



## Comparative determinants of horse-race coverage

Journal:	<i>European Political Science Review</i>
Manuscript ID:	EPSR-2012-0102.R1
Manuscript Type:	Original Article
Keywords:	opinion polls, media systems, election coverage

SCHOLARONE™  
Manuscripts

# Comparative determinants of horse-race coverage

## Abstract

We investigate the levels of horse-race coverage in 160 different European print and broadcast outlets in 27 different countries at three different points in time. We match information on outlets' content to survey-based information on the average levels of interest in politics and education of outlets' audiences. After controlling for the composition of each outlet's audience and features of the party system, we find, contrary to our expectations, that lower levels of market competition and greater levels of journalistic professionalism increase horse-race coverage rather than decreasing it. More polarized party systems and closer electoral contests also attract more horse-race coverage. Our results suggest that horse-race coverage should not be considered as a 'low-quality' form of news on a par with 'soft' news or 'strategy' frame, but rather as a form of product substitution pursued by more professional journalists.

## Introduction

Many scholars have argued that journalism which covers politics as if it were a horse-race (rather than, say, a contest between competing visions of the just society) demeans

politics and causes citizens to become more cynical and less trusting of politics and politicians (Patterson, 1993; Cappella and Jamieson, 1997), at least at certain levels (De Vreese, 2005) or at least for certain individuals (Valentino et al., 2001). If this claim is true – and it has been challenged by several authors (Meyer and Potter, 1998; Zhao and Bleske, 1998) – then it prompts the question of whether levels of horse-race coverage are determined by systematic factors, and if so, whether current or proposed policies either promote or discourage levels of horse-race coverage and thus of political cynicism. Whilst there is some agreement that levels of horse-race coverage have increased over time in both Europe (Brettschneider 1997; Sonck and Loosveldt 2008; Szwed 2011) and the United States (Patterson 1993, but see Sigelman and Bullock 1991 and Antista et al. 2010), we know little about what drives horse-race coverage. Aalberg et al. (2011) claim that “[t]he most important antecedent of the framing of politics as a strategic game [based in part on the use of opinion polls] established thus far, appears to be degree of commercialism”, and this finding is strongly implied by Zaller (1999b, 1999a); but this conclusion, as far as we can tell, is either based on single country trends over time, or on comparisons of a small number of polities/markets (Strömbäck and Dimitrova, 2006; Strömbäck and Shehata, 2007; Dunaway, 2008). Such research designs are invariably limited in their ability to test multiple explanations cast at different levels. Though we might – to borrow the title of Strömbäck and Dimitrova’s 2006 article – have a strong presumption that ‘political and media systems matter’, comparable statistics on levels of horse-race coverage are so scarce, and so expensive to collect, that abundant hypotheses concerning the impact of political and media system variables (Hallin and Mancini, 2004) on coverage of politics have not been as rigorously tested as one would hope.

This is doubly regrettable given the variation in political and media systems that exists in Europe. To foreshadow some of the variables we employ later on, we may say that there are party systems which approach perfect two-partyism (Malta) and party systems which have almost ten effective electoral parties competing (Belgium); party systems which deliver extremely close elections (Malta again) and party systems where the plurality ‘winner’ of the election is rarely in doubt (Poland). Some European media systems are extremely competitive and professionalized, whereas others are bastions of political parallelism and patronage. It would be astonishing if this considerable variation did not affect, in some way, the propensity of news outlets to use information from opinion polls in their news coverage.

In this article, we use media content analysis data from successive European Election Studies (EES) to test eight different hypotheses about the level of horse-race coverage of politics in print and broadcast media. Despite recent increases in internet use, television and newspapers remain the two most important sources of such politically-relevant information (European Commission, 2011; Smith and Pew Internet & American Life Project, 2011). How these media portray politics, and thus deliver politically relevant information, is therefore important. We test hypotheses concerning producers of news (journalists), consumers of news (citizens), and the markets and political systems in which journalists and citizens are embedded. EES data allows us to test these hypotheses jointly because of its unparalleled breadth, depth, and consistency over time. We test our hypotheses on data analyzing over 58,000 stories drawn from 160 different outlets in 27 countries at three different points in time. Because this content data is linked to EES studies of voters, we are at the same time enable to include in our analysis information on

the different audiences of all of these outlets. This breadth and richness of data enables us to draw several exciting conclusions. We find that, once levels of interest and education are controlled for, market competition decreases levels of horse-race coverage, contra Aalberg et al. (2011); journalistic professionalism also increases levels of horse-race coverage. Because journalists of different levels of professionalism and in different media markets use polls in proportion to their ability to inform and simplify electoral politics, horse-race coverage is more common in polarized party systems with two narrowly-separated top parties. In order to establish these claims generalizable relationships between media system characteristics and characteristics of output, we start by elucidating, in the next section, the model upon which they are premised. We borrow from John Zaller's *Theory of Media Politics*, and make behavioural assumptions about citizens and journalists which we then extend to allow for the variation in both citizens and journalists that we see across Europe. We then discuss the implications of these assumptions for levels of horse-race coverage, *en route* justifying our choice of 'horse-race coverage' as an organizing concept, instead of more sophisticated concepts of 'strategy' or 'game' frames. Our major theoretical contribution is to look at how features of the party system affect the revelatory character of polling information. That is, we explain why not all polls are equally useful to minimally-attentive citizens, but why polls may be more useful in some party systems than others. In following sections, we discuss the data we use in this article and our modelling strategy respectively. We discuss the significance and substantive magnitude of some of the effects we find, and close by reflecting on the implications of our findings for research on polling effects and the coverage of politics generally.

## Theory

### A theoretical starting point

We begin with a baseline theory [that](#)~~which~~ we can amend to take account of important variation in European media systems. We use Zaller's unpublished *Theory of Media Politics* as our starting point, not because we believe that the theory is necessarily correct, but because Zaller's clearly stated axioms mean the theory can be easily amended.<sup>1</sup> Zaller proposes a simple but fecund set of assumptions about the coverage of politics. He posits three types of actor (politicians, journalists, and citizens), and offers utility functions for each. Politicians aim to maximize their re-election prospects.<sup>2</sup> Journalists aim to maximize a utility function monotonically increasing in 'quality' of coverage (where quality coverage enables an informed choice between competing (sets of) politicians on the basis of policy proposals) and audience share. Citizens are rationally ignorant in the Downsian sense, and have utility functions which decrease with quality of coverage, subject to some minimum threshold, and increase with the entertainment value of coverage. These assumptions imply two key conflicts and one fundamental rule. First, politicians would have journalists act as passive conduits, but journalists would rather interpose themselves by analyzing politicians' actions and proposals. Thus, there is a Rule of Product Substitution (Zaller 1998), or "the tendency of journalists to substitute their voice for that of politicians in deciding what's news". Second, journalists would

---

1

[Similar ~~agurments~~ arguments are found in Hamilton \(2003\) who suggests, for example, that audience demand and high production costs diminishes hard news and product positioning often drives news choices](#)

2 [This assumption ignores the diversity of objectives pointed out by Strøm and Müller \(1999\), but the consequences of office- or policy-seeking behaviour for coverage are similar to the consequences of vote-seeking behaviour.](#)

have citizens consume quality coverage, but citizens would rather watch minimally informative and maximally entertaining news. Thus, under the assumption that competition in the market for news enables citizen preferences to be better satisfied, there is a Rule of the Market, or “or the tendency of market competition to force journalists to lower the overall quality and amount of political news”. Both rules act to moderate another, more fundamental rule, the Rule of Anticipated Importance, “or the tendency of journalists to devote attention to occurrences in proportion to their anticipated importance” in the politics of the country. This basic theory – and in particular the three rules – frame our hypotheses below concerning the levels of horse-race coverage. Before putting forward these hypotheses, we must first ask: how does this theory apply to horse-race coverage, and how can such coverage be defined?

### **The horse-race and other concepts**

The concept of horse-race journalism is extremely old: Broh (1980) cites one description of political competition as a horse-race from the 1880s. Over time, however, the concept has been elided with two other related concepts, the ‘game schema’ (Patterson, 1993) and the ‘strategy frame’ (Cappella and Jamieson, 1997), both of which are opposed to a ‘policy frame’, but which are subtly different. Aalberg et al. (2011, 6) helpfully describe the ‘game schema’, which we believe to be closer to the original use of horse-race journalism, as involving opinion polls, actual and forecast election outcomes, and a language of winners and losers, in contrast to the strategy frame, which involves stories about campaign strategies and tactics, personality and style. When we talk about horse-race coverage, we are therefore talking about something which is closer to the ‘game schema’ than the ‘strategy frame’. However, our understanding of horse-race coverage is

narrower than the ‘game schema’. We operationalize horse-race coverage as coverage which makes explicit or implicit reference to public opinion polls. We do not include coverage which uses the language of winners and losers, without making such references to polls. This narrowing is, we believe, justified. By using a narrow operationalization, we minimize the risk that our operationalization will capture different concepts across different polities with different journalistic tropes. Although our operationalization is narrow, it has implications for the ‘game schema’. Opinion polls serve as ‘news pegs’ for talk of winners and losers. It is difficult, though not impossible, to talk of winners and losers without some reference to polling. Consequently, our estimates of horse-race coverage might set a lower bound on the levels of coverage using a ‘game schema’.

The relationship between horse-race coverage and a theory which speaks only of the ‘quality’ and ‘entertainment value’ of news coverage is unclear. On the one hand, it might seem that horse-race coverage is low-quality coverage which citizens would demand in preference to other coverage, and which journalists would resist supplying absent commercial pressures. The horse-race is entertaining, and citizens given a free choice of a wide range of content are disproportionately likely to choose horse-race stories (Iyengar et al. 2004; but note one wrinkle, that it is high-engagement viewers who are most likely to choose horse-race stories). The horse-race is cognitively undemanding, as it reduces politics to a single datum – who is ahead? – rather than a complex set of policy proposals, each of which has advantages and disadvantages. Finally, horse-race coverage displaces discussion of substantive policy issues – or at least this has often been the presumption (cf. Meyer and Potter 1998; Zhao and Bleske 1998). On the other hand, there are good reasons to think that horse-race coverage is coverage that is higher-quality

than many alternative types of coverage, and allows journalists to satisfy their professional *amour propre*. The Rule of Product Substitution states that journalists will interpose themselves between politicians and the public, ostensibly to improve the quality and analytic nature of coverage of politics, but also in part to justify their particular market position. The provision and interpretation of polling data allow journalists to do exactly this. Polls must be presented, explained, and interpreted in the light of the race thus far.

Horse-race coverage only displaces substantive policy issues if these are the only two types of coverage that exist; but of course, much coverage of politics is neither coverage of substantive policy issues nor coverage of the horse-race, but rather soft news, emphasizing the family background or private life of candidates.<sup>3</sup> Horse-race coverage might therefore displace soft coverage of politics, suggesting that all the factors in this theory which promote quality might also in part promote horse-race coverage at lower equilibrium levels of quality.

### **Extending the theory**

Zaller's theory is American in its application but potentially universal in its assumptions. When extended beyond the United States, however, it becomes clear that neither citizens nor journalists are homogeneous with respect to their utility functions. Citizens vary, both within and across countries, in terms of their interest in politics, as well as their capacity to process political information. Journalists also vary: a wave of recent research on comparative media systems has placed variation in journalistic professionalization at the

---

3 A long list of West European sex scandals (Berlusconi, Strauss-Kahn, Ilkka Kanerva) bears out this point.

heart of efforts to classify the world's media (Hallin and Mancini, 2004). Given that professionalization usually involves the articulation of certain standards of quality internal to the profession, and thus possibly antithetical to a commercial logic, this variation in professionalization has great importance for Zaller's theory and those like it. Extending the theory to account for variation in citizen and journalistic preferences subtly changes the three rules Zaller lays out. The Variable Rule of Product Substitution states that the tendency of journalists to substitute their judgements for those of politicians is stronger the more professionalized the journalistic corps in a country. The Variable Rule of The Market says that the effect of market competition in lowering quality is weaker the higher the baseline level of interest in and capacity to process politics. This is different from Zaller's rule of the market, which can afford to ignore consumer preferences because it assumes them to be the preferences of a rationally ignorant voter. An extreme form of the Variable Rule of the Market suggests that the effects of market competition on quality are zero when interest and capacity for processing politics are taken in to account. However, if market participants misperceive consumers' levels of interest, or if some market participants fail to play by the rules of market (for example, public broadcasters), there might still be an independent effect of market competition. Commentators often suggest that media outlets under-estimate consumers' levels of interest.<sup>4</sup> The question therefore remains open: does market competition exert an independent downward force on quality, or does competition only reduce quality when

---

<sup>4</sup> Consider, for example, TS Eliot's statement to the 1962 Pilkington Committee (Pilkington, 1962) that "those who aim to give the public what the public wants begin by underestimating the public taste; they end by debauching it".

interest is unmeasured and assumed to be low? And is any of this affected by the nature of *political* competition?

### **The revelatory character of polls**

Although the concept of horse-race coverage is applicable across a wide range of polities, the usefulness of polling information as a short-cut or means of interposition differs across political systems. Much of the literature on horse-race coverage has ignored the role of political systems largely because it has been based on single-country studies and mostly in the US where electoral systems are of little interest. Consequently, we must extend the theory by talking about the role of electoral systems and governments.

We therefore make three main claims linking citizen interest to characteristics of party systems. First, we argue that information is valuable to minimally attentive citizens insofar as it has the potential to reduce uncertainty about who will form the next government (recall that our minimally attentive citizens only care about governments because of the future policies they might enact which would directly affect them), and that uncertainty about who will form the next government is composed of uncertainty about the likely distribution of votes (and thus the likely distribution of seats), and uncertainty about post-electoral coalition formation. Uncertainty about post-electoral coalition formation is greater in systems with a larger effective number of parties. Opinion polling does not mitigate this source of uncertainty, and therefore its value is lower in systems with a larger effective number of parties. ~~We may also think that the value of opinion polling relative to other types of coverage—for example, inviting expert commentators to speculate on likely coalition outcomes—is lower.~~ We may also think

that the value of opinion polling relative to other types of coverage – for example, inviting expert commentators to speculate on likely coalition outcomes – is lower.

It is important to note that this result would not hold for electoral contests with indivisible prizes. For example, opinion polls would still be valuable in primary or presidential elections, even with a large effective number of candidates, because the issue of subsequent coalition formation does not arise.<sup>5</sup>

Second, we assume that minimally attentive citizens care about who will form the next government because they care about future policy positions that will be adopted. Irrespective of whether voters will be positively or negatively affected by departures from the status quo, they attach greater value to knowing about large departures from the status quo than they do to small departures from the status quo. Other things equal, party systems which are more polarized have greater potential to result in large departures from the status quo. Information about elections in which large departures from the status quo are possible is more valuable. Therefore opinion polling in polarized party systems is more valuable.

Third, whilst opinion polling is valuable insofar as it reduces uncertainty about the vote shares of parties, not all elections are equally uncertain. In some elections, it is relatively clear, even without carrying out polling, who will ‘win’ the election, in the sense of having a plurality of votes. In such elections, there is less value to opinion polling. Conversely, if there is great uncertainty about who will ‘win’, the value of

---

5 Of course, minimally attentive citizens would be very unlikely to pay much attention to intra-party elections, unless those elections are likely to bear very strongly on the identity of the future government.

opinion polling is much greater. In other words: the closer the horse-race, the more opinion polls feature.

In talking about closeness largely in terms of the distance between the first and second-largest parties, we follow American usage. We think that talking about closeness in this way is permissible in European multiparty systems because of the tremendous advantage that largest parties enjoy in coalition formation (Martin and Stevenson, 2001, 35,42).

We have talked about three ways of relating party system characteristics to citizen interest. The final step in our argument relates this to choices about output. Here, we assume that the same factors that affect the importance of opinion polls for citizens also affect the importance of opinion polls for journalists. That is, if greater complexity surrounding coalition formation makes polls less valuable for citizens, then it also makes it less valuable for journalist.

## **Hypotheses**

From the preceding discussion, we can formulate certain hypotheses concerning levels of horse-race coverage. These hypotheses are grouped in four categories: hypotheses relating to citizens, hypotheses relating to journalists, hypotheses relating to the market, and hypotheses relating to the political system. Our hypotheses relating to citizens are framed in terms of the citizens who regularly consume a given outlet. We therefore assume that outlets are ‘stickers’, dedicated to satisfying the needs of their existing audiences rather than identifying new potential audience groups (Laver and Sergenti, 2012). Based on the assumption (which follows from Zaller, but which is contradicted in

the US case by Iyengar et al. (2004)) that horse-race coverage is a low-cost low-quality heuristic which would be resisted by those more interested in politics and better able to process it, we hypothesise first that:

**H 1** *The greater the levels of interest in politics of the audience of an outlet, the less likely that outlet is to cover politics as a horse-race*

and that:

**H 2** *The greater the levels of education of the audience of an outlet, the less likely that outlet is to cover politics as a horse-race*

Our hypotheses relating to journalists concern the level of professionalism in a country, and the presence of public service broadcasters. We assume that professionalism is generally a characteristic of groups of journalists at the country-level, rather than, say, varying across media. We hypothesise that

**H 3** *The greater the professionalism of journalists in a country, the less likely outlets in that country are to cover politics as a horse-race*

One important characteristic of European media markets is the presence of dominant public service broadcasters (Picard, 2002), which are known to boost turnout (Baek, 2009). As far as public service broadcasters are concerned, based on the assumption that horse-race coverage is a low-cost low-quality heuristic, and based on the twin assumptions that public broadcasters aim to provide high quality coverage of politics and that they are relatively robust to market pressures (Strömbäck and van Aelst, 2010) we hypothesise that

**H 4** *Public service broadcasters are less likely to cover politics as a horse-race than other types of outlet*

Concerning the market for news, we have already noted an ambiguity in Zaller's treatment of market competition. It is possible that once citizens' levels of interest are controlled for, the effect of market competition on 'quality' of coverage, and inter alia on levels of horse-race coverage, will disappear. There is, however, a tradition of thought that market competition *per se* has deleterious effects on the quality of coverage (Dunaway, 2008). We therefore hypothesise that

**H 5** *The greater the level of competition in a media market, the more likely outlets in that market are to cover politics as a horse-race*

Because commissioning polling has a fixed cost, and because those fixed costs will be more likely to be met only in larger markets,<sup>6</sup> we also hypothesise that

**H 6** *The larger the potential market for news, the more likely outlets in that market are to cover politics as a horse-race*

We turn finally to characteristics of the polity, and begin with electoral closeness. In a close election, there is considerable uncertainty over which candidate (or party) will win (win the most seats) in an election. Horse-race stories, whether they discuss opinion polls, strategy, or electoral viability, may act to counter this uncertainty. They are thus more valuable in close elections compared to electoral mismatches, where opinion polls

---

6 This might be due to bottlenecks in the media market, or bottlenecks in the market for polling and consumer research more generally. In an additional model, we controlled for the effects of having a larger number of ESOMAR (European Society for Opinion and Market Research) members in a given country; this variable was insignificant and did not affect our results. These model results are available on request.

tend only to confirm what was already suspected, and where strategies may only affect the margin of victory, not the outcome. We therefore hypothesise that:

**H 7** *The closer elections in a polity, the more likely outlets in that polity are to cover politics as a horse-race*

The revelatory character of polls also depends on the positions of the parties in competition. Recall that citizens are minimally interested in coverage of politics, and that minimal interest stems from their desire to know how they will be affected by changes in government rather than how they may cast an informed vote. Polls, particularly in ex ante close races, are valuable insofar as they reduce uncertainty about *whether* citizens will be affected by a change in the partisan centre of gravity of government or of the legislative majority; but they are also valuable insofar as such changes are likely to be of high magnitude. In systems where alternation in government is not blocked, greater levels of party system polarization mean that changes in the partisan centre of gravity will be of greater magnitude.<sup>7</sup> We extend this reasoning to second-order elections such as European parliament elections. Since polls are more revelatory when the party system is polarized, we hypothesise that:

**H 8** *The more polarized the party system of a polity, the more likely outlets in that polity are to cover politics as a horse-race*

---

7 Empirically, the correlation is very slight. Using data from Franzese (2002) for the countries featured in our data, the correlation between polarization and the replacement risk – the standard deviation of the partisan centre of gravity across governments across a period of nine years centred on the present – for 204 country-elections is significant but low ( $r=0.21, p<0.01$ ).

The final characteristic of the polity is the effective number of parties. Framing elections as horse-races between parties is easy to do when the number of parties is limited. However, as the number of parties grows past a certain number, it becomes more difficult to report each party's standing in the polls individually. At this point, the utility of alternative frames becomes greater. Specifically, journalists may prefer to emphasize the coalition nature of politics, and focus on coalition policy proposals (if other factors suggest a high equilibrium level of news quality) or on personal spats within or between coalitions (if other factors suggest a low equilibrium level of news quality). We therefore hypothesise that

**H 9** *The greater the effective number of parties in a polity, the less likely outlets in that polity are to cover politics as a horse-race*

We discuss the data we use to test these hypotheses, and some additional control variables, in the next section.

## **Data**

Despite considerable advances in our understanding of media systems and media effects, the comparative study of political communication has been hampered by a lack of comparable measures across years and across countries; by a narrow sample of countries; and by a focus on single media. These problems are unsurprising given the large amount of effort necessary to code media content across multiple countries in multiple languages, and thus far it has not been possible to coordinate country-specific projects as has, for example, been done for the study of comparative policy agendas. The European Election Media Content Analysis project, however, have been capturing and coding campaign

media content since the 1999 European Parliament election across all member states allowing an unprecedented collection of media content data. Combining the 1999, 2004 and 2009 European Election studies yields campaigns news media content data across 67 election campaigns. The project has captured both television news and newspapers coding in 23 languages and using comparable procedures and measures. These data allow a comprehensive means of testing media system effects on news coverage.

Similar sampling and coding procedures have been across the three election years (Banducci et al., 2010). Because election coverage clusters around the period shortly before election day (Leroy and Siune, 1994; Reiser, 1994; Siune, 1983), the three weeks prior to election day are analysed.<sup>8</sup> Generally, for broadcasting, the main evening news outlets of both the most widely watched public broadcasting and private channels were selected in each country.<sup>9</sup> Newspapers were selected on the basis of reach and partisan leaning where appropriate. Therefore, our sample of newspapers includes a tabloid or popular press and a left and right leaning broadsheet. In 1999, only the front pages of newspapers were coded whereas randomly selected interior pages were coded in subsequent years. We do not have a random selection of outlets but our sample does cover the most comprehensive list of newspaper and broadcast outlets available for

---

8 In 1999, television news content from the 2 weeks prior to the election was captured and coded.

9 There were some exceptions to this general rule. For example, because Belgium is divided into Flemish-speaking Flanders and French speaking Wallonia, evening news programs on the two most widely watched Flemish- and French-speaking channels were included and were analyzed separately throughout this study. Additionally, given that no private channels existed in Austria (1999 and 2004) or were of no importance in Ireland (1999), only the public broadcasting channel with the largest reach was included for these two countries. See technical appendix for further information on outlets.

analysis. Our method of selection does yield a sample that achieves broad coverage of a range of newspapers and broadcast outlets across media systems. As press and broadcasting systems changed over the 10-year period, we adjusted the sample to reflect changes as newspapers closed or as private channels became available. For further information on the outlets, see the Technical Appendix.

In the coding procedure the unit of analysis was the single news story, defined as a semantic entity with at least one topic, delimited from other stories by a change of topic. For 1999, 9,835 stories were coded across 45 outlets, 45,954 stories from 125 outlets in 2004 and 48,983 stories across 143 outlets in 2009. The increase in the number of outlets mostly reflects the increase in the number of media systems included as the number of member states increased in the European Union but also an increase in the resources available for data collection.

While new measures were incorporated, in general, the main indicators of topics and actors are comparable across the years as the codebook adopted in 1999 was used as the coding scheme in each subsequent year. In each election year, training and coding of the campaign news content took place in one or two (2009) locations in order to minimise risks to data loss and maximize control over the integrity of the coding procedure.<sup>10</sup> The news stories were coded by native speakers in country teams, recruited on the basis of native language and English proficiency. Coders were carefully trained before coding and supervised throughout the whole coding period. During the initial training period, coders trained a minimum of 20 stories that were then checked for accuracy before beginning

---

<sup>10</sup> In 2004, the capturing and coding of material was carried out by Medien Tenor using the same procedure outlined.

the coding of the captured news content. During the coding period, stories were randomly assigned to the coders. The coder trainers of the country groups were in daily contact to resolve problems. For the reliability testing, coder pairs in each country team coded a minimum of 18 randomly selected television stories per channel.<sup>11</sup>

### **Horse-race coverage**

Each story was coded as having either no reference to opinion polls (coded as 0), or having a general mention of opinion polls or mention of a specific opinion poll (2004 and 2009 waves); or having a mention of opinion polls either in the context of the European Parliament election or in the context of another topic (1999 wave) (all coded as 1). By collapsing these latter categories, we are able to compare the frequency of references to polls – and thus horse-race coverage – over time.

### **Topic**

The topic of each story was also coded. Twenty-two top-level topics are coded in the combined data-set. The most important of these, for our purposes, are the topics relating to EU elections and other (i.e., national) elections. References to polls are most common in stories with these topics, though references to polls are also found in other topics,

---

11 To ensure inter-coder reliability, coders completed initial training and only when their coding was of sufficient quality (assessed by coder tests that were matched with master codes completed by the coder trainer team), actual coding commenced. Given the challenges in cross-national content analysis (see Peter and Lauf 2002), coders were monitored and intra- and inter-coder reliability tests were conducted. The results of these tests were satisfactory (above 65% agreement) across all years and across all indicators in the codebook. [For example, the reliability tests for 2009 demonstrate inter-coder agreement of .66 \(Krippendorff's alpha\) across 53 coders and 35 English language news stories.](#)

including but not limited to ‘party politics’, ‘EU politics and institutions’, and ‘foreign affairs and defence’.

### **Market competition**

We use the inverse of the Herfindahl-Hirschmann index (HHI) of concentration as our measure of market competition. This is analogous to Laakso and Taagepera’s effective number of parties, except that it uses market share instead of vote or seat share. We calculate the HHI on the basis of all-day audience shares (television) and daily newspaper circulation shares (newspapers). Data for newspaper concentration come from the 2000, 2005, and 2010 editions of *World Press Trends* (World Association of Newspapers, 2000, 2005, 2010). Data for television audience shares come from the 2000, 2005, and 2010 editions of the European Audiovisual Observatory’s Statistical Yearbook (European Audiovisual Observatory, 2000, 2005, 2010). We include all market operators listed in these publications, not just those included in our media content data. Where one ownership group owns two or more outlets, we sum these shares prior to calculating concentration. To give one example: in Sweden in 2009, there were ten newspapers with non-negligible circulation (Aftonbladet, Dagens Nyheter, Expressen, Göteborgs-Posten, Svenska Dagbladet, Sydsvenskan, Dagens Industri, Helsingborgs Dagblad, Dalarnas Tidningar, and Nerikes Allehanda), owned by nine different groups (Svenska Dagbladet owns and operates Sydsvenskan). These papers had, respectively, 19.7, 17.3, 16.0, 13.0, 10.8, 6.6, 5.6, 4.2, 3.3, and 3.3 percent of circulation. Summing the two percentages for Svenska Dagbladet and Sydsvenskan, and squaring each of these, gives us an HHI of 1535, or a rather moderate level of concentration. We then take the inverse of this figure.

We repeat this process for all countries, for both print and broadcast media, in each of the years covered by our data.

### **Professionalism**

To measure professionalism, we use a recent expert survey (Popescu et al., 2010). Experts in 34 different European media systems were asked to agree or disagree with three statements concerning journalism: “Journalists in [country] are motivated by an ethic of serving the public interest”; “Journalists in [country] agree on the criteria for judging excellence in their profession regardless of their political orientations”; and “Journalists have sufficient training to ensure that basic professional norms like accuracy, relevance, completeness, balance, timeliness, double-checking and source confidentiality are respected in news-making practices”. We took the responses to these questions (on a zero to ten scale) and carried out a principal components analysis, extracting the first principal component and using it as our measure of professionalism across all three time-periods. The measure has strong face validity and matches well the impressionistic judgements of country-level journalistic professionalism reported in Hallin and Mancini (2004).<sup>12</sup>

### **Interest and education**

We use data from the European Election Studies of 1999, 2004 and 2009 to measure mean levels of interest and education according to media outlets. A respondent’s level of interest in politics is his/her response, on a four-point scale, to the question, “To what

12. [The country figures are as follows: Italy \(-2.75\); Romania \(-2.48\); Hungary \(-2.39\); Cyprus \(-2.32\); Bulgaria \(-2.32\); Lithuania \(-1.35\); Czech Republic \(-1.34\); Poland \(-0.94\); Greece \(-0.78\); Austria \(-0.71\); Spain \(-0.70\); Great Britain \(-0.24\); Slovakia \(0.07\); Estonia \(0.13\); Ireland \(0.33\); Malta \(0.52\); Slovenia \(0.70\); Portugal \(0.74\); Latvia \(0.87\); France \(1.45\); Luxembourg \(1.81\); Netherlands \(1.86\); Germany \(1.94\); Belgium \(2.17\); Denmark \(3.57\); Sweden \(4.05\); Finland \(4.16\).](#)

extent would you say you are interested in politics? ”. The mean level of interest for each outlet is simply the mean level of interest in politics amongst regular readers or viewers of that outlet, where a regular reader/viewer is one who watches or reads that outlet at least once a week. A respondent’s level of education is the self-reported age at which s/he finished full-time education. The mean level of education for each outlet is constructed in the same way as the mean level of interest for each outlet.

### **Electoral statistics**

We use a number of standard measures of electoral competition. First, we use the effective number of electoral parties (Laakso and Taagepera, 1979), calculated on the basis of vote shares in the 1999, 2004 or 2009 European Parliament elections. Second, we use the degree of polarization, calculated using the method outlined in Dalton (2008) on the basis of various estimates of left-right positions (Castles and Mair, 1984; Huber and Inglehart, 1995; Benoit and Laver, 2006) as reported in Döring and Manow (2010). Third, we use two-party closeness, again calculated on the basis of vote shares in the relevant European Parliament election.<sup>13</sup>

### **Market size**

To operationalize market size we take the log of the population of each country in thousands, as reported in Heston et al. (2011).

---

13 From the point of view of the media, rather than political science, the two-party closeness is preferable, since the focus of attention in the horse-race is on the eventual winner. When we repeat our model using instead an entropy-based measure of closeness between  $n$  parties (Endersby et al., 2002), the coefficient is no longer significant.

### Outlet type

We classify outlets as either commercial television broadcasters (the baseline category; 36); public service broadcasters (32); tabloid newspapers (17); or ‘quality’ newspapers (76). We classify public service broadcasters all those broadcasters which are either funded in large part by the state through general taxation revenue or a special hypothecated tax (licence fee); and in which the highest posts are appointed by state organs (Hanretty, 2011, 4).<sup>14</sup>

### Topic

Each story was topic-coded at a detailed level (70 topic codes for the 1999 wave; 65 for the 2004 wave; and 148 topic codes for 2009). These detailed topic codes were aggregated into twenty-two top-level codes, covering EU elections (number of stories = 21,706); Other elections (2968); politics in general (2638); federalism/administration (453); Law and order (6528); EU politics (4253); EU integration (958); Foreign affairs (7905); Economy (8383); the environment (1308); social policy (802); health care (1584); immigration (637); minority issues (62); gender (486); agriculture (1267); education (844); transportation (876); culture (8139); party politics (2682); media (393); and other topics (8689).

---

14 This excludes certain broadcasters which are described in their own countries as public service broadcasters, such as ITV (UK) or DR2 from the start of 2004 (Denmark). DR2 thus appears once as a public broadcasters and twice as a commercial broadcaster.

### **Weekend**

We include a dummy variable which has value one for Saturday or Sunday broadcasts/newspapers.

### **Time until election**

We take the log of one plus the number of days until the election as our measure of time until the election.

### **Summary information**

Table 1 displays a list of the continuous variables used in our analysis, the units over which they vary, and assorted summary statistics. These summary statistics are calculated over unique outlet-day-topic combinations, rather than being calculated over the units over which these variables vary.

[Table 1 about here]

### **Analysis**

We model the probability of a story containing a reference to an opinion poll using multilevel binomial regression. We therefore take all stories appearing in a given outlet on a given day in a given topic, and consider these as independent Bernoulli trials, which may or may not result in a ‘success’, or a reference to an opinion poll. We do so accounting for the nested and crossed structure of the data: stories are ‘nested’ in outlets; outlets are nested in countries; and stories cross outlets and countries in virtue of their membership in common topics. Formally, let  $n_{ijk}$  be the number of stories with topic  $i$

featured in outlet  $j$  in country  $k$ ; and let  $y_{ijk}$  be the number of stories with topic  $i$ , outlet  $j$  and country  $k$  which contain a reference to an opinion poll. Then, we can model  $Y_{ijk}$  as an instantiation of a random variable drawn from a binomial distribution which can be modelled with linear predictors using a logit link:

$$Y_{ijk} \sim \text{Binom}(n_{ijk}, \pi_{ijk})$$

$$\text{logit}(\pi_{ijk}) = \beta_0 + \mathbf{x}_{ijk} \boldsymbol{\beta}_1 + u_i + u_j + u_k + \varepsilon$$

$$u_i \sim N(0, \sigma^2)$$

$$u_j \sim N(0, \sigma^2)$$

$$u_k \sim N(0, \sigma^2)$$

where  $u_i$  is a topic-specific random intercept, and  $u_j$  and  $u_k$  are outlet and country-specific random intercepts, and where  $\varepsilon$  is drawn from the logistic distribution.<sup>15</sup> Table 2 shows the result of just such a regression, estimated using the `lme4` package in R (Bates et al., 2011). All coefficients for continuous variables are standardized coefficients; standard errors are given in parentheses. Random intercepts are not shown, but are plotted in the appendix.

[Table 2 about here]

[Figure 1 about here]

[Figure 2 about here]

---

15 This gives equivalent results to a logistic regression using the single story as the dependent variable, rather than a duple of trials and successes, but is computationally more efficient.

We plot the predicted probability of a horse-race story in Figure 1, for all countries in our data, for two topics (EU elections and other elections) and two outlet types (quality newspapers and commercial television). The predicted probabilities were generated with all other variables set to their country and outlet-type means for the 2009 wave to generate the fixed effects, and averaging over the relevant random intercepts.

### **Model fit**

Our model fits the data reasonably well; although the high percentage correctly predicted (PCP) results from a large number of correctly-predicted zeros which would also be correctly predicted by a null model, the geometric mean probability shows that our model performs significantly better than chance. Much of this fit is due to the inclusion of the topic intercepts; the GMP for a model with a topic-intercept alone is also high, at 0.83.

We ignore the intercept (and thus the baseline probability of a story featuring a poll reference); suffice it to say that whilst the baseline probability of a story featuring a poll reference independent of topic, this probability varies considerably according to whether or not the topic deals with EU or other elections. Concerning first those variables related to citizens' interest in and ability to interpret political events, we note that the results bear out our assumption that horse-race coverage is a heuristic supplied to citizens who are less interested in politics and who have lower levels of education. The effect of interest in politics is more significant, both statistically and in terms of its substantive magnitude. In terms of characteristics of journalists, professionalism is strongly positively associated with horse-race coverage, which goes against our interpretation of professional journalists rejecting a lower-quality news product, and instead confirming the variable rule of product substitution discussed above. This effect is highly significant, and has the

largest magnitude of all of the (standardized) effects shown here. Moving from Italian levels of journalistic professionalization (-2.75; -1.77 after standardization) to Swedish levels of journalistic professionalization (4.05; 1.78 after standardization) makes it roughly four times more likely that a story will feature a reference to polling. Put differently: in terms of the effects we find with respect to horse-race coverage, Sweden is to Italy as quality broadsheet newspapers are to commercial television. Characteristics such as the type of outlet are included in our next block of coefficients, which relate to the markets in which journalists and citizens are embedded. Viewing poll references from the point of view of producers, the variable rule of product substitution led us to expect that public service broadcasters, *qua* employers of more professional journalists, would be more likely to feature horse-race coverage; viewing poll references from the point of view of consumers, the emphasis found in public service broadcasting on ‘high-quality’ content led us to expect public service broadcasters to be less likely to feature horse-race coverage. Neither hypothesis is supported by our model. However, significant effects of outlet type do matter for the newspaper market, where quality newspapers are more likely than the baseline category (commercial television) to feature horse-race coverage, and tabloid newspapers are somewhat less likely (again, relative to the baseline of commercial television). Thus, even controlling for the differences in political interest between, say, broadsheet and tabloid readers, broadsheets are more likely to feature polls. As expected, the size of the market in which journalists and citizens are embedded matters, with outlets in bigger markets better able to finance the fixed costs of commissioning opinion polls. However, the degree of competition in the market for news has the opposite effects. Contrary to what Zaller’s theory might have suggested, greater

market competition actually leads to less horse-race coverage rather than more. The magnitude of this effect is not large compared to the effects of journalistic professionalism, but is still important: moving from the average levels of concentration found in the print media, to the (on-average higher) average levels of concentration found in broadcast media (a difference of nearly 0.6 units on our transformed scale) makes it half as likely that a story will feature a reference to a poll. In terms of polls as products – our expectations regarding weekends and days further out from the election were both confirmed. Weekend coverage is far more likely to feature reference to polls, since there is less raw news material with which polls must compete; and days closer to the election feature more horse-race coverage: though this effect is one of the smallest significant effects we find. Our last block of coefficients concerns the political system. As expected, closer, more polarized elections attract more horse-race coverage. Our prediction regarding the effective number of parties was not, however, borne out. How do we interpret our findings? Many of the hypotheses based on the assumption that horse-race coverage was a low-quality product have been found lacking; indeed we have registered significant effects in the opposite direction to that which we predicted. This suggests that the traditional understanding – of horse-race coverage as the major substitute for substantive policy coverage – is wrong, or at least not predominant. Rather, we should consider horse-race coverage as something pursued by quality-minded outlets, as a substitute for soft news coverage. Horse-race coverage is not the best solution for those who wish to see substantive discussion of politics, as is shown by the negative effects of viewer interest and education. But is it perhaps a second-best option for certain outlets.

## Conclusion

Our findings result from an analysis of European election studies; and we believe a comparative study of this size – considered both diachronically and synchronically – is only possible when leveraging coordinated studies like the European Election Study series. We began by this paper by discussing the role of horse-race coverage of politics in fomenting cynicism towards and distrust of politics, and arguing that if this link holds, it is important to investigate the determinants of levels of horse-race coverage, and to do so in a comparative fashion. We then went on to discuss one notable theory of media politics, and how it might view equilibrium levels of horse-race coverage, considered alternately as a ‘low-quality’ product or as a strategy of product substitution. We then went on to discuss how this theory might be extended to account for two sources of heterogeneity: first, variation in citizens’ and journalists’ preferences and capacities, and second, variation in the information content of polls, closely related to characteristics of the party system. We motivated this by arguing that only by doing so could we identify a ‘pure’ market competition effect. We provide three novel findings: first, market competition works to decrease horse-race coverage rather than increase it; second, the product substitution effect seems to dominate with respect to the supply of horse-race coverage, and so making journalists more professional will only make them more likely to cover politics as a horse-race; and third, polarized party-systems characterised by top-two-party closeness encourage horse-race coverage.

Our findings are important because they show that exposure to opinion polls is not distributed uniformly across countries, or across individuals. Consequently, any literature

[that](#) attempts to identify the effects of exposure to opinion polls -- for example, the creation of band-wagon or underdog effects, or spirals of silence -- will need to account for these differences in exposure. To the extent that there is a bandwagon or underdog effect, or to the extent that there are spirals of cynicism, these effects will be greatest in those groups who have been most exposed to horse-race reporting, namely readers of quality publications, who nevertheless are not overly interested in politics, who live in large countries with a professionalised journalistic corps. Analyses which are unable to control for exposure will consequently under-estimate these effects.

Our findings touch only on a part of the media's portrayal of politics. We have suggested that horse-race coverage is something which quality outlets staffed by professional journalists resort to, and to this extent we identify 'culprits' other than the usual suspects. Because of this, we have suggested that horse-race coverage is not a low-quality product. However, we leave open the issue of whether horse-race coverage crowds out other kinds of political coverage. We have, in our models, included the effects of topic, and so we can be sure that our findings with respect to higher or lower levels of horse-race coverage are not an artefact of higher or lower levels of coverage of politics. However, within that broad area of coverage, there are many different ways of reporting on politics. For low-quality outlets, one choice might be between running a straight news story or a horse-race story. For high-quality outlets, the choice might be between running the straight news story plus either the horse-race story or a policy analysis story. If horse-race coverage were to crowd out the latter type of story, we would have to question why more professional journalistic corps are more likely to use horse-race coverage.

~~Our findings result from an analysis of European election studies; and we believe a comparative study of this size—considered both diachronically and synchronically—is only possible when leveraging coordinated studies like the European Election Study series. But our findings apply well to the US. Although we make no formal ‘out-of-sample’ prediction, if we assume that levels of horse-race coverage are higher in the United States than they are in most other advanced democracies, then our model can easily explain such a disparity. Although much depends on whether one views the US media market as a whole or as an aggregate of several local media markets, the size of the market in comparison to many of the European nation-states is large, as is the degree of market competition. Journalists have successfully pursued a professionalization project (which may be unravelling under the pressure of freely available content on the internet). Party competition is highly polarized, and, at least in presidential elections, lop-sided contests are rare. Based on our findings, all of these factors would predispose the United States to high levels of horse-race coverage.~~Our findings do not lead to any clear policy recommendations, precisely because of the ambiguity over whether horse-race coverage really is a ‘low-quality’ form of political information, or is instead a hedge against even less informative content. Nor – perhaps for similar reasons – do our findings offer any conclusions with one respect to the largest state intervention into the market for news, the provision of public service broadcasting. They do, however, help us explain why, on this dimension as in many others, the Swedish media system differs from the British media system, and why both differ from the Italian media system. They also help explain the particular place of horse-race coverage as, on balance, a substitute for soft news rather

than a substitute for substantive policy discussion. As far as the quality of coverage of politics is concerned, going to the horse-race need not imply going to the dogs.



## References

- Aalberg, T., Strömbäck, J., and de Vreese, C. (2011). The framing of politics as strategy and game: A review of concepts, operationalizations and key findings. *Journalism*, 13(2):162–178.
- Antista, J., Coukos, J., Desrosiers, M., Jewett, L., and Niemi, R. (2010). Newspaper coverage of presidential campaigns, 1888-2008. In *Western Political Science Association 2010 Annual Meeting Paper*.
- Baek, M. (2009). A comparative analysis of political communication systems and voter turnout. *American Journal of Political Science*, 53(2):376–393.
- Banducci, S., de Vreese, C., Semetko, H., Boomgarden, H., and Luhiste, M. (2010). EES Longitudinal Media Study Data Advance Release Documentation. available online at [www.piredeu.eu](http://www.piredeu.eu).
- Bates, D., Maechler, M., and Bolker, B. (2011). *lme4: Linear mixed-effects models using Eigen and syntax*. R package version 0.999375-42.
- Benoit, K. and Laver, M. (2006). *Party policy in modern democracies*. Taylor & Francis, London.
- Brettschneider, F. (1997). The press and the polls in Germany, 1980–1994: Poll coverage as an essential part of election campaign reporting. *International Journal of Public Opinion Research*, 9(3):248–265.
- Broh, C. (1980). Horse-race journalism: Reporting the polls in the 1976 presidential election. *Public Opinion Quarterly*, 44(4):514–529.

- Cappella, J. and Jamieson, K. (1997). *Spiral of cynicism: The press and the public good*. Oxford University Press, USA, New York.
- Castles, F. and Mair, P. (1984). Left–right political scales: Some 'expert' judgments. *European Journal of Political Research*, 12(1):73–88.
- Dalton, R. (2008). The quantity and the quality of party systems. *Comparative Political Studies*, 41(7):899–920.
- De Vreese, C. (2005). The spiral of cynicism reconsidered. *European Journal of Communication*, 20(3):283.
- Döring, H. and Manow, P. (2010). Parliament and government composition database (ParlGov). *An infrastructure for empirical information on parties, elections and governments in modern democracies. Version*, 10(11):6.
- Dunaway, J. (2008). Markets, ownership, and the quality of campaign news coverage. *The Journal of Politics*, 70(4):1193–1202.
- Endersby, J., Galatas, S., and Rackaway, C. (2002). Closeness counts in Canada: Voter participation in the 1993 and 1997 federal elections. *Journal of Politics*, 64(2):610–631.
- European Audiovisual Observatory (2000). *Statistical Yearbook*. Strasbourg.
- European Audiovisual Observatory (2005). *Statistical Yearbook*. Strasbourg.
- European Audiovisual Observatory (2010). *Statistical Yearbook*. Strasbourg.
- European Commission (2011). Eurobarometer 74: Information on European political matters.

- Franzese, R. (2002). *Macroeconomic policies of developed democracies*. Cambridge University Press, Cambridge.
- Hallin, D. and Mancini, P. (2004). *Comparing media systems: Three models of media and politics*. Cambridge University Press, Cambridge.
- [Hamilton, James T. \(2003\) \*All the news that's fit to sell: How the market transforms information into news\*. Princeton: Princeton University Press.](#)
- Hanretty, C. (2011). *Public broadcasting and political interference*. Routledge, London.
- Heston, A., Summers, R., and Aten, B. (2011). *Penn World Table Version 7.0*. Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.
- Huber, J. and Inglehart, R. (1995). Expert interpretations of party space and party locations in 42 societies. *Party Politics*, 1(1):73–111.
- Iyengar, S., Norpoth, H., and Hahn, K. (2004). Consumer demand for election news: The horserace sells. *Journal of Politics*, 66(1):157–175.
- Laakso, M. and Taagepera, R. (1979). Effective number of parties: A measure with application to West Europe. *Comparative Political Studies*, 12(1):3–27.
- Laver, M. and Sergenti, E. (2012). *Party Competition: An Agent-Based Model*. Princeton University Press, Princeton, NJ.
- Leroy, P. and Siune, K. (1994). The role of television in European elections: The cases of Belgium and Denmark. *European Journal of Communication*, 9(1):47–69.
- Martin, L. and Stevenson, R. (2001). Government formation in parliamentary democracies. *American Journal of Political Science*, pages 33–50.

- Meyer, P. and Potter, D. (1998). Preelection polls and issue knowledge in the 1996 US presidential election. *The Harvard International Journal of Press/Politics*, 3(4):35–43.
- Patterson, T. (1993). *Out of Order*. A. Knopf, New York.
- Peter, J. and Lauf, E. (2002). Reliability in cross-national content analysis. *Journalism and Mass Communication Quarterly*, 79(4):815–32.
- Picard, R. (2002). Research note: assessing audience performance of public service broadcasters. *European Journal of Communication*, 17(2):227–235.
- Pilkington, H. (1962). *Report of the Committee on Broadcasting, 1960*. HM Stationery Office, London.
- Popescu, M., Gosselin, T., and Pereira, J. S. (2010). European Media Systems Survey 2010. Data set.
- Reiser, S. (1994). *Parteienkampagne und Medienberichterstattung im Europawahlkampf 1989: Eine Untersuchung zu Dependenz und Autonomieverlust im Verhältnis von Massenmedien und Politik*. UVK Medien Ölschläger.
- Sigelman, L. and Bullock, D. (1991). Candidates, issues, horse races, and hoopla. *American Politics Research*, 19(1):5–32.
- Siune, K. (1983). The campaign on television: What was said and who said it. In Blumler, J. G. and Fox, A. D., editors, *Communicating to voters. Television in the first European parliamentary elections*, pages 223–240. Sage, London.
- Smith, A. and Pew Internet & American Life Project (2011). The Internet and Campaign 2010.

Sonck, N. and Loosveldt, G. (2008). Making news based on public opinion polls: the Flemish case. *European Journal of Communication*, 23(4):490–500.

[Strøm, Kaare, and Müller, Wolfgang C. \(1999\) \*Policy, Office, Or Votes?: How Political Parties in Western Europe Make Hard Decisions\*. Cambridge: Cambridge University Press.](#)

Strömbäck, J. and Dimitrova, D. (2006). Political and media systems matter. *The Harvard International Journal of Press/Politics*, 11(4):131–147.

Strömbäck, J. and Shehata, A. (2007). Structural biases in British and Swedish election news coverage. *Journalism Studies*, 8(5):798–812.

Strömbäck, J. and van Aelst, P. (2010). Exploring some antecedents of the media's framing of election news: A comparison of [swedish-Swedish](#) and [belgian-Belgian](#) election news. *The International Journal of Press/Politics*, 15(1):41–59.

Szwed, R. (2011). Print media poll reporting in Poland: Poll as news in Polish parliamentary campaigns, 1991-2007. *Communist and Post-Communist Studies*, 44(1):63–72.

Valentino, N., Beckmann, M., and Buhr, T. (2001). A spiral of cynicism for some: The contingent effects of campaign news frames on participation and confidence in government. *Political Communication*, 18(4):347–367.

World Association of Newspapers (2000). *World Press Trends 2000*. Paris.

World Association of Newspapers (2005). *World Press Trends 2005*. Paris.

World Association of Newspapers (2010). *World Press Trends 2010*. Paris.

Zaller, J. (1998). The Rule of Product Substitution in Presidential Campaign News.

*Annals of the American Academy of Political and Social Science*. 560(1), 111-128.

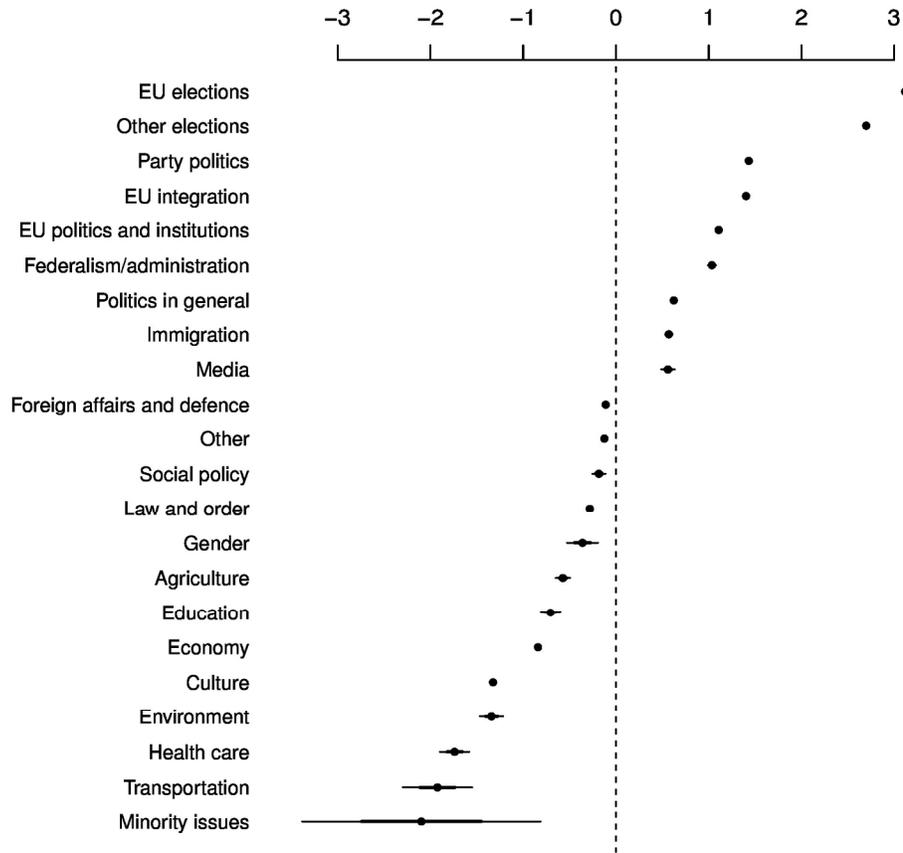
Zaller, J. (1998). The Rule of Product Substitution in Presidential Campaign News.

*Annals of the American Academy of Political and Social Science*. 560(1), 111-128.

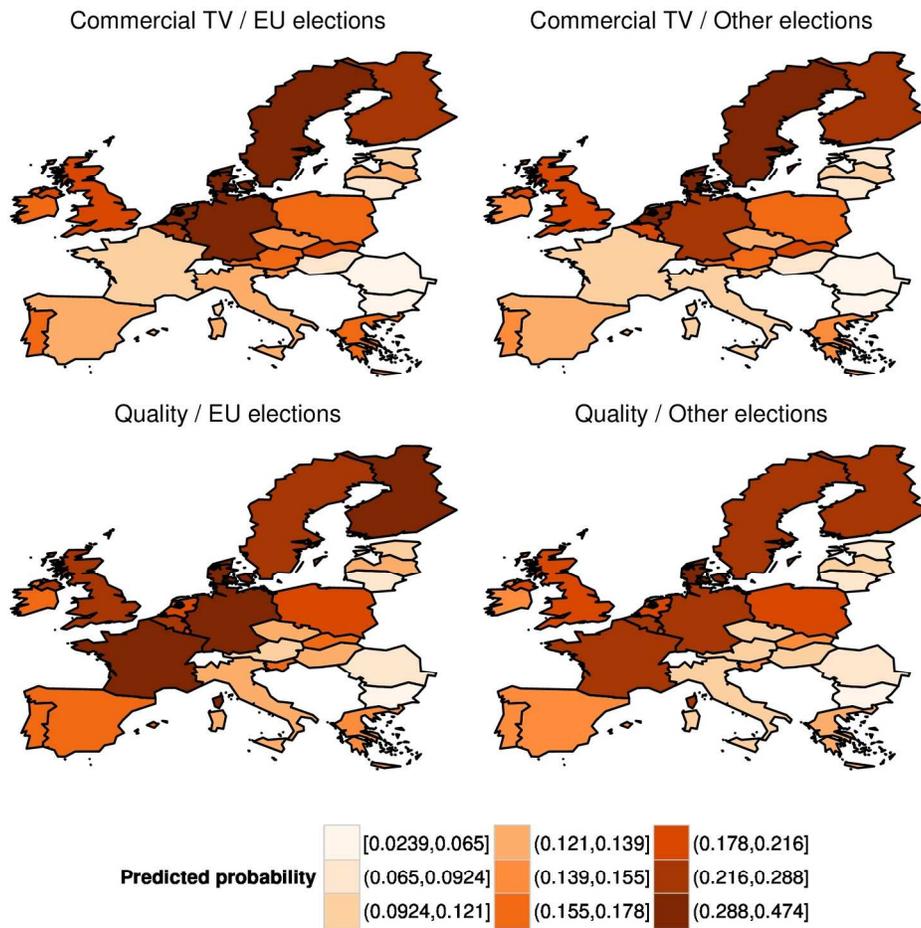
Zaller, J. (1999a). Market competition and news quality. In *Paper presented at the Annual Meeting of the American Political Science Association, Atlanta, GA*.

Zaller, J. (1999b). A theory of media politics. Unpublished MS.

Zhao, X. and Bleske, G. (1998). Horse-race polls and audience issue learning. *The Harvard International Journal of Press/Politics*, 3(4):13–34.



Plot of random effects for topics  
177x177mm (300 x 300 DPI)



Predicted probabilities of horse-race coverage by country  
177x177mm (300 x 300 DPI)

**Table 1:** Summary statistics

Variable	Varies over	$x$	Min, max	$SD$
Interest	Outlet, Country, Year	1.6	0.4, 2.5	0.3
Education	Outlet, Country, Year	20.1	13.8, 27.0	2.2
Professionalism	Country	0.6	-2.7, 4.2	1.91
Competition	Country, Year, Outlet Type	4.6	1, 11.3	2.1
Population ('000)	Country, Year	20540397, 82490	24064	
Closeness	Country, Year	7.3	0.05, 39.0	5.8
Polarization	Country, Year	0.4	0.13, 0.62	0.08
ENEP	Country, Year	5.5	2.2, 10.8	1.8

**Table 2:** Multilevel logistic regression model of horse-race coverage

Variable	Beta	S.E.
(Intercept)	-4.338***	(0.306)
Interest	-0.106*	(0.043)
Education	-0.077†	(0.041)
Professionalism	0.299***	(0.090)
PSB	0.059	(0.132)
Broadsheet	0.307*	(0.123)
Tabloid	-0.329†	(0.183)
Competition	-0.113**	(0.042)
Population	0.216*	(0.088)
Closeness	0.080**	(0.029)
Polarization	0.174***	(0.040)
ENEP	-0.005	(0.047)
Weekend	0.267***	(0.034)
Time until elec.	-0.072***	(0.018)
N (stories)	83561	
N (outlet-day-topic triples)	23464	
% correctly predicted	0.94	
Geometric mean probability	0.84	
AIC	15512.24	
BIC	15649.31	
Deviance	15478.24	
Log-likelihood	-7739.122	

**Table A1:** Measure of competition (effective number of market operators, or inverse of Herfindahl-Hirschman index).

Country	Year	Print	Broadcast
AUT	1999	4.66	2.31
AUT	2004	4.07	2.86
AUT	2009	4.39	3.98
BEL	1999	6.12	8.26
BEL	2004	5.76	7.38
BEL	2009	5.01	4.7
BGR	1999	1.84	
BGR	2004	4.86	3.52
BGR	2009	3.35	4.11
CYP	1999	3.6	
CYP	2004	3.86	4.42
CYP	2009	4.25	4.37
CZE	1999	6.05	
CZE	2004	4.05	2.79
CZE	2009	3.54	2.7
DEU	1999	2.18	4.12
DEU	2004	3.82	5.5
DEU	2009	3.92	5.21
DNK	1999	5.62	3.26
DNK	2004	4.48	3.13
DNK	2009	4.16	3.39
ESP	1999	8.04	3.94
ESP	2004	8.27	4.04
ESP	2009	8.42	5.23
EST	1999	6.94	
EST	2004	5.66	4.27
EST	2009	4.91	5.41
FIN	1999	3.95	2.39
FIN	2004	8.49	2.64
FIN	2009	3.31	3.08
FRA	1999	7.23	3.11
FRA	2004	8.58	2.94
FRA	2009	8.2	4.43
GBR	1999	5.37	2.77
GBR	2004	4.87	3.48
GBR	2009	5.02	3.81
GRC	1999	7.88	4.6
GRC	2004	8.28	6.29
GRC	2009	6.94	5.86
HRV	1999	4.33	
HRV	2004	3.58	2.06
HRV	2009	5.56	2.64
HUN	2004	5.82	4.07
HUN	2009	4.79	5.72
IRL	1999	3.14	2.5
IRL	2004	5.39	3.97
IRL	2009	5.32	4.14
ITA	1999	5.9	2.09

ITA	2004	5.01	2.09
ITA	2009	5.74	2.34
LTU	2004	6.02	4.14
LTU	2009	5.59	4.75
LUX	1999	2.61	4.81
LUX	2004	1.97	5.38
LUX	2009	2.04	6.36
LVA	2004	5.5	4.58
LVA	2009	7.57	6.19
MLT	2004	1	4.28
MLT	2009	2	4.9
NLD	1999	3.19	3.7
NLD	2004	4.35	4.36
NLD	2009	4.65	4.44
POL	2004	6.02	2.58
POL	2009	5.26	3.13
PRT	1999	7.47	2.61
PRT	2004	5.2	3.05
PRT	2009	5.93	2.97
ROU	2004	3.25	4.77
ROU	2009	4.13	7.54
SVK	2004	4.01	2.77
SVK	2009	4.23	3.06
SVN	2004	2.82	2.62
SVN	2009	3.06	3.19
SWE	1999	7.2	2.87
SWE	2004	11.25	3.5
SWE	2009	6.71	3.98

---