

**How can mass media help citizens make sense of the political world? Media systems and citizens' cognitive political engagement in Europe**

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Politics is not a favourite pastime for most people. But politics matters and in a democracy citizens are called to make political choices and decisions that are likely to affect them, even if they may not necessarily think so and even if their individual voice does not have the power to decisively alter outcomes. Citizens' chances to make sense of politics depend on the ease with which they (can) access good information, *i.e.* relevant, reliable and comprehensible, which in turn depends on the nature and structure of the media (Iyengar *et al.* 2010; Jerrit *et al.* 2006; Jerrit 2009; Prior 2007; de Vreese & Boomgaarden 2006, Williams and Delli Carpini 2010).

What constitutes good information for democratic citizenship, is not as straightforward as one might think (Williams and Delli Carpini 2010). Since the information environment delimits the opportunity for a cognitively engaged citizenry, what channel each individual chooses to be exposed may be less vital than one's probability to encounter politically and democratically useful information, including inadvertently or indirectly. Yet, at the most basic level factually wrong or misleading information or explanations are unlikely to be useful for citizens to make sense of politics. In this vein, our paper aims to see whether media with a political leaning, *i.e.* providing partisan grounded information, analyses and interpretations and advocating certain policy positions, often considered as a principal source of misinformation, can be both engaging and informative.

As often discussed in everyday parlance about media products, different media display distinct degrees of commitment to particular political perspectives, to truthful coverage, and to entertainment. We build on this distinction rooted in common sense to develop an innovative conceptualization and measurement of 'political commitment' (*i.e.* espousing and advocating partisan views) and information commitment (*i.e.* adhering to the practice of fact checking, verification, accuracy and the presentation of a diversity of facts, elements, arguments) seen as separate dimensions that are not unescapably mutually exclusive or automatic opposites, which is in line with well-known definitions of journalistic principles (Kovach and Rosenstiel 1997).

Yet, we do not have much evidence about how the two dimensions of content or journalism, information commitment and political commitment, actually operate, to what extent they coexisted or not and how this was related to citizens' political information and interest. This paper tries to fill this gap by using a well suited cross-national design where a large number of very distinct media contexts provide the necessary variance on the relevant media characteristics that can be linked with citizens' cognitive engagement. Our individual-level survey data on citizens comes from the 2009 European Election Study (EES), which, to our knowledge, is the only data set to date that provides cross-nationally comparable data on both citizens' level of political interest and their political knowledge for a sufficiently large number of countries to allow for meaningful correlational analysis across a diverse set of media environments.

The first part of the paper briefly presents the main arguments and derives the hypotheses. After explaining our research design choices, the data section concentrates on the macro data derived from an original expert survey and its methodological reliability and substantive relevance.

### **Information commitment and political commitment:**

At the micro level our theoretical expectations presume two chains of causation. Partisan tone can provide emotional arousal and consequently more interest in politics, whilst information quality is a rather uncontroversial driver of learning.

We use the word ‘commitment’ partly to stress that the opposite of political ‘bias’ – i.e., the lack of bias – is not necessarily a truthful and balanced coverage of the political world. It may just mean poorly researched, probably entertainment-oriented, but probably just very cheaply produced media content that the lack of solvent demand for conventionally understood quality journalism, or the lack of competition, or indeed excessive competition among media sustains. In other words, the lack of a recognizable bias in a particular media may not mean a reasonably balanced and accurate coverage of relevant perspectives and facts on a matter. Instead, it may mean just the lack of a consistent, systematic tendency of favoring one partisan or ideological perspective across all sorts of topics. This is part of the reason why the predictable and consistent political commitment of a media outlet may be valuable for what, for example, a well-meaning liberal or conservative may think about the news of the day. As the widely recognized political coloring of some of the world’s most prestigious quality newspapers testify, satisfying some audience demand for political guidance is clearly not incompatible with a high degree of commitment to presenting accurate information and a reasonably wide range of political perspectives about public affairs. Furthermore, we do not look at the two types of commitment as automatically synonymous with ‘journalism of advocacy’ versus ‘journalism of verification’ (on these terms, see <http://www.bbc.co.uk/journalism/ethics-and-values/truth-accuracy/>), although cross-nationally there is a connection between the prevalence of one over the other. The two commitments can coexist in the same media outlet, although we acknowledge that often they are meant to play distinct roles and may not easily coexist in reality, not the least because of historical reasons (Hallin and Mancini 2004).

In their ‘principles of journalism’, Kovach and Rosenstiel (1997) state that accuracy and expressing a political view are not mutually exclusive and that journalists do not have to be neutral. But they emphasize the crucial importance of accuracy and verification as defining (good) journalistic practice (see <http://www.journalism.org/resources/principles>; see also the guidelines of Reuters at <http://handbook.reuters.com/index.php/Accuracy>; the BBC fundamental principles at [http://www.bbc.co.uk/worldservice/specials/1510\\_accuracy](http://www.bbc.co.uk/worldservice/specials/1510_accuracy); and the BBC College of Journalism recommendations at <http://www.bbc.co.uk/journalism/ethics-and-values/truth-accuracy/>). Therefore, in an ideal world the two commitments can mutually enforce each other’s value. Previous research suggests that partisan media is more effective in mobilizing citizens, whilst media that provides more information and more diverse information is more effective for political learning but not necessarily that partisanship in itself is bad for citizens’ political knowledge, for accountability or ‘correct’ voting, maybe because the assumption of basic accuracy was maintained.

Moreover, our concept of information commitment is narrower than the definitions most frequently used for information quality, which is considered normatively and has been shown empirically to be associated with higher political awareness. Our definition is more basic, does not assume a high level of intellectuality or even of depth and contextualization (Schmitt-Beck 1999, Iyengar et al 2009). We go to the most basic level of information quality to consider that factually wrong or misleading information or explanations are unlikely to be useful for citizens

to make sense of politics. In everyday situations, it really is a no brainer that accurate info is more useful than mistaken/incorrect/flawed. With the wrong information at hand, for instance, about how much paint is necessary for a square meter of wall and how many layers are necessary, you cannot buy the correct quantity. The inconvenience is clear and immediate. It is not so simple with political/policy choices because issues are more complex and often more remote and it is more difficult to check for citizens.

Yet, accuracy is so fundamental, that in fact all the research that considers the value of information quality and of the amount of information or of issue coverage, builds on the assumption of accuracy (see Kuklinski about misinformed not just uninformed and Jerit and Barabas 2006 on how powerful misleading information is). Very specifically, receiving accurate political information, appears to be desirable if for no other reason than because it allows citizens to select and unselect candidates for office according to whether their political deeds matched the citizens' preferences (see Barabas et al. 2011 for experimental evidence on this point). Thus what we posit to be relevant is just reasonable accuracy in the coverage of facts and a reasonable balance and diversity in the coverage of political arguments. We insist on 'reasonable' exactly because by not focusing on a high degree of intellectuality and complexity, one does not have to contemplate whether high information commitment may be disadvantageous for some citizens given their ability (such as research in the 90s has shown about newspaper readers, see Kleijnijenhuis 1999).

Furthermore, the opposite, ie misinformation/ misleading information is problematic not only on normative grounds but it negatively affects citizens political knowledge. Evidence from recent experimental research shows that, at least in the absence of partisan cues, exposure to accurate information countering previously received incorrect information leads to dramatic changes in political perceptions and actor evaluations, leaving the audience essentially where its cognitions would have been in the absence of any prior misinformation, and at a very different place than after not receiving any correct or incorrect information (Thorson 2011).

It is specifically in relation to partisan cues that accuracy and its opposite (misleading information leading to misinformation) become particularly relevant. Fundamentally there is no logical reason why partisan commitment in itself, in a direct manner to have an influence on political knowledge, rather than through engagement/ interest, on the contrary, politically committed media should positively influence citizens' knowledge level indirectly, through their increased interest in politics, irrespective of other effects potentially considered negative, such as increased polarisation (see Taylor 2011). But because the root of misinformation is often partisanship, the link of partisanship as a negative feature of media content is frequently made. Some recent research does suggest that factual information among Fox news viewers is lower than of other network news viewers, after controls (REF), yet the focus was on issues generally less salient for Fox News viewers, which may explain the lack of knowledge, even after controlling for general political knowledge.

We hypothesize that media political commitment stirs up interest in politics among citizens, especially among partisans, but does not in itself have a direct negative effect on citizens' information level. Instead, we expect that citizens' knowledge level is dependent on information commitment in the media. Since by information commitment we merely mean a reasonable

accuracy in the coverage of facts and a reasonable balance and diversity in the coverage of political arguments, we expect that information commitment in the media reduces the information costs of citizens and thus reduces knowledge gaps between more and less educated citizens. We do expect, however, that political and information commitment are unusual bedfellows in the empirical world and they mostly develop at the expense of each other. Therefore stronger political commitment in the media may indirectly be associated with lower political knowledge among citizens.

### **Research design**

In order to test empirically our hypotheses it is necessary to match individual-level data on citizens' political knowledge and interest with data on variance in the information and political commitment in the media that these citizens attend to. Our research strategy differs from most previous studies by (a) introducing separate measures for these two distinct commitments; and (b) capturing differences in citizens' media environments with cross-national rather than within-country data.

The first choice is obvious from our hypotheses. The second choice is fundamentally substantive although the reason why we focus *exclusively* on cross-national differences while studying the impact of media commitments is, admittedly, the lack of good individual-level measures of what media each respondent attends to in the cross-national survey data set that provides our measures of political knowledge and interest among citizens (see the next section). However, there are also good substantive reasons to paying more attention to cross-national differences than it is common in this field of study. First, in terms of individual level variance in what media is likely to influence citizens can be reliably measured only in controlled experiments. In the natural world, nearly everyone is directly exposed to a variety of outlets that few can recall accurately when prompted in a survey. That was the case even in the pre-internet world with much fewer choices. Standard measures of media exposure – how often or how long one watched, listened to or read a source – are unlikely to tell us much about the actual engagement of a person with the specifically political content in a media (Bartels 1993; Zaller 1992). Dedicated readers of British tabloids may attend to many poorly researched stories for sheer entertainment and be to some extent influenced by the tone of their political coverage. Yet at least some of them may reckon that for credible political facts they'd better pay attention to a knowledgeable family member's observations or the few minutes of BBC coverage that they are exposed to during the day (offline or online). Moreover, everyday exchanges with peers assure that citizens are also exposed to and influenced by information and political viewpoints that hardly or never occurred in the media that they personally attend to (see, e.g., Johnston et al. 1992: ...; Lenart 1994; Mutz 1998). Last but not least, even if we had information about the exact degree of both direct and indirect engagement with content from all media, we are unlikely to have dependable data on the content characteristics of every outlet. All in all, individual-level data on which media citizens attend to knowingly would, even under the best circumstances, give us just poor intelligence about the media environment that really matters for their political cognitions.

Focusing on national-level variation in media environments is not the only route to salvation, but there is much to recommend this alternative strategy. National media scenes in Europe, i.e. the continent where we look for evidence, continue to be demarcated by strong language barriers and

the territorial focus of media products and their distribution routes. Citizens within each national community are directly exposed to a variety of broadcast, print and online media that operate nearly exclusively within the national market, and are indirectly, even unknowingly, exposed to some other national media via interpersonal communication. Media operating on the same national market are also likely to influence each other via competition, and are subject to similar influences from journalistic culture, training, market size, and traditions. Once again, British tabloids may look very different compared to the BBC or the British broadsheets, but they may all have stronger (or weaker) political and/or information commitment than their counterparts in Greece, Romania or Sweden. If our hypotheses were correct and the cross-national variance in the political and information commitment of the average media outlet is considerable, then we should find that citizens in countries where media tend to have stronger than average political commitment have *ceteris paribus* more interest in politics, and greater differences between partisans and non-partisans in interest. Similarly, citizens in countries where media tend to have stronger information commitment ought to be more knowledgeable and show smaller knowledge gaps by level of education.

The warning that correlation is not causation certainly applies to our research design. Controlled experiments should talk more directly about the presence or absence of a causal link from media content to citizen cognitions, while the evidence provided by cross-sectional data will always remain more ambiguous in this respect. After all, citizen characteristics may just as well influence media content as the other way round. However, controlled experiments cannot determine how information commitment and political commitment in the media correlate with each other under real-life circumstances, and whether under those circumstances we can expect the same magnitude and direction of their net effects as in a controlled experiment. Therefore, while our cross-sectional study has a naturally limited testing power regarding the direction of causality, we nonetheless expect it to fill an important gap in currently available knowledge about media effects.

## **Data**

Our individual-level survey data on citizens comes from the 2009 European Election Study (EES), which, to our knowledge, is the only data set to date that provides cross-nationally comparable data on both citizens' level of political interest and their political knowledge for a sufficiently large number of countries to allow for meaningful correlational analysis across a diverse set of media environments.<sup>1</sup> The data for this survey was collected largely over the phone, interviewing clustered random samples of the citizen population in each member state of the European Union in the weeks following the June 2009 elections to the European Parliament (for details on the survey design see [www.piredeu.eu](http://www.piredeu.eu)). We omit from the analysis Luxembourg, for which we have no data on media commitments, and, given the clear linguistic separation of both citizens and media outlets, split the Belgian sample into French- and Flemish-speaking halves. This way we end up with a total of 27 national contexts in our analysis, and up to 26,000 respondents (minus item non-response) in our multilevel analyses.

Our appendix provides a technical description of the variables in the analysis. Briefly, the dependent variables in our multilevel analysis are political interest, a conventional single-item measure of citizens' cognitive involvement with politics (Gabriel and van Deth 1995), and

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<sup>1</sup> The data set and its full documentation are publicly available via [www.piredeu.eu](http://www.piredeu.eu).

political knowledge, generally considered the most straightforward survey-based measure of citizens' political sophistication in the contemporary literature (Luskin 1987; Zaller 1992; Delli Carpini and Keeter 1996; Althaus 2003), and measured here with an additive scale counting the number of correct answers to a battery of identical quiz items asked in each member state. In studying how media commitments relate to differences in political interest and knowledge, we control for a number of individual- and national-level variables that can conceivably generate spurious correlations (or a spurious lack of correlation) between the variables of theoretical interest. As detailed in the appendix, all these variables save *Human Development* and *Ideological Polarization* come from the EES survey.

Comparatively measuring how much political bias, factual accuracy and diversity of political perspectives are present across a large number of media outlets in dozens of countries is obviously a daunting task. Content analyses variously tried to detect partisan bias in media outlets by coding the amount and tone of coverage given to different political actors, or editorial endorsements (see e.g. Dalton, Beck and Huckfeldt 1998), or by detecting similarities between the vocabulary or source references of media outlets and benchmark political actors (ADD REF). Other studies tried to use audience characteristics to detect the political leaning of media outlets (Hamilton 2004; van Kempen 2006; Toka and Popescu 2009). Yet it is hard to see how content analyses or audience characteristics could provide cross-nationally comparable measures of factual accuracy or diversity of perspectives presented.

However, personal observations suggests to us that specialist observers of media in specific countries tend to have access to tons of anecdotal evidence, personal observations, and sometimes even systematically collected data about the matter. Reading the scholarly literature and learned commentary on mass media in individual countries produced by these experts we have been impressed by how rarely one finds disagreement about whether, say in Great Britain, the *Daily Telegraph* or *The Sun*, and even less on whether the *BBC* or *The Daily Mirror* presents better researched facts and a politically more balanced coverage of public affairs. The way perception-based measures transformed the study of political risk, corruption, quality of governance, democratization and party positions in the last few decades suggests to us that even if expert opinion can only be considered a gauge of reputation rather than of fact, reputation among specialists, if it can be reliably measured, should provide a more compelling insight into the information and political commitments of media outlets than conceivable alternatives may be able to provide in the foreseeable future.

Therefore, to take stock of the scattered specialist knowledge on mass media, to statistically determine its aggregate reliability, and to use it for statistical analyses, one of the present authors and her collaborators compiled a list of 1826 expert observers of news media in 33 European countries, and conducted an online survey among them (see Popescu, Gosselin and Santana Pereira 2010). The aim was to target the largest pool of people with an expertise on the respective country from academic institutions in political science, communication, media studies, journalism, European studies, sociology, and, to the extent possible, non-academic specialists in media monitoring, media economics analysis, media consultancy, or media/journalism training. The sampling frame was created using extensive searches for publications regarding national media and political communication processes in the target countries, browsing CVs and faculty lists of relevant university departments on the internet, and by occasionally soliciting personal

advice from notable specialists from the given countries. As a general rule, demonstrated and publicly recognized expertise, rather than nationality, was the criteria to judge country-specific expertise. This strategy led to incorporating a more diverse range of scholarly views and methodological orientations in the survey than those available in international academic outlets in the main languages of international communication about mass media and national media systems. Thus the survey provides a more systematic and consistent aggregation of scholarly/expert views on the topics of interest than any systematic coding of existing descriptive materials on national media systems would be.

Following invitations by email and three rounds of reminders, a total of 659 experts (36% response rate from the initial sampling frame) answered the online poll administered with the help of the Qualtrics software facility between December 2009 and May 2010. The lowest national response rate (18%) occurred in Russia and the highest (70%) in Malta, assuring that responses were provided by at least seven, and in four cases by 30 or more, experts per country (for details see Table 6 in our appendix).

The item battery that we will use in the present analysis asked the respondents to evaluate up to ten media outlets in the country they were an expert of according to a number of criteria. The media outlets invariably included three to five television channels and three to five newspapers. The primary targets were defined as national outlets that had at least some political coverage on a daily basis in 2009. The secondary target in the selection was to include, as much as possible without alienating the respondents with a list of more than ten outlets, all outlets that had at least a five percent share of the total television audience or the total newspaper readership, with the percentage threshold reduced to just three or even two percent in countries with more fragmented media markets. In one country, known human errors led to the omission of two relevant tabloids. Everywhere else however the selected outlets had among them over 80 and often over 90 percent of the total audience/readership of the primary targets in the given country.

The four items used below asked the respondents – right after a question on “How would you characterize the political colour of each of these media outlets in [COUNTRY]? Please select for each media [on the list] which political party [on the list provided] it agrees with most often.” – to use an endpoint-labelled 0-10 scale in responding to the questions shown in Table 1. The preamble to the battery read: “Thinking about how various media report and analyse political news, please rate them according to how often they do various things.”

Table 1 about here

Table 1 shows the inter-expert correlation and item reliability coefficients for each item, calculated with the variance-decomposition procedure proposed for expert survey data, where it is common to have different panels of experts for different objects of evaluation, by Steenbergen and Marks (2007). The values of the inter-expert correlations are dependent on two factors: the extent to which the experts on an object agree regarding the rating of it on the given scale, and the extent to which the average expert opinion differs regarding the different objects. Low correlations, therefore, may mean either the lack of expert consensus regarding an object or merely that the random measurement error component of individual judgments regarding an object is relatively large compared to how big the true differences are between the objects. As

Table 1 reveals, the inter-expert correlations regarding media commitments are relatively modest compared to what, say, inter-coder reliability figures one would ideally require from a content analysis. Note, however, that in a typical content analysis every text corpus is coded by one or two coders. In an expert survey, however, individual ratings (as equivalents of a single coder's judgements in content analysis) are averaged across a larger number of experts to derive the datum of interest. The reliability of this average is, obviously, the function of the inter-expert correlation and the number of ratings that are averaged for each object.<sup>2</sup> Hence the inter-expert correlations need to be adjusted using the Spearman-Brown formula originally used for calculations regarding some properties of multi-item scales (Steenbergen and Marks 2007), and this adjustment results in the reliability coefficients reported in the last column of Table 1. The reliability coefficients – comparable to Cronbach alpha values – shown in Table 1 suggest that in spite of the modest inter-expert correlations the averaging across a relatively large number of experts assures that our data on media commitments has a reassuringly high reliability regarding the rating of the 289 outlets on all four questionnaire items.

Of course, reliability only means that in the absence of a systematic sampling bias our data is a reliable reflection of what the average responses to our questionnaire items would be in the target population (i.e., expert evaluators of news media content in 33 European countries). A high reliability in this respect does not guarantee that the data are also valid indicators of the phenomena that we meant to measure with them. In particular, there may be question marks about whether the experts in different countries have a shared understanding of the questions and their endpoints. To some extent, the fact that all the respondents are part of the same international scholarly community should assure that they share a common understanding of English words (the questionnaire was administered in English only to all respondents but one who requested a French version to double-check his initial understanding of the items) as well as the standards or reporting that can be expected from news outlets, e.g. what qualifies as (lack of) advocacy, accuracy, and so forth. Yet it may be the case that respondents in a small media market apply more lenient standards in evaluating accuracy than respondents from a large and particularly affluent country, reflecting the very different resource constraints faced quality media in one and the other context.

We cannot conduct validity tests using other data as criterion because there is no other cross-national data on the same countries comparable to ours. But the correlations in Table 2 are encouraging regarding the construct validity of our items. *Partisanship* and *Advocacy* are meant to cover two relatively distinct types of political commitment, while *Accuracy* and *Diversity* to show the two key aspects of information commitment. Hence we can expect relatively strong positive correlations within each pair, and, given the tradeoffs between the two types of commitments, negative correlations across the pairs, especially between *Diversity* and the two measures of political commitment. This is indeed what we find; in fact, the correlations within both pairs are so strong – .78 and .85, respectively – that it seems to make little sense to distinguish in our analyses between the subdimensions of either political or information commitment.

Table 2 about here

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<sup>2</sup> In practice, this means the weighted average of the expert judgments available for each object.

The final row of Table 2 further reveals that a substantial part – roughly half for the political commitment items and just a bit less than a quarter for *Accuracy* and *Diversity* – of the variance on the four items is between countries rather than between media outlets within the same country. This is again reassuring since it means that although each national group of experts evaluate outlets from just one country, they do not use the same range of values on our 0 to 10 scale irrespectively of the country they talk about but probably remain sensitive to cross-national differences in media commitments. The existence of a substantial cross-national variance in these media commitments is indeed a well established cornerstone of the qualitative, historical analysis of European media systems, especially with respect to the intensity of partisanship but also in terms of the significance of a tabloid press with low commitment to information quality (see Hallin and Mancini 2004).

The fact that there is such a cross-national variance in our data does not guarantee that we are capturing the correct variance. To examine whether this is the case we turn to an assessment of the face validity of the data through a comparison with some of the best established elements of the conventional wisdom about how European media systems differ from each other. Following Hallin and Mancini (2004), some of the key differences between Northern, Western and Southern Europe are related to the differentiation between a mass circulation tabloid press (with relatively low information commitment) in the German-speaking world as well as France, the Netherlands, Ireland and the UK, and the relative absence of such differentiation in Southern and Northern Europe. In addition, Hallin and Mancini (2004) make us expect a stronger political commitment in the Southern than in the Western or Northern European media. As for Eastern Europe, the broadsheets newspapers and most television channels can be expected to show similarly strong political commitments as in the South. However, in the larger and/or more affluent East and Central European countries ranging from Slovenia and Croatia through Hungary and Slovakia to the Czech Republic and Poland, a mass circulation tabloid press emerged with similarly low information commitment as in Western Europe from Austria to Ireland, but mostly owned by multinational media conglomerates keen to preserve the political neutrality of their outlets (Stetka 2011, Bajomi-Lazar, Ornebring and Stetka 2011).

Figures 1 and 2 about here

Figures 1 and 2 provide some evidence that these well-established comparative trends duly show up in the data, and hence a shared interpretation of our questions and scales seems to exist across our national panels. In Figure 1 we display the location of each newspaper in the dataset in the two-dimensional space formed by our *Political Commitment of Outlets* and *Information Commitment of Outlets* variables, constructed by adding up *Partisanship* and *Advocacy* on the one hand and *Accuracy* and *Diversity* on the other. Clearly, a substantial negative correlation ( $r = -.42$ ) exists between political and information commitments at the level of media outlets, which is in line with our expectation. Note first which individual outlets reduce this negative correlation by being unexpectedly strong in information commitment relative to their political commitments. We labelled the most conspicuous cases in the figure by their name and they all turn out to be among the prestigious broadsheets in their respective countries, from the *Sddeutsche Zeitung* of Germany through *Helsingen Sanomat* of Finland, the *Le Monde* and *Le Figaro* of France, *Der Standard* of Austria, *The Times of Malta* and *Novaya Gazeta* (the only major opposition newspaper) in Russia. In contrast, the newspapers that are conspicuously weak in information

commitment compared to their political commitments are all tabloid newspapers: *The Sun* from Great Britain, *Neue Kronen Zeitung* from Austria, *Vakaro Zinos* from Greece, *Bild* from Germany, and an impressively homogeneous group of Czech, Slovenian, Romanian, Croatian, Polish, Hungarian and Czech tabloids that score quite low in both political and information commitment. This is, of course, exactly the pattern that we would expect in this figure if the experts from the different countries shared an understanding of what points 0, 1, ... and 20 of our two scales really meant.

Figure 2 displays the location of all 289 media outlets covered in the survey in exactly the same two-dimensional space for each individual country. To help the identification of tabloids, here we made the circles standing for each outlet differ in size by their relative size of audience/readership and differ in color by type of media. What is noteworthy here is that in the Southern and Northern European countries, which, with the recently emerged exception of Sweden, lack a clear differentiation between tabloids and broadsheets, typically have all their media outlets occupying very similar positions in the two-dimensional space. In contrast, in the countries with a tabloid press the experts apparently used a much broader range of response categories to describe the commitments of the individual outlets. As expected, Northern European media (see the figures for Norway, Denmark, Sweden, Finland) are generally rated by the experts as far less politically committed than Southern (i.e. Greek, Cypriot, Maltese, Italian, Spanish and Portuguese) or Eastern European media, and Polish, Czech, Slovak, Hungarian, Croat and Slovenian large-circulation newspapers are quite different from their Austrian, German, Dutch, Flemish, British, Irish, and Swedish counterpart in combining a relatively low information commitment to a low rather than unusually high political commitment. Again, this is exactly the pattern that we would expect in this figure if the experts from the different countries shared an understanding of what points 0, 1, ... and 20 of our two scales really meant.

Overall, then, we are reasonably confident that our data about media commitment has high reliability as well as reasonable face and construct validity. We can now turn to testing our hypotheses about the impact of political and information commitments in the media on citizens' political cognition.

### **Statistical models**

Our empirical analysis examines the impact of *Political Commitment* – formed as a sum of the *Partisanship* and *Advocacy* variables – and *Information Commitment* – formed as a sum of *Accuracy* and *Diversity* – on the level of *Political Interest* and *Knowledge* as well as their individual-level relationship with partisanship and education across 27 societies (26 countries plus the two major linguistic communities of Belgium) in the European Union that have their own media system at the national level. As explained in the research design section, we focus exclusively on the impact of cross-national differences in media commitment, partly for broader methodological reasons and partly because we do not have good data on amounts of exposure to all individual newspapers and channels that the respondent attends to.<sup>3</sup>

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<sup>3</sup> The 2009 EES survey only asked respondents about their exact frequency of exposure to two or at most three political news programs and newspapers, which were content analysed in the EES study. Exposure to other programs on the same or other television channels was not recorded, and exposure to other newspapers and other than the two or three content analyzed news programs was only recorded if the respondent explicitly claimed at a filter question “more frequent” exposure to these other sources than those content analysed by the project. Thus, for

Since there may be concerns about whether the estimated effects of media commitment are spurious and merely the result of their correlations with other plausible influences on citizens' political interest and knowledge, the models feature a number of macro- and individual-level controls. The individual level controls are age, age-squared, sex, rural residence, economic activity, exposure to television news, exposure to newspapers, and, in the models where knowledge is the dependent variable, interest in politics. We include these controls partisans and non-partisans, more and less educated may have different composition from country to country in terms of these other conceivable determinants of political interest and knowledge. We wish to control for these possible compositional differences while testing our hypothesis about how media commitments influence knowledge gaps between educational groups, and gaps in political interest between partisans and non-partisans.

We estimate both individual-level and macro-level effects with the same hierarchical linear models, using the full maximum likelihood algorithm of the HLM6 software.<sup>4</sup> The reason why we estimate as many as seven models for each dependent variable is not uncertainty regarding the correct specification but the relatively low number of cases (27 national contexts) at level-2, which could conceivably make the results sensitive to exactly what controls are included in a model. To allow an examination of the robustness of the findings, we present detailed results for all seven models, starting with Model 1, which only includes *Political Commitment* as a macro variable, and then add *Information Commitment* in Model 2, with the subsequent Models 3 to 7 each adding one additional control at a time. These macro-level controls are the ones that we consider the most plausible alternative influences on citizens' level of political interest and knowledge, and include an index of human development level (this is based partly on levels of education and partly on health statistics) from the UNDP; data on exposure to television news and newspapers in the population; an index of ideological polarization among parties, which should raise the stakes in the democratic process and reduce citizens' political information costs; and the percentage of people reporting partisan allegiance, which is another possible measure of how excited the democratic process makes citizens about politics in the given country.

Table 3 about here

The coding of all variables is described in the appendix and descriptive statistics are shown in Table 3. Note that we assisted the interpretation of effect magnitudes by linearly transforming all dependent and independent variables such that their minimum observed value became zero and their maximum one. Following standard procedures that facilitate the separation of level-1 and level-2 effects, in the multilevel analysis we centered all level-1 variables at their country mean and all level-2 variables at their grand mean. Missing values on the individual-level variables were deleted listwise, leaving us with 24,602 cases in the models for political interest and 24,133 cases in the models for knowledge. All coefficients except the intercept were assumed to be

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instance, for Great Britain we only have data on frequency of exposure to the ten o'clock news on *BBC1* and *ITV1*, as well as *The Sun*, *The Guardian* and the *Daily Telegraph*. About exposure to other news programs and other newspapers we can only reconstruct systematically whether the respondent was exposed to them at least once a week.

<sup>4</sup> The restricted maximum likelihood estimator of the same software provided substantively identical results but clearly incorrect statistics about model fit.

fixed, while the intercept was assumed to vary at random across national contexts. Tables 4 and 5 present the estimates.

Tables 4 and 5 about here

## Empirical results

Our first model contains only the main effects of the level-1 control variables. The results are largely as one would expect, with the better educated, older, male, and urban respondents showing both *ceteris paribus* more interest in politics and a higher level of knowledge. Exposure to newspapers and news on tv are also positively associated with both interest and knowledge, as is partisanship, though the possible net effect of the latter is only significant for interest, but not knowledge. As Models 2 to 7 gradually add our full set of macro influences to the model, the main effects of the individual variables remain virtually unchanged.

Our first substantively important result is that the same applies to the *Partisan* times *Political Commitment* interaction, which is positive and significant in all models where it appears. This means that the more politically committed the media are in a society, the bigger the differences in political interest are between partisans and non-partisans. The same interaction, however, has no significant effect on *Political Knowledge*, which is not surprising in the light of the insignificant main effect of partisanship on knowledge. In other words, since there is no knowledge gap (net of political interest and so forth) between partisans and non-partisans, this gap is not influenced by the media's political commitment either.

Knowledge gaps by educational levels do, however, drop by *Information Commitment* in the media, as is revealed by the consistently significant and negative effects of the *Education* times *Information Commitment* interaction in Table 5. This, again, is as expected: greater accuracy in news reporting and more diversity in the political perspectives that appear in the media reduce information costs, and the knowledge level of less educated citizens may be disproportionately affected by these reduced costs.

The results regarding the main effects of media commitments are largely, but not entirely in line with our prior expectations. *Political Commitment* does indeed have a significant positive effect on political interest through Model 4 to 7. However, the effect only becomes positive after a control is introduced for *Information Commitment*, and only becomes significant when a control for the percentage of newspaper-readers is added too. What is less important here is that newspaper-reading has such robust net association with political interest, and that the positive effect of *Political Commitment* only appears convincing when this factor is controlled for. What is more intriguing is that *Information Commitment* in the media has at least as much positive effect on citizens' political interest as newspaper-reading, human development, and indeed *Political Commitment*, and that the positive effect of the latter only appears when we hold *Information Commitment* constant. But *Information Commitment* is hardly independent of *Political Commitment*: at the country level the two variables are correlated at  $r=-0.63$ . Typically, therefore, what a country might gain in citizens' interest in politics by having a more politically committed media, is likely, in part, be lost because of the adverse effects of the lower information commitment in the media, that typically accompanies higher political commitment.

Finally, the direct association of *Political Commitment* is also negative, albeit insignificant, with the average knowledge level of citizens (see the results with Model 2 in Table 5). Once a control is introduced for Information Commitment, the net relationship turns positive, and after various other controls are added by Models 3 to 7, the effect even becomes weakly significant, though only in one model. We are therefore inclined to conclude that our “no net effect of *Political Commitment* on citizens’ political knowledge level” hypothesis cannot be rejected with this data. We are similarly unable to reject the hypothesis that *Information Commitment*, in its turn, has a positive effect on citizens’ knowledge level. While the effect only becomes statistically significant after a control is added for the once again robust positive effect of more newspaper readers in a society, afterwards it remains significant in all model specifications, independently of the further controls present in the model. Once again, the positive effect of *Information Commitment* on a desirable cognitive trait of citizens’ in democracy impresses with its size when we compare it to the effects of the remaining control variables, which include the percentage of television new viewers, the percentage of partisans, the degree of ideological polarization between the parties, and human development. All these additional effects are, as expected, positive, but they are hardly at all statistically significant, and they also pale in size compared to the 0.14 change in citizens’ knowledge level that is associated with a change of media *Information Commitment* to its minimal to its maximum value observed among the member states of the EU.

## **Conclusion**

In this paper we tried to explore the contribution of political bias in the media to the supply of characteristics that are usually taken as a reference point in evaluating the democratic performance of the media. Whatever the value of citizens’ interest in politics and their political knowledge really is in the democratic process, these variables are usually taken as an important benchmark by which the media’s contribution to the democratic process can be assessed. Regarding political bias, or as we preferred to call it here, political commitment in the media, two chief arguments in contemporary debates seem to be that (a) such commitment is a public good because it makes citizens more engaged with the political process; and alternatively that (b) it is public bad because it makes citizens less knowledgeable about politics.

We tried to assess these claims by developing new measures for the cross-national variance of media commitments across European countries and examining how they correlate with the level and distribution of political interest and political knowledge among citizens. Once the media’s information commitment – i.e. its reputation among experts for accuracy in news reporting and presenting diverse political viewpoints about public affairs – was controlled for, we saw no evidence that media political commitment per se would reduce citizens’ political knowledge level. In fact, we even saw a bit of weak evidence supporting the opposite proposition. At the same time, we found supportive evidence for the claim that media political commitment may increase political interest among citizens. This increase is especially notable among citizens who feel close to a party, but it is also apparent in the overall level of citizen interest in politics, at least after the positive effects of media information commitment and the percentage of people reading newspapers is taken into account. All this vindicates the view that political commitment

in the media is probably not so detrimental for the democratic process as the dominant journalistic norms in advanced democracies have been claiming in the last few decades.

On balance, however, our evidence probably gives even more support to the opposite perspective. *Ceteris paribus*, political commitment in the media may make a positive contribution to citizens' interest in politics, and might – though it really just 'might', given the meager supportive evidence that we saw for this claim – even contribute to higher knowledge among citizens. But so does information commitment in the media too, and actually does so far more clearly than media political commitments in the case of citizens' knowledge level. The fundamental problem with media political commitment seems to be that its positive contributions are only apparent when media information commitment is hold constant. However, in real life this commitment hardly is a constant. Media outlets with strong political commitments tend to display below average commitment to accuracy in news reporting and presenting diverse political viewpoints about public affairs (see Table 1). The same negative correlation becomes even more pronounced (-0.62) when we look at the cross-national component of the variance in media commitments, meaning that countries where the media tend to have high political commitment tend to have media with low information commitment (see Figure 3).

Figure 3 about here

The ideal world, given citizens' interest and knowledge as the only benchmarks, may be one where media have strong commitments on both counts: advocate policy positions, explicitly support parties when it comes to passing an opinion, but at the same time maintaining accuracy in news reporting and presenting all or at least most sides of the argument in political debates. This is, of course, what some of the most highly respected quality newspapers of advanced democracies have been doing for a long time, although usually with just a modest degree of open partisanship. What brings a bad reputation to media political commitment in the democratic process is that so few media outlets display such dual commitments. Nonetheless, the genuine problem with media political commitments does not seem to be political commitment per se, but rather inaccuracy and one-sidedness in presenting the facts of public affairs.

This finding is particularly significant given the changes that all media landscapes currently undergo and when a crucial issue seems to be if partisan media sources are bad for democracy because of their partisanship or because the fragmentation of audiences on partisan lines leads to the disappearance of a common public sphere in which one is exposed to divergent views or because these new partisan outlets cease to meet the most basic level of accuracy in terms of facts and arguments, leading potentially to the disappearance of basic common reference points of a factual nature. Kovach and Rosenstiel (2010) suggest that in the current information environment the main concern seems to be that the journalism of argument, i.e. the information based partisan journalism of the type exposed by the British broadsheets, is replaced by a journalism of assertion: while the first inescapably needs verification, accuracy and the presentation of all sides of an argument or a story, the latter almost completely evades these and is exclusively expressive. In our own data collection we find that in fact the British partisan broadsheets are the exception rather than the norm in Europe, and that the distinction is not even between partisan newspapers and partisan television channels but in the difficulty of partisan outlets to maintain standards of 'information quality'. In this manner, the relevance of our paper

goes not only beyond the specific contexts and outlets, and is relevant for the changing media and the online world. Our findings also beg the question whether the intervening variable between information commitment and partisan commitment is journalistic culture or journalistic professionalism. We will explore that possibility in future research together with other soft and hard structural features of media systems not least because it is of great relevance to the currently changing information environments issues regarding the possibility to maintain professional journalism and the positive features of information commitment associated to it and which may still be needed in order for the great participatory and interactive potential of the online world to actually operate to enhance the quality of democracy.

The weak part of our evidence concerns, of course, the direction of causality between citizen and media characteristics. In large-scale cross-national micro-macro comparisons like ours, the reliance on cross-sectional data is often inevitable in contemporary political science. However, this excuse does not make it less of a problem that the chain of causation just as well run from a more interested and more knowledgeable citizenry to a media with stronger information, and probably stronger political commitment than the other way round. Our study therefore leaves ample space for experimental studies to explore the direction of causality more clearly. Yet we think that it also has a strong implication for such experimental studies: one cannot treat political and information commitment in the media as two uncorrelated variables. Instead, future experimental studies of the impact of media political commitments on citizens should try hard not only to explore the net effect of media political commitment when information commitments are held constant, but also to explore the possible impact of political commitments on information commitment in the media.

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## Technical appendix

### Response rates in the 2010 European Media Systems Survey by country

<i>Country</i>	<i>Invited</i>		<i>Read invitation</i>		<i>Answered</i>		<i>Fully completed</i>	
	<i>N</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	
Austria	56	24	43	19	34	19	34	
Belgium (Dutch-speaking)	67	35	52	23	34	19	28	
Belgium (Francophone)	51	19	37	12	24	11	22	
Bulgaria	45	14	31	11	24	11	24	
Croatia	26	19	73	16	62	16	62	
Cyprus	21	9	43	9	43	9	43	
Czech Republic	42	22	52	13	31	11	26	
Denmark	67	26	39	21	31	17	25	
Estonia	38	23	61	17	45	17	45	
Finland	65	32	49	30	46	30	46	
France	92	25	27	18	20	12	13	
Germany	89	41	46	35	39	33	37	
Greece	68	26	38	17	25	15	22	
Hungary	55	25	45	23	42	22	40	
Ireland	33	17	52	14	42	10	30	
Italy	78	28	36	23	29	22	28	
Latvia	30	12	40	10	33	9	30	
Lithuania	41	28	68	23	56	21	51	
Macedonia	30	15	50	13	43	12	40	
Malta	10	8	80	7	70	7	70	
Moldova	34	17	50	13	38	13	38	
Netherlands	61	27	44	22	36	22	36	
Norway	50	30	60	24	48	19	38	
Poland	43	23	53	15	35	15	35	
Portugal	70	25	36	22	31	21	30	
Romania	71	48	68	38	54	35	49	
Russia	65	17	26	12	18	12	18	
Serbia	43	23	53	20	47	20	47	
Slovakia	40	19	48	13	33	13	33	
Slovenia	37	22	59	18	49	16	43	
Spain	78	41	53	33	42	30	38	
Sweden	77	43	56	35	45	32	42	
UK	96	32	33	25	26	22	23	
Ukraine	57	23	40	15	26	11	19	

## Variables in Tables 4 and 5

Note that all the variables discussed below were linearly transformed before the analysis such that their minimum observed value was recoded to zero and their maximum to one (see Table 3).

### Individual-level variables (source variables in EES 2009 in parentheses):

*Age*: the respondent's age in years (q103).

*Age-squared*: Age squared.

*Sex*: the respondent's sex, coded 0 for men and 1 for women (q102).

*Rural*: a dummy variable signalling if the respondent lived in a "rural area or village" (q115).

*Economically Active*: a dummy variable signalling if the respondent was "employed" or "self-employed" (q110).

*Education*: the first unrotated principal component of school-leaving age (q100, recoded to 30 for all valid values higher than that and to Age minus four for respondents coded as 'still studying') and highest educational attainment (v200, coded according to the ISCED classification).

*Partisan*: Responses to "Do you consider yourself to be close to any particular party?" recoded to 0=no; 1=yes (q87).

*Newsviewer*: dummy variable signalling if the respondent watched any television news programs at least once a week (q8\_a to q9).

*Newsreader*: dummy variable signalling if the respondent read any newspaper at least once a week (q12\_a to q13).

*Political Interest*: Responses to "To what extent would you say you are interested in politics?", recoded to 0=not at all; 1=a little; 2=somewhat; 3=very (q78).

*Political Knowledge*: an additive scale counting the number of correct answers to the following "true or false" question battery: "Switzerland is a member of the EU"; "The European Union has 25 member states"; "Every country in the EU elects the same number of representatives to the European Parliament"; "Every six months, a different Member State becomes president of the Council of the European Union"; "The minister of education is ... [NAME OF MINISTER]"; "Individuals must be 25 or older to stand as candidates in [NATIONAL ELECTIONS IN THE RESPONDENT'S COUNTRY]"; "There are [150% TIMES THE CORRECT FIGURE] members of the [LOWER OR ONLY HOUSE OF PARLIAMENT IN THE RESPONDENT'S COUNTRY]" (q92 to q98). Cronbach's alpha=.625.

### National-level variables in the analysis:

*Ideological Polarization*: computed as the within-country standard deviation of the main political parties' left-right position while the parties were weighted by their share of votes in the last election to the national legislature prior to 2007. The source of data on party positions and party size is the 2006 Chapel Hill expert survey data on party positions (Hooghe *et al.* 2010).

*Human Development*: the 2009 Human Development Index score from UNDP (2010).

*Partisans (%)*: the country mean of *Partisan* multiplied by 100.

*Newsreaders (%)*: the country mean of *Newsreader* multiplied by 100.

*Newsviewers (%)*: the country mean of *Newsviewer* multiplied by 100.

*Political Commitment*: the weighted national mean of the *Political Commitment of Outlets* variable, obtained as the sum of the *Partisanship* and *Advocacy* variables, which in turn are the mean expert rating of 289 media outlets on the questions shown in Table 1 of the main text. The weight of each outlet was proportional to its 2009 audience size reported in European Audiovisual Observatory (2010) and, for newspapers, circulation as reported in Zenith (2010). The combined weight of all tv channels/all newspapers within a country was set proportional to *Newsviewers (%)*/*Newsreaders (%)*.

*Information Commitment*: the weighted national mean of the *Political Commitment of Outlets* variable, obtained as the sum of the *Accuracy* and *Diversity* variables, which in turn are the mean expert rating of 289 media outlets on the questions shown in Table 1. On weighting see the previous entry.

**Table 1: Expert survey variables measuring media commitments**

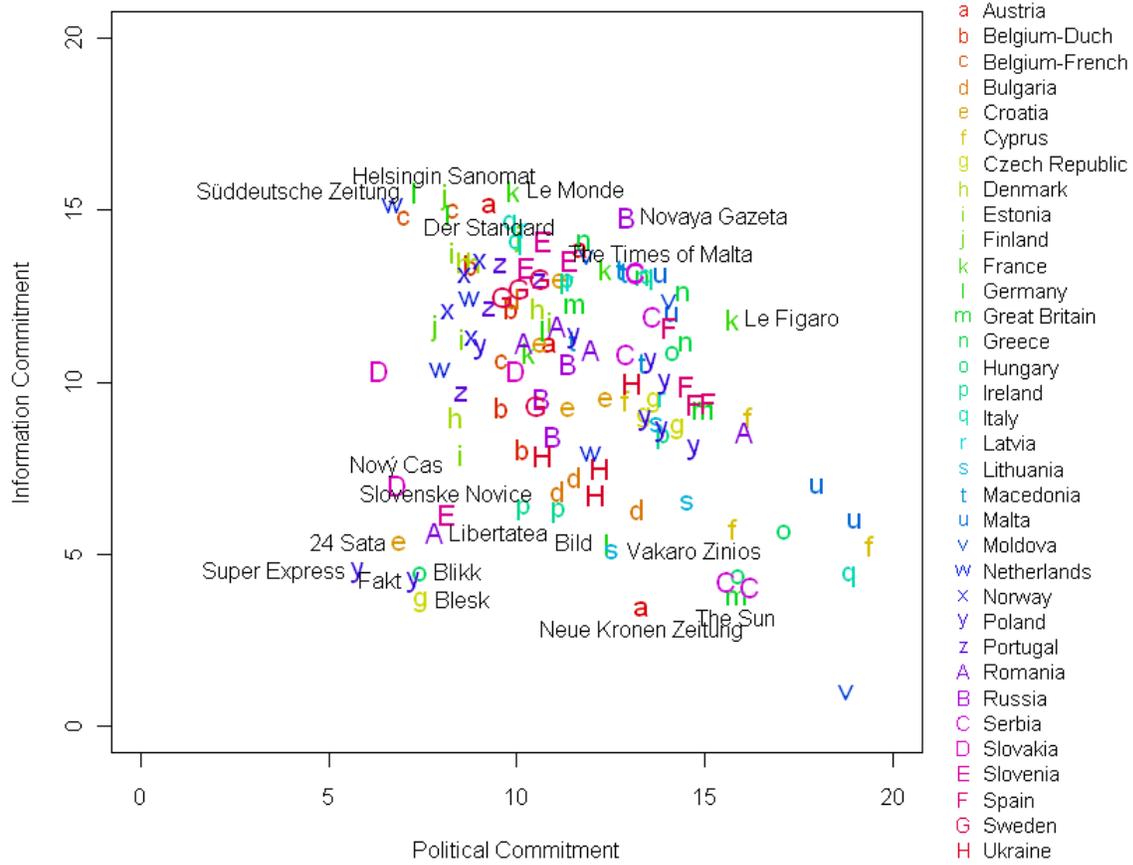
Variable name	Question wording	inter-expert R	Item reliability
Partisanship	How far is the political coverage of each of the following media outlets influenced by a party or parties to which it is close? (0=not at all; 10=strongly)	0.44	0.92
Accuracy	To what extent do these media provide accurate information on facts backed by credible sources and expertise? (0=never; 10=always)	0.47	0.94
Diversity	To what extent does each present equally well the arguments of all sides in political debates? (0=never; 10=always)	0.39	0.91
Advocacy	To what extent does each advocate particular views and policies? (0=never; 10=always)	0.36	0.90

**Table 2: Correlation of mean expert ratings across four issues and with country**

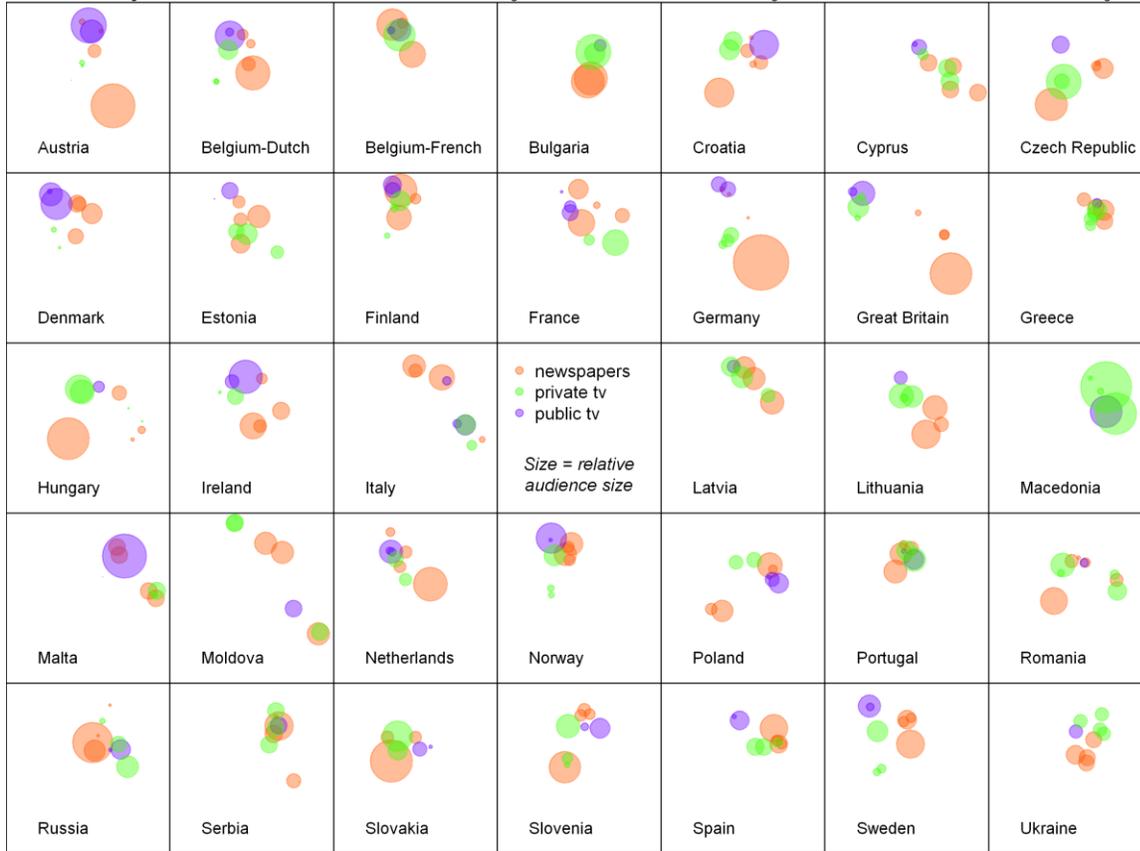
	<i>Partisanship</i>	<i>Accuracy</i>	<i>Diversity</i>	<i>Advocacy</i>
<i>Pairwise correlation with:</i>				
Accuracy	-0.28			
Diversity	-0.48	0.85		
Advocacy	0.78	-0.27	-0.52	
<i>Multiple correlation with:</i>				
33 country dummies	0.77	0.43	0.50	0.63

Table entries are bivariate Pearson-correlations in the top three rows, and multiple correlations with a complete set of country dummies as predictor in the last. N=289 outlets in 34 societies (32 countries and the two linguistic communities of Belgium). All coefficients are significant at p<.001 level.

**Figure 1: The location of national newspapers in the two-dimensional space formed by the *Political Commitment of Outlets* and the *Information Commitment of Outlets***



**Figure 2: The location of 289 media outlets by country in the two-dimensional space formed by the *Political Commitment of Outlets* and the *Information Commitment of Outlets***



**Table 3: Descriptive statistics about the variables entering the multilevel analyses**

Variable	<i>Valid N</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Age	25767	0.40	0.21	0	1
Age-squared	25767	0.26	0.18	0	1
Sex	26067	0.56	0.50	0	1
Rural	25933	0.31	0.46	0	1
Economically active	25903	0.49	0.50	0	1
Education	25000	0.56	0.12	0	1
Partisan	26068	0.63	0.48	0	1
Newsviewer	26068	0.94	0.25	0	1
Newsreader	26068	0.74	0.44	0	1
Political Interest	25978	0.52	0.30	0	1
Political Knowledge	25526	0.55	0.27	0	1
Political Commitment	27	0.49	0.24	0	1
Information Commitment	27	0.59	0.24	0	1
Newsreaders (%)	27	0.53	0.27	0	1
Newsviewers (%)	27	0.64	0.27	0	1
Human Development	27	0.60	0.26	0	1
Polarization	27	0.39	0.21	0	1
Partisans (%)	27	0.49	0.26	0	1

Table entries describe distributions before the centering of variables in the multilevel analysis.

**Table 4: Multilevel model of political interest (FMLE with robust standard errors in parentheses)**

Model:	1	2	3	4	5	6	7
Intercept	0.516*** (0.015)	0.516*** (0.015)	0.516*** (0.014)	0.516*** (0.011)	0.516*** (0.01)	0.516*** (0.01)	0.516*** (0.01)
Political Commitment	-	-0.054 (0.055)	0.042 (0.07)	0.163** (0.061)	0.19*** (0.061)	0.189*** (0.065)	0.157** (0.059)
Information Commitment	-	-	0.154** (0.073)	0.151** (0.071)	0.178** (0.069)	0.175** (0.071)	0.176** (0.066)
Newsreaders (%)	-	-	-	0.195*** (0.051)	0.127* (0.065)	0.127* (0.065)	0.148** (0.07)
Newsviewers (%)	-	-	-	-0.018 (0.048)	0.043 (0.061)	0.043 (0.06)	0.051 (0.055)
Human Development	-	-	-	-	0.128** (0.052)	0.127** (0.051)	0.082 (0.059)
Ideological Polarization	-	-	-	-	-	-0.007 (0.059)	-0.024 (0.043)
Partisans (%)	-	-	-	-	-	-	0.075 (0.047)
Age	0.173** (0.082)	0.172** (0.081)	0.174** (0.079)	0.174** (0.079)	0.174** (0.079)	0.174** (0.079)	0.174** (0.079)
Age-squared	0.008 (0.09)	0.009 (0.09)	0.008 (0.088)	0.008 (0.088)	0.008 (0.088)	0.008 (0.088)	0.008 (0.088)
Sex	-0.07*** (0.005)						
Rural	-0.02*** (0.004)						
Economically Active	-0.01* (0.006)						
Education	0.461*** (0.025)	0.462*** (0.025)	0.462*** (0.025)	0.462*** (0.025)	0.462*** (0.025)	0.462*** (0.025)	0.462*** (0.025)
Education * Information Commitment	-	-	-0.043 (0.106)	-0.043 (0.106)	-0.043 (0.106)	-0.043 (0.106)	-0.043 (0.106)

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Model:	1	2	3	4	5	6	7
Partisan	0.129*** (0.008)						
Partisan *	-	0.07**	0.07**	0.07**	0.07**	0.07**	0.07**
Political Commitment	-	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Newsviewer	0.088*** (0.01)	0.089*** (0.01)	0.089*** (0.01)	0.089*** (0.01)	0.089*** (0.01)	0.089*** (0.01)	0.089*** (0.01)
Newsreader	0.081*** (0.006)						
-2 log likelihood	5040.7	5020.8	5016.2	5004.7	5000.4	5000.4	4998.2
N of parameters	12	14	16	18	19	20	21

\*\*\*:  $p < .01$ ; \*\*:  $p < .05$ ; \*:  $p < .1$

Number of level-1 cases=24602; number of level-2 cases=27. All individual-level variables centered at their country mean; all level-2 variables centered at their grand mean. The intercept is assumed to have random residual variance at level-2. All other coefficients are estimated as fixed.

**Table 5: Multilevel model of political knowledge (FMLE with robust standard errors in parentheses)**

Model:	1	2	3	4	5	6	7
Intercept	0.555*** (0.014)	0.555*** (0.014)	0.555*** (0.013)	0.555*** (0.01)	0.555*** (0.01)	0.555*** (0.01)	0.555*** (0.009)
Political Commitment	-	-0.097 (0.062)	-0.048 (0.066)	0.078 (0.055)	0.098 (0.058)	0.102* (0.059)	0.061 (0.068)
Information Commitment	-	-	0.078 (0.056)	0.108* (0.053)	0.128** (0.058)	0.139** (0.059)	0.14** (0.054)
Newsreaders (%)	-	-	-	0.186*** (0.049)	0.137** (0.059)	0.134** (0.058)	0.161** (0.058)
Newsviewers (%)	-	-	-	0.051 (0.049)	0.095 (0.062)	0.094 (0.063)	0.104* (0.054)
Human Development	-	-	-	-	0.092 (0.064)	0.094 (0.063)	0.037 (0.069)
Ideological Polarization	-	-	-	-	-	0.030 (0.037)	0.009 (0.038)
Partisans (%)	-	-	-	-	-	-	0.095* (0.051)
Age	0.35*** (0.068)	0.35*** (0.068)	0.36*** (0.069)	0.36*** (0.069)	0.36*** (0.069)	0.36*** (0.069)	0.36*** (0.069)
Age-squared	-0.29*** (0.072)	-0.29*** (0.072)	-0.30*** (0.073)	-0.30*** (0.073)	-0.30*** (0.073)	-0.30*** (0.073)	-0.30*** (0.073)
Sex	-0.09*** (0.006)						
Rural	-0.02*** (0.005)						
Economically Active	0.00 (0.005)						
Education	0.42*** (0.027)	0.42*** (0.027)	0.42*** (0.024)	0.42*** (0.024)	0.42*** (0.024)	0.42*** (0.024)	0.42*** (0.024)
Education * Information Commitment	-	-	-0.27** (0.112)	-0.27** (0.112)	-0.27** (0.112)	-0.27** (0.112)	-0.27** (0.112)

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Model:	1	2	3	4	5	6	7
Partisan	0.004 (0.003)						
Partisan *	-	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Political Commitment	-	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Newsviewer	0.033*** (0.009)						
Newsreader	0.052*** (0.007)	0.052*** (0.007)	0.051*** (0.007)	0.051*** (0.007)	0.051*** (0.007)	0.051*** (0.007)	0.051*** (0.007)
Political Interest	0.194*** (0.012)						
-2 log likelihood	-2638.6	-2641.9	-2671.7	-2684.7	-2687.2	-2687.5	-2691.4
N of parameters	13	15	17	19	20	21	22

\*\*\*: p<.01; \*\*: p<.05; \*: p<.1

Number of level-1 cases=24133; number of level-2 cases=27. All individual-level variables centered at their country mean; all level-2 variables centered at their grand mean. The intercept is assumed to have random residual variance at level-2. All other coefficients are estimated as fixed.

**Figure 3: Political and Information Commitment in media outlets across the European Union**

