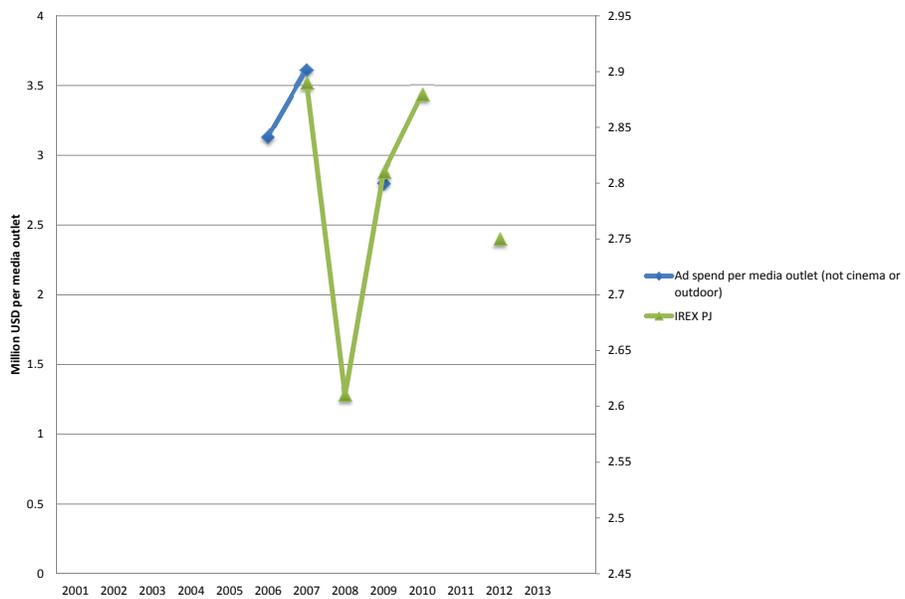


Figure 3. Armenia: Professional journalism and news media spending including the Internet per outlet

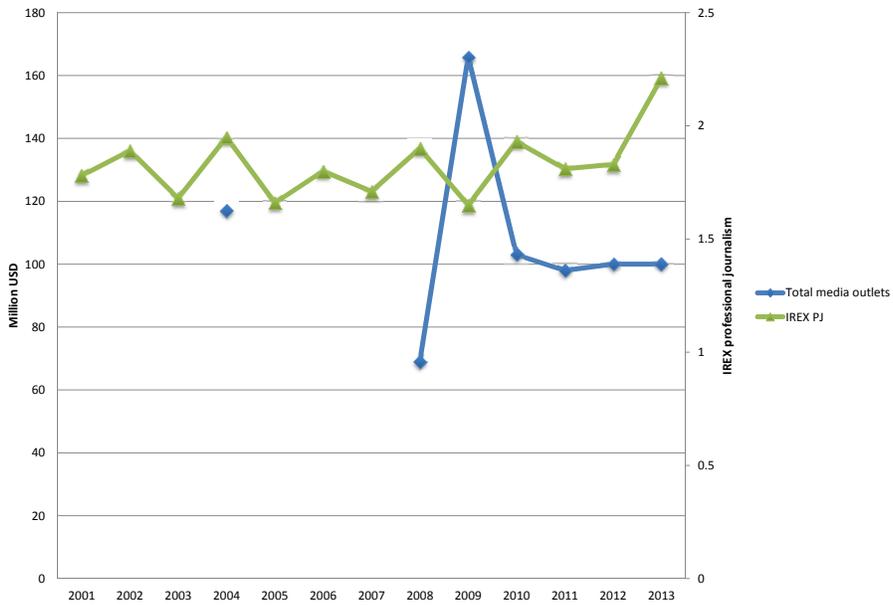


Figure 4. Georgia: Professional journalism and news media spending including the Internet per outlet

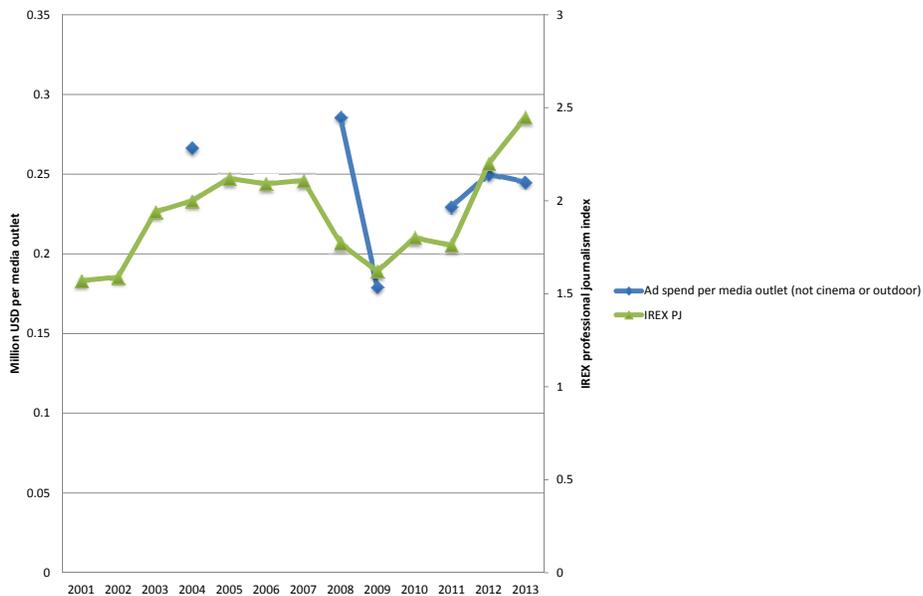


Figure 5. Azerbaijan: Professional journalism and news media spending including the Internet per outlet

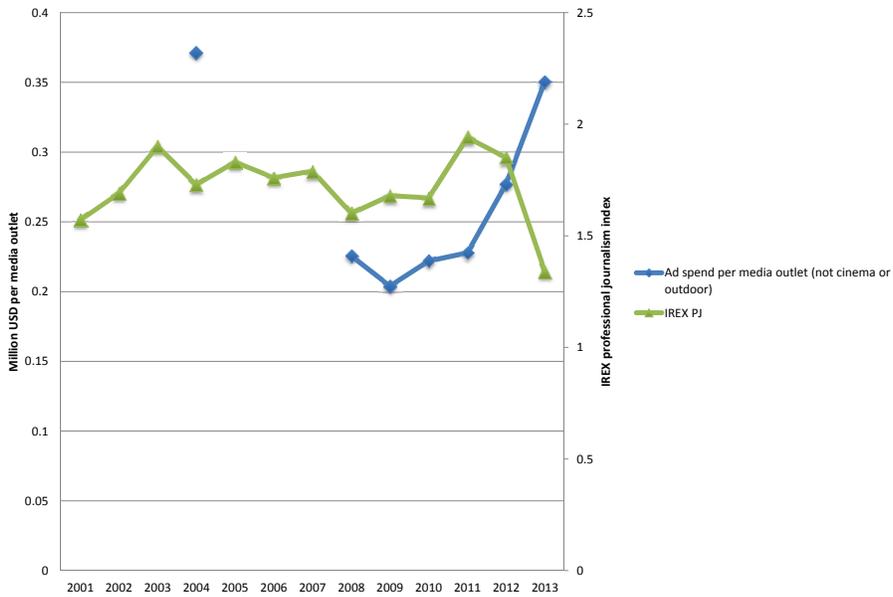


Figure 6. Kazakhstan: Professional journalism and news media spending including the Internet per outlet

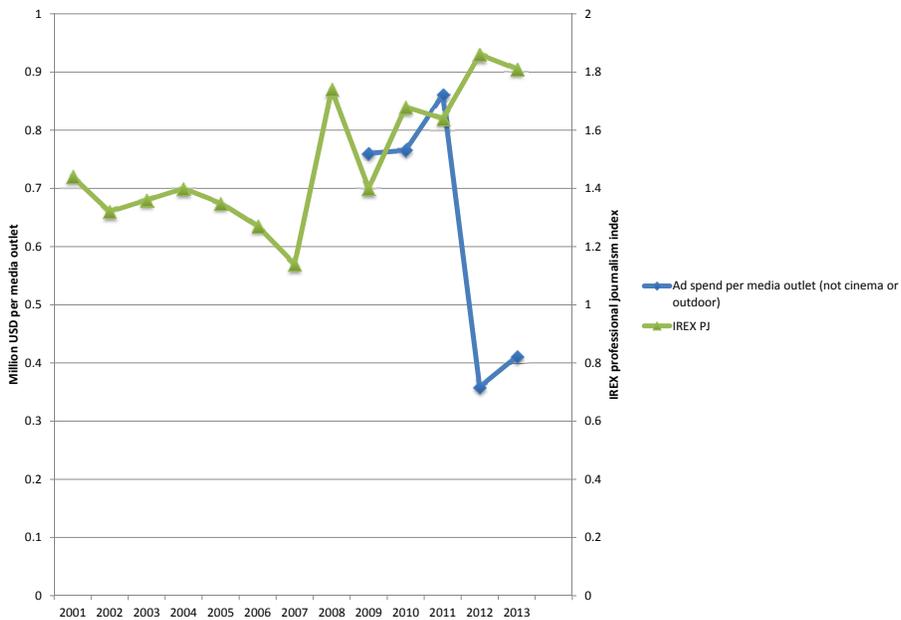


Figure 7. Bahrain: Professional journalism and news media spending including the Internet per outlet

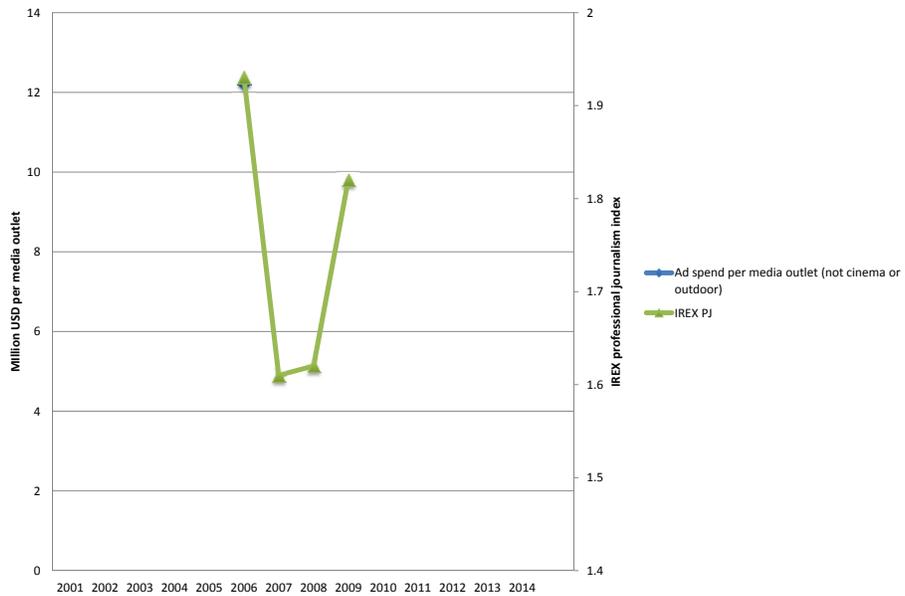


Figure 8. Kuwait: Professional journalism and news media spending including the Internet per outlet

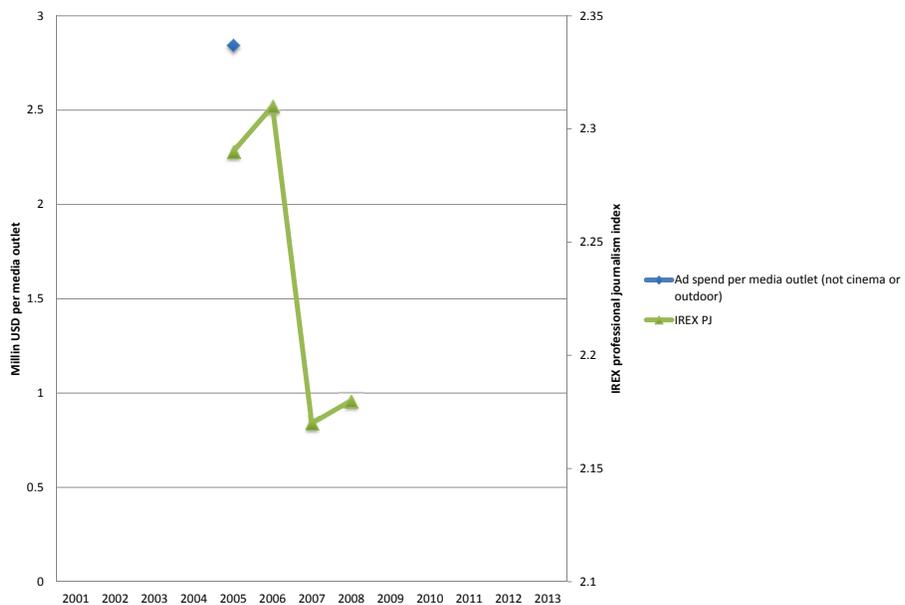


Figure 9. Lebanon: Professional journalism and news media spending including the Internet per outlet

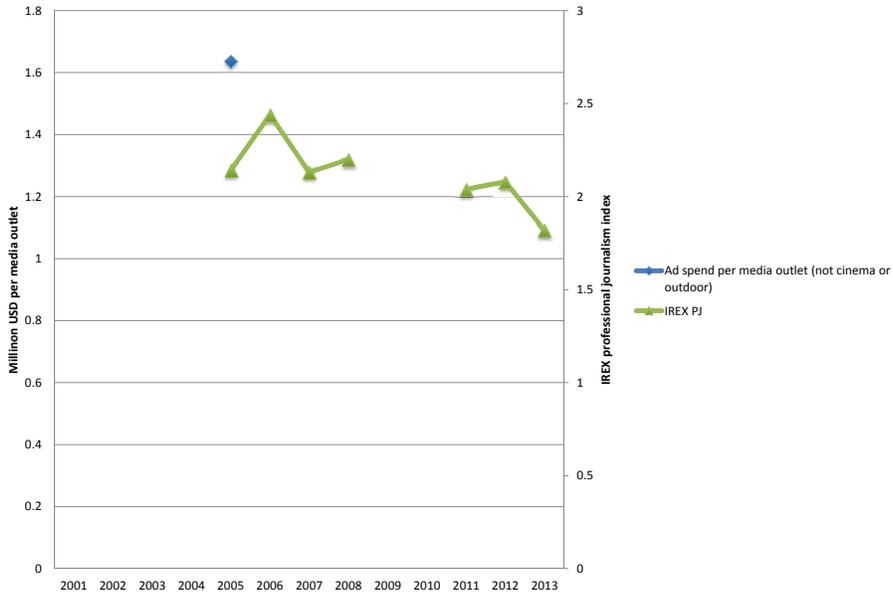


Figure 10. Oman: Professional journalism and news media spending including the Internet per outlet

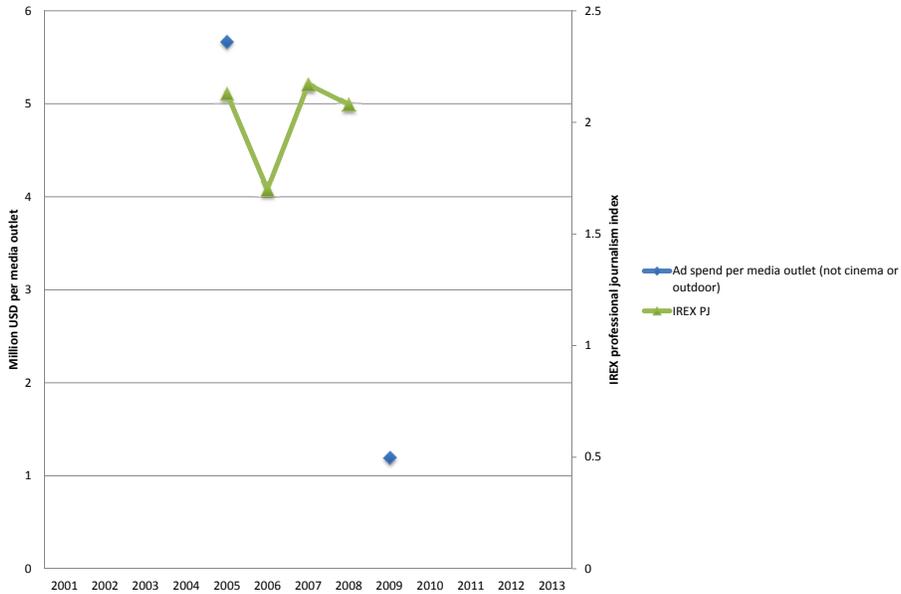


Figure 11. Qatar: Professional journalism and news media spending including the Internet per outlet

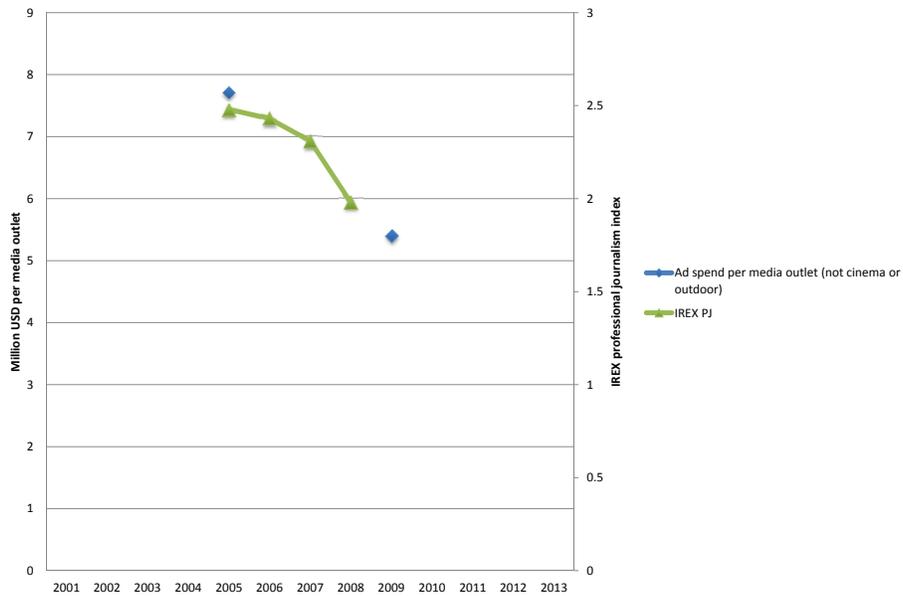


Figure 12. United Arab Emirates: Professional journalism and news media spending including the Internet per outlet

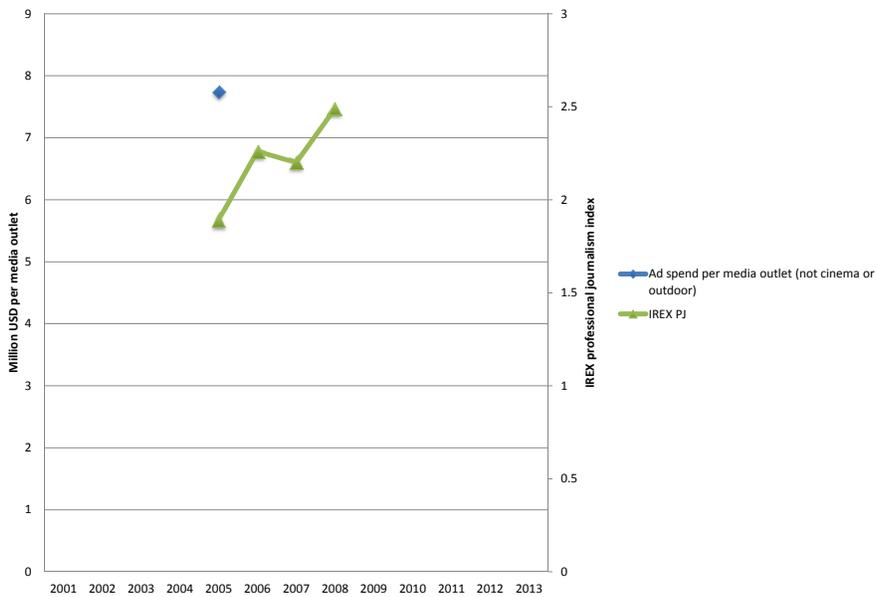


Figure 13. Belarus: Professional journalism and news media spending including the Internet per outlet

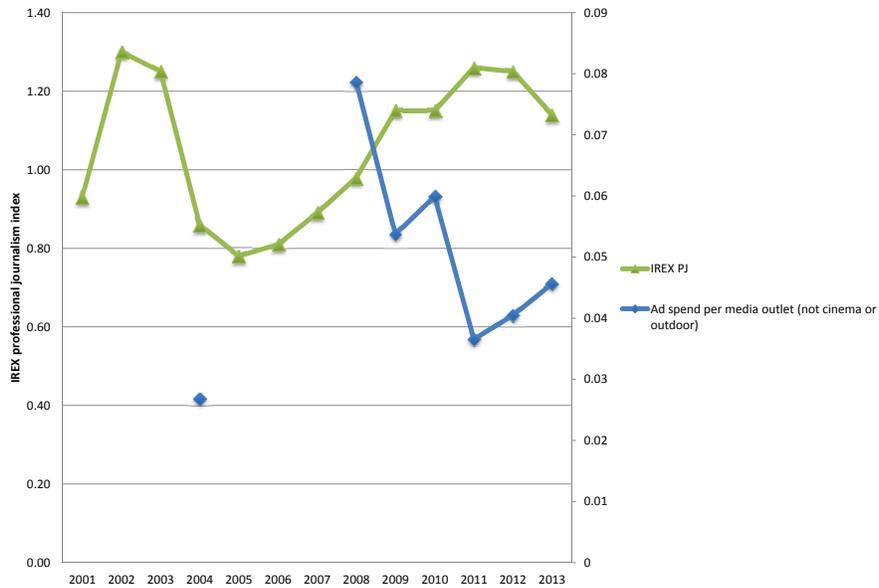


Figure 14. Bosnia and Herzegovina: Professional journalism and news media spending including the Internet per outlet

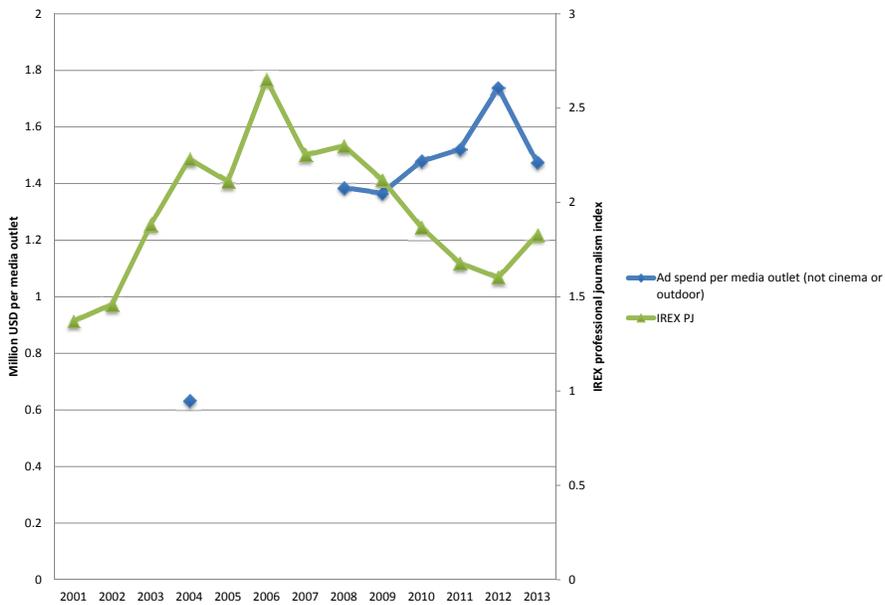


Figure 15. Bulgaria: Professional journalism and news media spending including the Internet per outlet

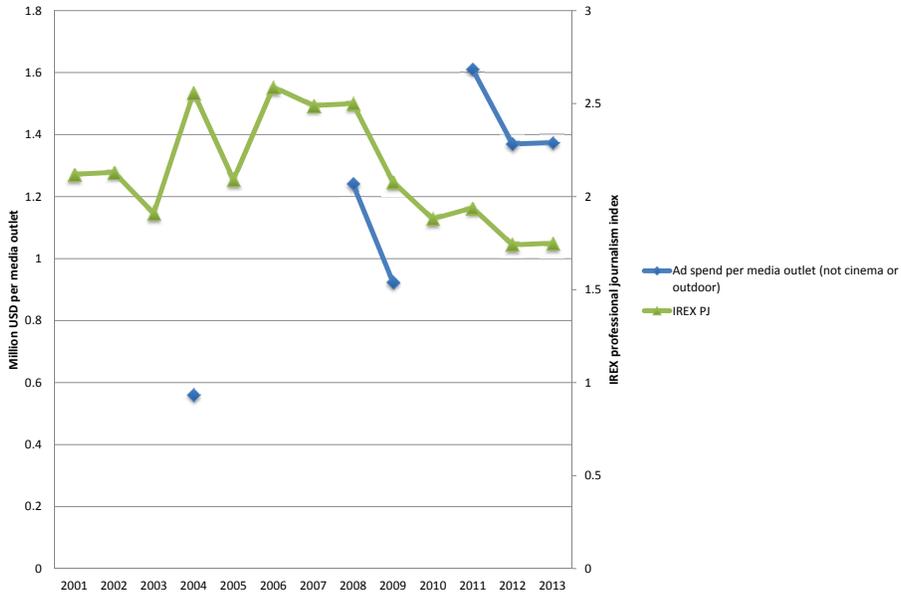


Figure 16. Croatia: Professional journalism and news media spending including the Internet per outlet

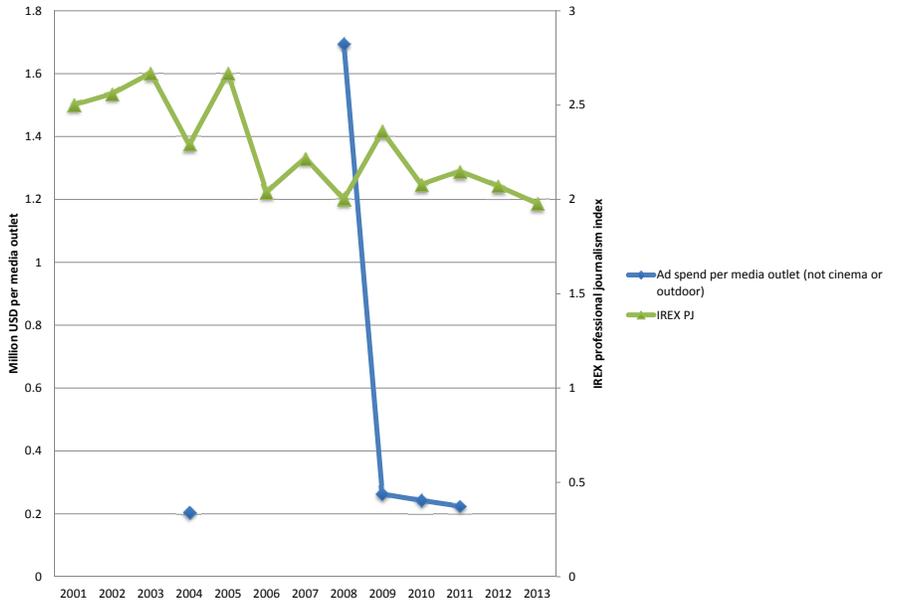


Figure 17. Moldova: Professional journalism and news media spending including the Internet per outlet

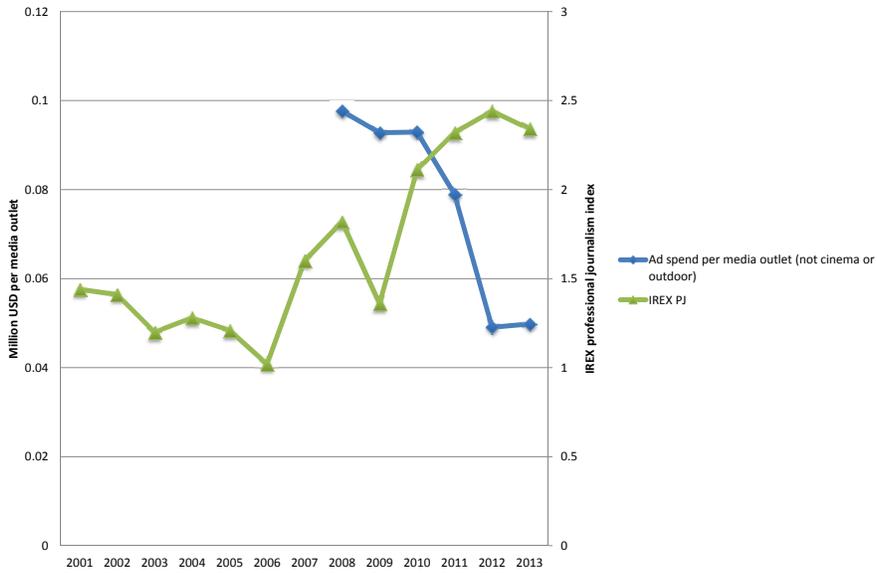


Figure 18. Romania: Professional journalism and news media spending including the Internet per outlet

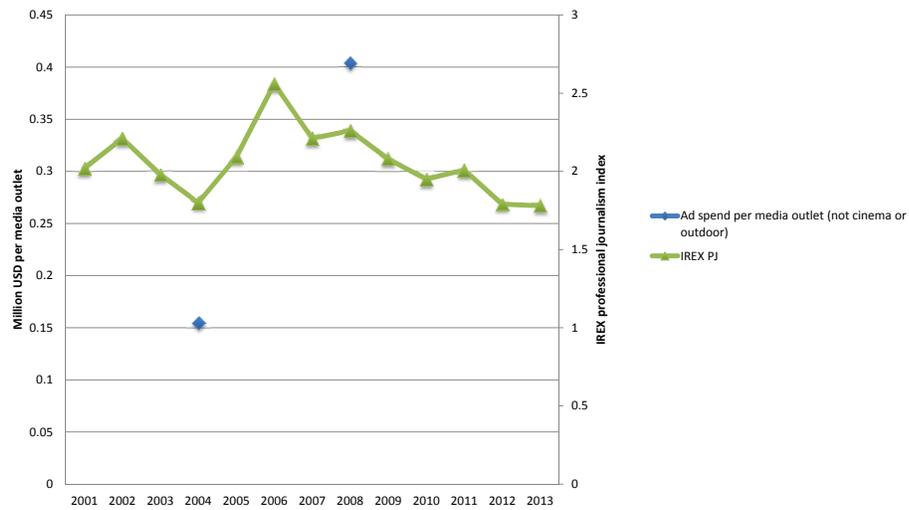


Figure 19. Serbia: Professional journalism and news media spending including the Internet per outlet

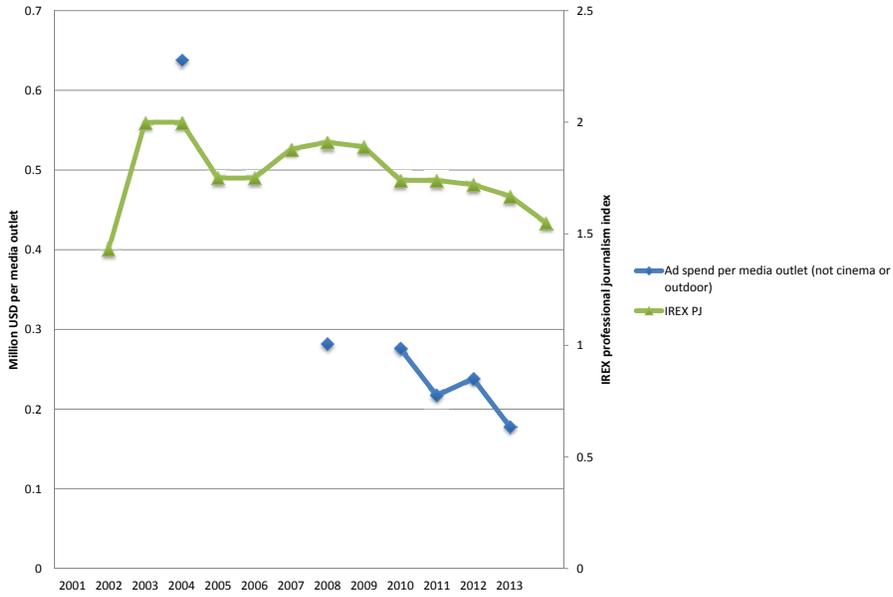


Figure 20. Ukraine: Professional journalism and news media spending including the Internet per outlet

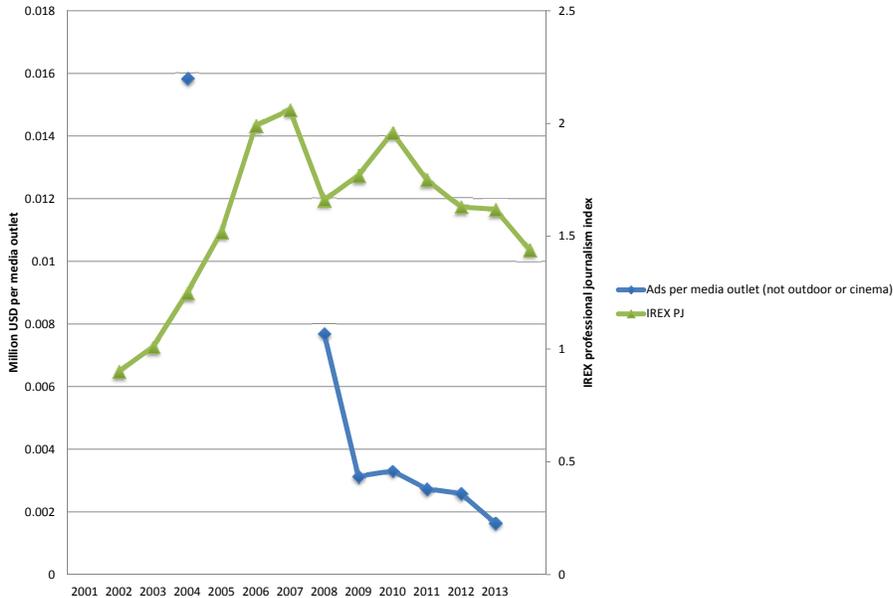


Figure 21. Russia: Professional journalism and news media spending including the Internet per outlet

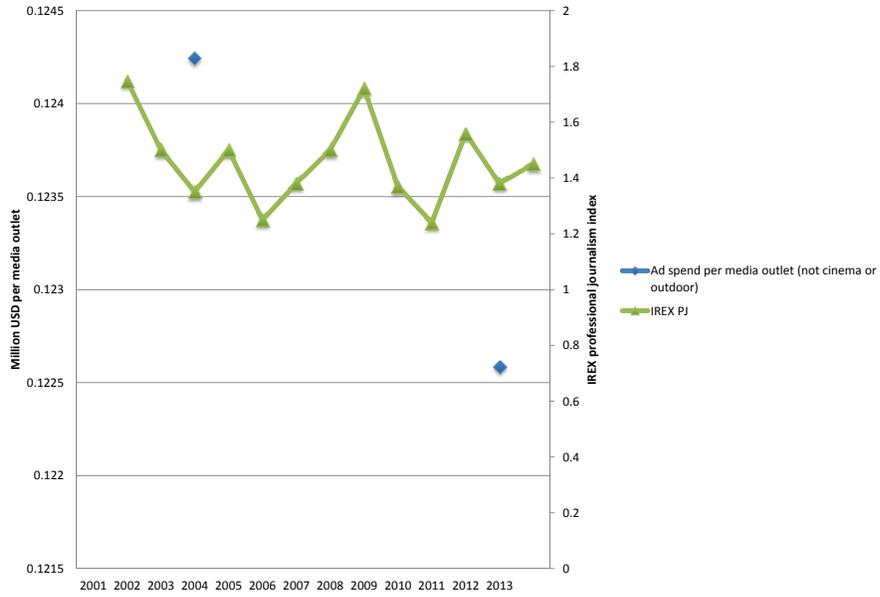


Figure 22. Relationship between advertising expenditures per media outlet and journalistic performance

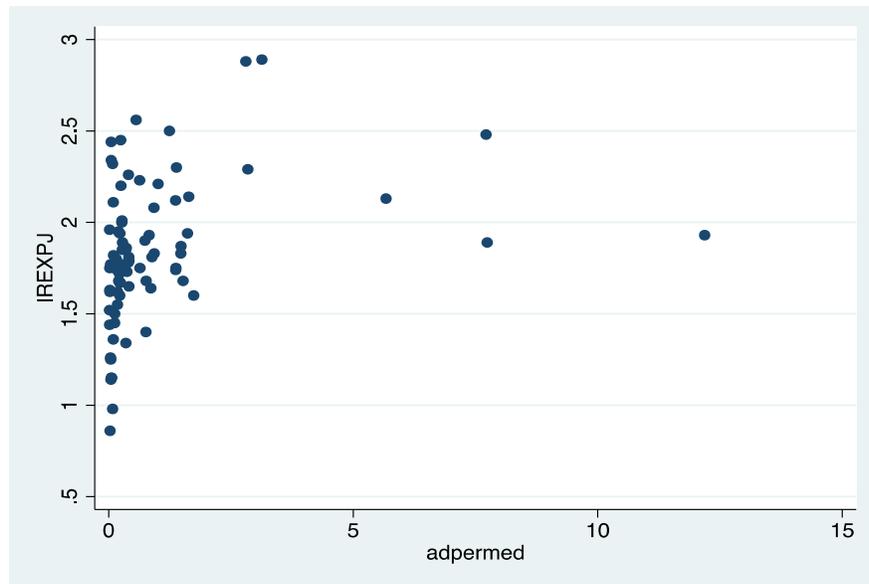


Figure 23. Relationship between the share of advertising expenditures going to Internet in a country and journalistic performance in that country

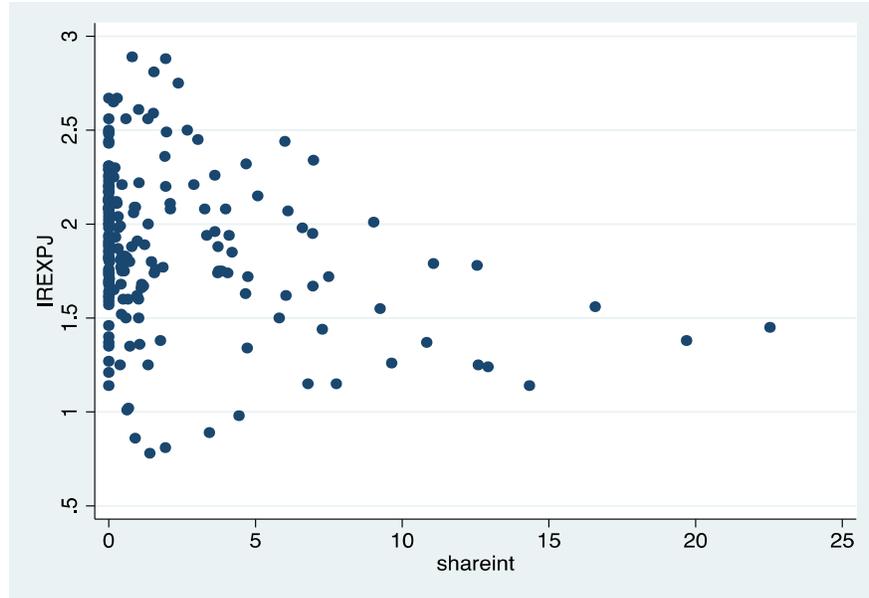


Figure 24. Professional journalism and advertising expenditure per media outlet (averages for 2001-2013)

