

Hosting Media Bias: Evidence from the Universe of French Broadcasts, 2002-2020*

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Abstract

What role do journalists play in slanting media content? In this paper, we open the black box of news production and investigate whether and how journalists themselves decide to bias the news and shield content production from owner influence. To do so, we build a novel dataset on hosts and guests in all French radio and television shows between 2002 and 2020, covering 6.3 million shows, and identify the political leaning (if any) of all the 309,416 invited guests. First, we use the speaking time share of both politicians and politically engaged non-politician guests (PENOPs) to document substantial variations in political slant across channels and ownership groups. Importantly, while the speaking time of PENOPs is not regulated in most countries, we show that they do matter for measuring media bias. Next, we use hosts working for different channels and owners to show that, controlling for demand- and supply-driven bias, journalists themselves slant media content. Finally, we document in a difference-in-differences framework how the takeover of the Canal+ Group in 2015 by Vincent Bolloré (a French billionaire) affected the slant of the acquired channels. Notably, one affected channel - CNews - evolved into a “French Fox News”: By 2019-2020, the air time share on CNews of radical-right guests had increased by nearly 15 percentage points over to the baseline of 7.4 percent in 2013-2014. One mechanism for this is the turnover of hosts, who leave more from channels that were more to the left before the takeover.

Keywords: Media bias; Slant; Journalists; Product differentiation; Media ownership

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1 Introduction

In democratic systems, citizens hold their representatives accountable by voting them in or out of office. For such systems to work effectively, people need information. While traditional media, in particular television, remain the most popular platform for news consumption, both programme content and news slant vary tremendously across media outlets, impacting voter information and electoral behavior (see e.g. Della Vigna and Kaplan, 2007; Martin and Yurukoglu, 2017; Bursztyn et al., 2020; Simonov et al., 2020). Hence, it is of key importance to understand the determinants of media bias. While the existing literature has highlighted the role played by consumer preferences (Gentzkow and Shapiro, 2010) as well as the importance of media ownership (Martin and McCrain, 2019; Miho, 2020; Mastrococco and Ornaghi, 2020), in this paper, we open the black box of news production and investigate whether and how journalists themselves decide to bias the news and shield content production from owner influence.

To do so, we build a novel dataset on the universe of hosts and guests appearing in French radio and television shows from 2002 to 2020, and take advantage of the fact that many journalists appear on multiple channels with distinct owners. Our main sample includes all generalist and news channels, i.e. 14 television channels and 8 radio stations, and covers a wide range of show types including talk shows, interviews, debates, documentaries and newscasts. Overall, we have data on 3 million appearances of 309,416 distinct guests and 72,186 unique hosts (25,714 of which we identify as journalists).

Our empirical analysis proceeds in two steps. First we determine the political leaning of the guests in our sample. To begin with, we use electoral data and government membership to identify politicians among all guests and pinpoint their political party. Then, we elicit the political leaning (if any) of guests who are potentially politically engaged but are not politicians. To do so, we use three distinct data sources: (i) the list of participants to political parties’ summer meetings (that we collect manually from different sources), (ii) the list of contributors to partisan think tanks, and (iii) the signing of op-eds endorsing candidates in elections. Classifying politically-outspoken guests who are not politicians matters for several reasons: first, their speech may be slanted just like that of politicians; second, some of them have significant speaking time; third, their speaking time is nonetheless generally not monitored by regulatory authorities, which provides channels more leeway to slant their shows.¹ We call these guests PENOPs in the remainder of the article, for Politically-Engaged Non

¹A number of celebrities – but also of academics – are indeed outspoken about their political views. E.g., in the U.S., in the 2018 elections, Taylor Swift – the pop music star – endorsed Democratic candidates. Further, even if a number of guests are presented as “experts”, they may slant their discourse; e.g. in France, Agnès Verdier-Molinié is not a professional politician – hence her speaking time is not accounted for by the regulatory authority – but she is the director of a right-wing liberal think tank (called iFRAP) that is registered as a private interest representative with the National Assembly, and whose ideas she defends on TV.

Politicians.

Out of the 309,416 distinct guests in our data, we identify the political slant of 18,073 individuals, but who account for 28.1% of all guest appearances. Politicians account for 25.5% of appearances, and PENOPs for 2.6%. We rely on the Chapel Hill Expert Survey, which studies the positioning of political parties on various ideological and policy issues (Bakker et al., 2015), to group politically outspoken guests into six distinct families: (i) radical left, (ii) greens, (iii) left, (iv) liberals, (v) right, and (vi) radical right depending on their politically affiliated party. Importantly, for both politicians and non-politicians, we allow ideology to vary over time. Producing these data is our first contribution.

Next, in the spirit of Durante and Knight (2012), we measure media slant using the speaking time share of guests. We consider alternatively (i) only political guests (as it is usually done in the literature) and (ii) both politicians and PENOPs, which is a second contribution of our paper, and compute the speaking time shares either only among the politically-classified guests or among all the invited guests – which is a third novelty of our approach that allows us to take into account the propensity of a channel to cover politics. We can then estimate the time share allocated by different channels to “politics” and to different political families, and study how it evolves over time. In our most fined-grained analysis, these measures are built at the show level and we can thus investigate separately the role played by journalists, channels and owners in biasing the content of the media, controlling for time fixed effects as well as for the characteristics of the shows.

Our first set of results is both descriptive and methodological. Using France 2 – the leading French public television channel – as a reference point, we first document large variations in ideological representation across media outlets – although they all serve the same country-wide market – as well as over time. Second, these estimates vary depending on whether we only consider politicians or both politicians and the PENOPs. E.g. while, if we only consider the politicians, CNews/I-Télé devotes overall 1.81 percentage points more speaking time to the radical right than France 2,² this difference is 5.03 percentage points when we consider both politicians and PENOPs. This change is sizeable considering that the second channel in terms of to radical right speaking time, LCI, is only 2.09 percentage points above France 2 over the entire timeperiod. These findings imply that, by only focusing on politicians, the existing literature may have underestimated the importance of media slant.

Third, focusing on the subset of hosts who work for multiple channels owned by distinct owners, we tease out the host-specific media bias from owner-specific and channel-specific slant. While channel fixed effects capture a channel’s tendency to systematically over- or under-represent a given ideological family, host fixed effects measure any discrepancy between the ideology of the average guest on a channel and the average guest of a specific host. While

²i.e. slightly less than BFM TV (1.87 percentage points) and about the same as Radio Classique (1.72)

a number of theoretical papers in the literature highlight the existence of journalist-driven media bias (Dyck and Zingales, 2003; Baron, 2006), to the extent of our knowledge, we are the first to document this bias empirically.³ Specifically, our sample includes 3,966 journalists who work for multiple owners during our time period.⁴ Conditional on owner fixed effects, 65.6% of these journalists have an estimated fixed that is statistically different from zero when we measure bias as the difference in right vs left-wing speaking time shares on their shows.⁵ This share is 59.6% if we focus on the air time share for the radical right only. This implies that the bias observed at the media level is (in part) driven by host-level political preferences. Further, we show that the explanatory power of the journalist fixed effects for political bias is higher than the one of channel or owner fixed effects. Put differently, the host of a show is more informative about its political bias than the owner of the respective media outlet. How hosts are allocated across channels therefore matters to understand media slant.

We next ask how hosts and journalists react to a major change in the editorial line. Either their slant changes over time and comes closer to the new channel-level slant, or they move and sort across media outlets such that their own slant matches better that of their employer. To do study this, we exploit a major takeover that took place in France in 2015 in a difference-in-differences framework. In 2015, the Canal+ group, which owns the generalist television channels Canal+ and C8 and the 24-hour news channel CNews (at the time called I-Télé), was taken over by Vincent Bolloré – a French billionaire called “*the new king of European media*” (Capozzi, 2016) and who is often compared to Rupert Murdoch. According to Reporters Without Borders (2016), Vincent Bolloré “*is an extreme example of the effects of riding roughshod over the independence of news and information. (...) [He] had a record of involving himself in the running of the media outlets he controls, personally interfering in the choice and development of content and the selection of contributors.*” CNews is often described as the “French Fox News,” with hosts and guests making hard line anti-immigration and law-and-order comments since the takeover.

We start by documenting the effect of the takeover on channel-level slant. The implicit assumption of our research design is that, absent the takeover, Bolloré channels’ slant would have followed the same trajectory as the slant of other television channels and radio stations that form our control group. Event-study estimates starting in 2006 provide support for this

³DellaVigna and Hermle (2017) also test for bias by journalists; however, in their empirical framework, journalists work for the same media – and only one media outlet – throughout the period (similarly, Dougal et al. (2012) use the rotation of columnists *within a media* to study the causal effect of the writing of specific journalists on aggregate market outcomes). Hence, they cannot really disentangle the journalist fixed effects from the media outlet fixed effects. On the contrary, the main innovation here comes from the fact that we can exploit the richness of our data to isolate journalist fixed effects using journalists who work for multiple media owners at the same time.

⁴As we will see in the data Section 2.2 below, not all the individuals hosting shows are journalists; when analyzing journalist fixed effects, we focus on the subset of the hosts who are actually journalists.

⁵When considering the right-left difference here, we sum up the traditional right and the radical right on the one hand, and the traditional left and the radical left on the other hand.

assumption as none of the pre-takeover coefficients are statistically significant and are all close to zero. We document that, following the takeover, the right- vs left-wing time share difference has increased by on average 10 percentage points following Bolloré’s takeover. This effect is particularly strong among guests who are politically engaged but are not professional politicians.

Not all channels evolve in the same way, however. Canal+, which was the most left-slanted of the three channels before the change in ownership, becomes slightly more right wing afterwards but, above all, starts to devote much less time to politics. While, before the takeover, politically-involved guests accounted for 19% of the overall guest time share on Canal+, their share declined by 8 percentage points after the takeover. C8 and CNews were to the right of Canal+ before the ownership change and both experienced an increase in the time share of politically-engaged guests after the takeover. The speaking time share difference between the left and the right increased respectively by 14 and 12 percentage points. By 2019-20, due to the change in ownership, the radical-right time share on CNews has increased by nearly 15 percentage points, from a 7.4% base level during the 2013-14 season.

How did journalists react to this major change in editorial line? They might have complied with the new owner’s view, or left the newly acquired channels. We study how the screen time share of hosts who were working for Bolloré channels evolves after the takeover on acquired and control channels. By 2018, on Bolloré channels, only 40% of screen time featured a host who worked for the channel before the takeover, while the corresponding figure for the control channels is about 60%. This implies that the takeover caused journalists to leave the channels they were working for. We find such responses to be largest for Canal+, the channel that granted the most speaking time to the left in 2013-2014 of the three acquired channels. The effect takes more time to manifest for CNews, but is large as well, with many hosts disappearing from the channel. Changes are modest for C8, the channel that was the most to the right. Overall, it suggests that the change in editorial line was mediated by a change in the hosts working for these channels.

Literature review This article first contributes to the literature on media bias, which has been measured in three different ways. The first consists in analyzing the endorsements of candidates or ballot propositions (Ansolabehere et al., 2006; Chiang and Knight, 2011), and relies on the explicit political behavior of media outlets. The other two rely on the implicit political behavior of media outlets. On the one hand, one can analyze the language media outlets use or the sources they cite in their news stories (Groseclose and Milyo, 2005; Gentzkow and Shapiro, 2010).⁶ On the other hand, the agenda-setting approach consists

⁶See also Martin and Yurukoglu (2017). This strand of research is closely related to recent work in political science using computerized text analysis. Diermeier et al. (2012) for example use a text classification algorithm (the Support Vector Machines) to extract the terms that are most indicative of conservative and liberal positions

in analyzing the amount of coverage devoted to various issues (see e.g. [Puglisi and Snyder \(2011b\)](#); [Galvis et al. \(2016\)](#)). Compared to this literature, in this article, we provide a novel measure of media bias based on the choice of the guests in the different news programs. From this point of view, the paper that is the closest to ours is [Durante and Knight \(2012\)](#) who document a shift to the right of the news content on Italian public television following the victory of the center-right in the 2001 national elections (see also [Knight and Tribin \(2019b\)](#)).⁷ They use the speaking time provided to the political actors to measure a station ideology. We go one step further by considering *all the guests* invited on television and radio and determining the political lean of these guests from a number of different sources. This is of particular importance because political actors are not the only guests whose discourse is slanted – for example, celebrities might influence politics, a phenomena often referred to as “celebrity politics” ([West and Orman \(2003\)](#); [Wheeler \(2013\)](#); [Wood and Herbst \(2007\)](#)). Besides, channels might prefer to slant the news through non politicians, given their speaking time is not monitored, and consumers may correct less for bias when it comes from “experts” or celebrities.⁸

Further, we consider both news shows and entertainment programs, given entertainment and politics often intersect.⁹ While the literature on celebrity politics is often anecdotal ([Marsh et al. \(2010\)](#)), we provide a systematic approach in this article. Next, we study not only the bias of each station but investigate whether it is determined by the station owners or by the journalists themselves. To the extent of our knowledge, we are the first to quantify empirically the role played by journalists in biasing the news.

From this point of view, our article also contributes to the literature that investigates the forces driving media bias. According to the supply-side approach, news media with a political agenda impose slant to manipulate political outcomes. Theoretically, [Besley and Prat \(2006\)](#) examine the case for government capture of the media sector in the context of a political agency model, and document the government ability to exercise capture and hence influence political outcomes (see also [Louis-Sidois and Mouglin \(2020\)](#)). [Balan et al. \(2014\)](#) and [Anderson and McLaren \(2012\)](#) present a supply-side model of bias whereby owners aim to influence outcomes.¹⁰ Empirically, [Larcinese et al. \(2011\)](#) and [Puglisi and Snyder \(2011a\)](#) document

in legislative speech records from the 101st to 108th Congresses of the US Senate. See also [Gabel and Huber \(2000\)](#).

⁷On government control of public media, see also [Djankov et al. \(2003\)](#) and [Simonov and Rao \(2020\)](#), as well as [Knight and Tribin \(2019a\)](#) who investigate the impact of the closure of one of the main opposition television channel in Venezuela.

⁸Investigating whether this is actually the case will be the object of future research.

⁹See e.g. [Durante et al. \(2019\)](#) who have documented the political impact of commercial television – with all-entertainment content – in Italy, and [Barone et al. \(2015\)](#).

¹⁰For an advertising-driven model of media bias, see [Ellman and Germano \(2009\)](#) and [Germano and Meier \(2013\)](#). [DiTella and Franceschelli \(2011\)](#) provide evidence of the role played by government advertising in Argentinean newspapers’ government corruption coverage. [Petrova \(2011\)](#) empirically shows that advertising played a key role in the emergence of an independent press.

the importance of such supply-side factors, and [Martin and McCrain \(2019\)](#), exploiting the acquisition of a set of U.S. local television stations by the Sinclair Broadcast Group, reveal a rightward shift in the ideological slant of coverage following the ownership change. Our findings on the impact of changes in media ownership are consistent with their results. We complement this literature by investigating the mechanisms through which owners slant the news. In particular, we study whether they do so by changing hosts or the political leaning of the guests.

On the demand side, [Mullainathan and Shleifer \(2005\)](#) analyze models with a demand for slant, with newspapers acting on purely profit maximization motives (see also [Gabszewicz et al. \(2001\)](#), who analyze the newspapers' location game).¹¹ In [Gentzkow and Shapiro \(2006\)](#), even absent biased consumers, slant arises through a reputation game whereby newspapers strive for quality reporting.¹² [Gentzkow and Shapiro \(2010\)](#) estimate a model of newspaper demand in which a consumer's utility from reading a newspaper depends on the match between newspaper slant and consumer ideology and provide evidence that slant is highly related to consumer ideology.¹³

Finally, two theoretical papers highlight the role played by journalists themselves in slanting the news: [Dyck and Zingales \(2003\)](#) and [Baron \(2006\)](#).¹⁴ [Baron \(2006\)](#) – assuming that journalists themselves may have ideological preferences¹⁵ – shows the role played by their willingness to promote their world view. Whether the political preferences of journalists impact slant in reporting is an empirical question. To the best of our knowledge, there is no empirical evidence on whether and how journalists themselves drive media bias¹⁶, and doing so is one of the contributions of this paper. Furthermore, we are the first to investigate the extent to which a change in media ownership triggers a reallocation of hosts across channels.

The rest of the paper is organized as follows. Section [2](#) describes the institutional setting, presents the novel data set we build for this study and provides summary statistics. Section [3](#) studies the relative role of journalists and owners in shaping media slant. Section [4](#) studies how ownership impacts media slant, and Section [5](#) provides a number of robustness checks. Finally, Section [6](#) concludes.

¹¹See also [Bernhardt et al. \(2008\)](#) who develop a demand model that incorporates consumer demand for slant and analyze the political process.

¹²In their model, Bayesian consumers infer that news reports which conform to their prior beliefs are from high-quality news sources. See also [Chan and Suen \(2008\)](#).

¹³On the contrary, they find little evidence that the identity of a newspaper's owner affects its slant.

¹⁴See also [Sobbrio \(2014\)](#) who provides a model of the market for news where profit-maximizing media outlets choose their editors from a population of rational citizens and the bias in news reports is the result of the slanted endogenous information acquisition strategy of the editors.

¹⁵Survey research in the United States has shown that an overwhelming fraction of journalists are liberal (see e.g. [Povich, 1996](#)).

¹⁶See [Xu \(2021\)](#) for evidence of whether firm-journalist connections lead to media bias.

2 Institutional background, Data and Descriptive statistics

In this section, we first present a brief overview of the media landscape, the electoral system and political parties in France. We then describe the novel show-level data that we built for this article, and provide descriptive statistics.

2.1 The media and political landscapes

2.1.1 The broadcast media industry

As of today in Metropolitan France, there are 30 national digital terrestrial television channels – 7 public channels, 18 free national private channels, and 5 national pay channels – whose list is provided in the online Appendix Table [1](#) (see also Section [B](#) for more details). Watching television remains the preferred mode of news consumption in France. On average in 2021, the French spent three hours and thirty nine minutes watching TV each day ([Médiamétrie Press Releases, 2022](#)).

Regarding radio, stations can be split into three main categories: local stations, music-only stations, and national non-music stations. In this article, we focus on this last group, which includes 11 stations and accounts for 54.9% of the total audience.^{[17](#)} Of these 11 stations, six are state owned (France Inter, France Bleu, France Info, France Culture, France Musique and Radio France International) and five are private (Europe 1, RMC, RTL, BFM Business and Radio Classique).

Regulatory environment As in most countries, broadcast media in France are subject to government regulation ([Cagé and Huet, 2021](#)). The CSA^{[18](#)}, created in 1989, is the regulatory agency in charge of delivering frequencies, and also oversees mergers and acquisitions in the media market, edicts rules regarding diversity and pluralism, labels whether programs are appropriate for young audiences, and can also impose sanctions in case of behaviors such as hate speech or discrimination.^{[19](#)}

Of particular importance for us here, in an effort to balance speaking time across different political parties, the CSA imposes rules on the time dedicated to politicians.^{[20](#)} The CSA requires that a third of the speaking time be dedicated to the President of the Republic, the government and their collaborators. The remaining two thirds should be dedicated to all the political parties (including the government party), depending on electoral results, number of

¹⁷The figures are drawn from Mediametrie and correspond to the last quarter of 2020, Monday to Friday, between 5am and midnight.

¹⁸This acronym stands for *Conseil Supérieur de l'Audiovisuel*, and translates to Superior Audiovisual Council. Since January 1st, 2022, the CSA is called the Arcom: *Autorité de régulation de la communication audiovisuelle et numérique*, i.e. Regulatory authority for audiovisual and digital communication.

¹⁹The CSA can be considered as the French equivalent of the US Federal Communications Commission.

²⁰Television channels and radio stations are asked to measure the speaking time given to the government and to each party and report it to the CSA at the end of each quarter.

elected officials, popularity in the polls and contribution to the public debate.²¹ In effect, these rules are not meant to be implemented very precisely but are rather general guidelines, and we indeed document in this article important differences in the speaking time devoted by different stations to the political parties.

Furthermore, these rules only account for politicians. By contrast, commentators, columnists, experts, etc. are not taken into account – as we will see, including non-political actors modify the extent of the estimated bias. Additionally, speaking times add up irrespective of whether the show was broadcast during “prime time” or in the middle of the night. Anecdotal evidence suggest that some channels may broadcast several times during the night interviews of politicians belonging to parties they under-represent.²² We will show that weighting the speaking time of parties by audience also modifies the results.

Stricter pluralism rules apply during presidential and parliamentary electoral campaigns, however.²³ For this reason, we present robustness checks in which we drop electoral campaign periods and show that our main findings are robust to doing so in Section 5 below.

2.1.2 The political system

Unlike the United States, France has a multiparty electoral system, with a variety of parties ranging from the radical left to the radical right (Bekkouche et al., 2022). Online Appendix Table 3 lists the main parties and their corresponding ideology. Ideology refers to the party’s ideological family as categorized in the Chapel Hill Expert Survey (CHES).²⁴

The six political families are: (i) the Radical left, which includes among other parties the Communist party and La France Insoumise (LFI); (ii) the Greens, which accounts for the party Europe Ecologie-Les Verts (EELV); (iii) the Left, which includes the Socialist party and politicians classified as “other left”; (iv) the Liberals, a category that gathers centrist parties like the Modem and La République en Marche (LREM); (v) the Right, with parties such as Les Républicains (LR) and the Union des démocrates et indépendants (UDI), as well as politicians classified as “other right”; and (vi) the Radical right, which includes the Rassemblement National (RN, former Front National), Debout La France (DLF), as well as a number of smaller parties.

²¹See the CSA website for additional details: <https://www.csa.fr/web/index.php/Protoger/Garantie-des-droits-et-libertes/Protoger-le-pluralisme-politique>.

²²<https://www.arretsurimages.net/articles/quotas-31-fois-yannick-jadot-sur-lci>.

²³See online Appendix Section B.4 for a precise description of these rules.

²⁴For reference, the left-right placement on a 0 to 10 scale is reported in the last three columns. “L-R general” corresponds to the general left-right placement. The last two columns of the table correspond to the placement on the left-right scale for economics and social issues respectively.

2.2 Data and descriptive statistics

2.2.1 Data on shows, hosts and guests

To build our novel dataset of television and radio shows broadcast, we rely on data archived by the French Audiovisual National Institute (INA)²⁵ that include the names of all hosts and participants in television and radio shows in France from 2002 to 2020.

Television channels and radio stations Regarding television, our main sample includes the 14 generalist or news channels, i.e. TF1, France 2, France 3, Canal+, France 5, M6, the European cultural channel ARTE, C8/D8, TMC, and France 4 (the latter four feature substantial share of entertainment and fiction programs), the 24-hour news channels BFM TV, I-Télé/CNews, and LCI, and the news channel LCP/Public Sénat whose focus is more on Parliament politics. These 14 channels account together for respectively 90.7 and 70.4 percent of viewership in 2002 and 2020.²⁶

Regarding radio, our data include all the public and private national radio stations that are not fully dedicated to music, i.e. the following 3 public stations: France Inter, France Info, and France Culture, and 5 private ones: RTL, RMC, Europe 1, Radio Classique, and BFM Business.²⁷

Shows The INA documented all the shows that were susceptible to have hosts, guests, or both. Our dataset includes newscasts, shows about news and politics, talks shows, as well as some entertainment programs and documentaries if they have hosts or guests. It excludes fictions, music programs, games and sports. Although the literature has documented that fictions could shape values and social attitudes (see e.g. Jensen and Oster, 2009; La Ferrara et al., 2012; DellaVigna and Ferrara, 2015), our measure of slant, computed using guest speaking time, would not be appropriate to measure the slant of such shows, and the impact they may have on viewers.

Appendix Figure 3 presents descriptive statistics regarding the daily time coverage of the shows in the INA dataset. Panel (a) reports the distribution of the daily coverage in hours

²⁵This acronym stands for Institut National de l’Audiovisuel. It is a repository of all French radio and television audiovisual archives. For previous research using the INA data, see Cagé et al. (2020b,a). The data can be consulted show by show via the interface on <http://inatheque.ina.fr/>.

²⁶Not including in our sample are the four entirely pay television channels: Paris Première, Canal+ Cinéma, Canal+ Sport, and Planète+. We also exclude TF1 Séries et Films, 6ter, RMC Découverte, RMC Story, and Chérie 25 that were created in 2012 or after; furthermore, these channels are entirely dedicated to entertainments or documentaries. For the same reason, we exclude W9, TFX, NRJ 12 and CStar that were created in the late 2000s and are dedicated exclusively to entertainment programs (these channels do not broadcast regular shows with guests). We also exclude L’Equipe, a channel fully dedicated to sports, and Guilli that is fully dedicated to youth programs. Finally, we do not include franceinfo TV that only appeared in 2016.

²⁷We do not have data for France Musique (2.2% audience share), which emphasizes classical music; Radio France International (0.6% audience share), which focuses on international news, and France Bleu(5.8%) that mostly focuses on local news.

(an observation is a day-channel). The average daily number of hours covered is smaller for television than for radio, which reflects the greater time dedicated to fiction shows on television, which are not included in our dataset. Panels (b), (c) and (d) show the evolution of our data coverage separately for each channel. For most channels, the shows included in our sample account for more than half of the day. Not surprisingly, the data coverage is greater for the news channels (BFM TV, CNews, and LCI) as they air no fictions. The coverage of three radio stations, BFM Radio, France Culture and Radio Classique, sharply increases in 2008.

We use another data source, Plurimedia, to benchmark INA data coverage. Plurimedia is a company that collects metadata on scheduled television shows before they are broadcast, and sells them to websites and magazines publishing television schedules. The data set includes all shows, 24 hours a day, for all the television channels from September 2009 to December 2020. For each show, the data provide information on the channel, date, scheduled start time, length and title. It also includes information on the host(s) of the show, and on the guest(s) if they are known and announced in advance.²⁸ Plurimedia data are less detailed than INA data, which identifies show segments, and precisely matches guests, whether or not they are in the studio, to show segments. Similarly, INA data also contain information on hosts in charge of specific segments within a larger show, Plurimedia data do not.

Building on Plurimedia show classification, we devise twelve show categories: (i) newscasts, (ii) shows about news and politics (interviews, in-depth analysis of specific news topics, etc.), (iii) talk shows about politics (debates, news commentary with pundits or commentators), (iv) entertainment talk shows (which also include infotainment talk shows such as late shows), (v) entertainment shows (reality TV, home makeover shows, cooking shows, etc.), (vi) sports shows, (vii) youth shows (cartoons, educational programs), (viii) games, (ix) performance shows (concerts, plays, etc.), (x) fiction, (xi) documentaries, and (xii) other shows (weather forecast, lottery, undetermined night-time programs, etc.). Figure 1 depicts the time share of each television program category for the fourteen television channels of our sample using Plurimedia data. News casts, shows about news and politics, and talk shows²⁹ account for about a third of the total screen time. Panel (b) focuses on these categories. The time share dedicated to newscasts has decreased from about 15% to less than 10% between 2009-10 and 2019-20, and is now similar to that of political talk shows, which accounted for less than 5% of the total screen time in 2009-10.³⁰ This stylized fact motivates our decision to study a

²⁸For this reason, there are no guests associated to newscasts, as news show producers do not know what the news will be until very late before the show airs.

²⁹Many entertainment talk shows are *infotainment* shows. They also discuss recent news and political events, and regularly invite politicians or activists. Such shows include *Le petit journal* or *Touche pas à mon poste*.

³⁰In most of the analysis, we work at the “season” level. A season refers to a twelve-month period ranging from September 1st to August 31st.

broad range of shows, rather than only newscasts.³¹

Guests For all the shows, the INA data provide the identity of the participants. Taking part in a show here refers to either being a guest in the studio, being interviewed elsewhere (press conference for instance) or being recorded making a statement which was aired during the show. The appearance and identity of guests is manually documented by INA employees. Appendix Figure 5 depicts the number of appearances, the number of distinct guests and the screen time of guests for each season. There is a gradual increase in the number of appearances in the first seasons, which reflects the entry of new channels (C8, France 4, BFM TV, and CNews). For two television channels (BFM TV and France 4) and five radio stations (BFM Radio, RMC, Europe 1, Radio Classique, and RTL), there is a decline in the number of documented guests after 2018, due to budget cuts at the INA.³² Hence, in the robustness section 5.1 below, we show that our findings are robust to only considering the 15 television channels and radio stations that are fully documented over all our time period, and to only considering the time period September 1st, 2006 to August 31st, 2018.

Between 2002 and 2020, 309,416 distinct guests appeared, accounted for 3,010,895 appearances on the 22 television channels and radio stations we consider. The top 5 guests in terms of appearances are François Hollande (President, 2012-2017), Nicolas Sarkozy (President, 2007-2012), Manuel Valls (Prime Minister under François Hollande), François Fillon (Prime Minister under Nicolas Sarkozy) and Marine Le Pen (head of the National Rally). These five guests account for 2.12% of all appearances.

Next, we compute the screen time of each guest. We start by teasing out main shows from sub-shows. By sub-shows we mean shows that are actually segments within a main show. In total, there are three levels of shows (main shows, sub-shows, and subsub-shows).³³ For each level of show, we compute the *gross* and the *net* length of the show. The gross length of the show is simply the difference between the end and start time. The net length of the show is the gross length of the show, minus the length of lower level shows.³⁴ Participants can be

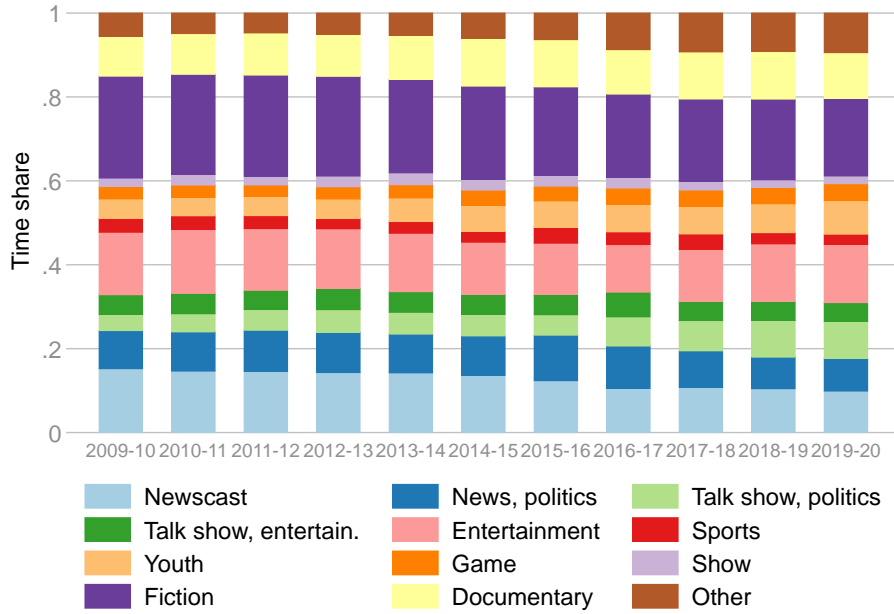
³¹In the online Appendix, we match shows in Plurimedia data with shows in INA data, and determine for each category the time share of shows that are in both datasets. Figure 4 contrasts the coverage of shows by type across Plurimedia and INA data. While newscasts, shows about news and politics, and talk shows are nearly all included in INA data, only a subset of entertainment, sports, youth programs and documentaries are covered. Most of the difference between INA and Plurimedia data coverage can be explained by fiction shows. Overall, the figure shows that INA data provides a broad coverage of shows that have hosts and guests, which makes it ideal to measure political slant using guest speaking time shares. Notably, while most studies in the media bias literature only focus on news shows, we cover a much broader range of programs, whose total length far exceeds that of newscasts only.

³²A number of retirements have not been replaced, which led to the fact that these channels stopped being (thoroughly) documented.

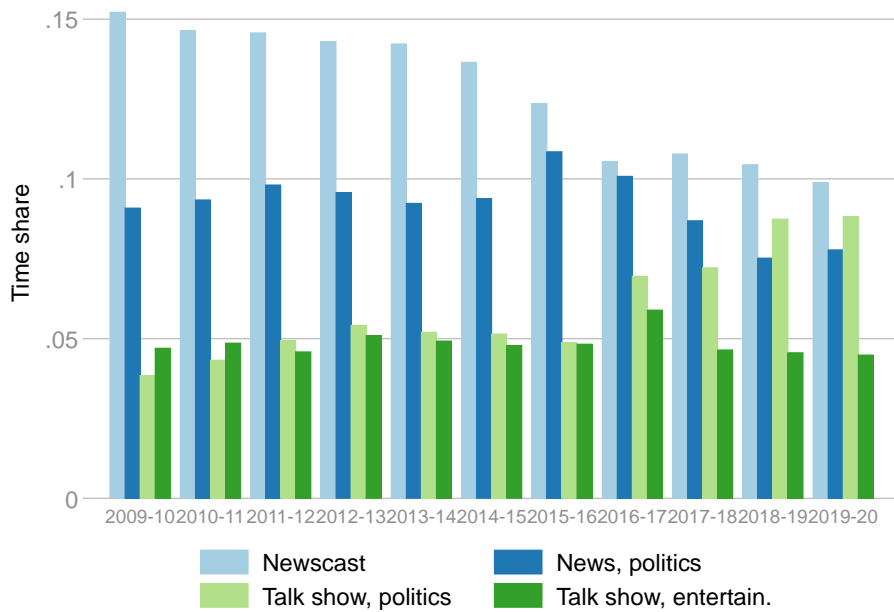
³³For instance, the main show would be a morning show from 7am to 9am. Sub shows would include two newscasts, from 7:00 to 7:10am and from 8:00 to 8:10, interviews, a stock market analysis segment, a press review, a weather forecast segment, etc. Subsub-shows could be segments within a newscast: a segment on a bill, a segment on the latest statement of a minister, a segment on an armed conflict, etc.

³⁴For instance, the gross length of a main show from 7:00am to 9:00am would be 120 minutes. Its net

(a) Time share of each show type, all channels



(b) Focusing on newscasts, news shows and talk shows



Notes: The figure depicts the time share of each program type using Plurimedia data. Each bar corresponds to a semester. The data cover the time period ranging from September 30th 2009 to December 31st 2020 and include the following television channels: TF1, France 2, France 3, Canal +, France 5, M6, Arte, C8, TMC, LCP, France 4, BFM TV, CNews and LCI.

Figure 1: Types of television shows

matched to a main show, as well as to lower level shows. In the latter case, it indicates that the guest only appeared during a specific segment of the show. If the guest is matched to the main show, we use the net length of the main show, as the guest was probably not appearing on screen during specific segments. When several guests are matched to the same show, which is common for talk shows, we divide the net length of the show by the number of participants. We implicitly assume that each guest was given the same screen time, which we acknowledge is imperfect. We then winsorize the top percentile of speaking time length.

In addition to the name of each guest, our data includes a short description of the guest’s profession for 88.4% of the appearances and 55% of the guests. This variable is not time-varying, but several professions can be listed. For instance, David Douillet, a judo Olympics champion who then became Minister of Sports in a right-wing government is listed as “Judoka, politician. France.” Using keyword lists, we classify guests into professional groups, some of them belonging to several groups (e.g. the example above fits both the politics category and the sport category). Figure 6 reports the appearance share of the main professional groups. About 15% of appearances are not classified, in part because 11.6% of appearances have no description. The main categories are politics, media/publishing, and entertainment.

We complement the data on guests with complimentary sources to classify them based on their political leaning. We describe the data sources and the procedure later in this section.

Hosts For each of the programs in our dataset, we have information on the host(s) of the show, with 6,334,975 show-host observations during our time period. Each host is identified by a unique identifier, based on her first name and last name (as well as additional information to avoid homonyms). We have 67,735 unique “hosts” broadly defined. Included in this category are the journalists and presenters themselves, as well as non-journalists – including actors, singers, politicians, academics, etc. – when they are in charge of hosting a show.³⁵ Overall, journalists represent 37% of the hosts, but 82% of the 6,384,560 show-host observations. Appendix Figure 8 provides a summary plot of the profession of the non journalist hosting shows as a share of the number of appearances: 82.2% of them are artists; sports persons and academics each account for around 2%, followed by politicians.

In our main specification, we isolate the journalists and presenters from the other non-journalist hosts. At the end of the day, we have 24,730 unique journalists/presenters in our dataset (including the columnists and commentators; Appendix Figure 10 plots this number

length would be 120 minutes, minus the length of newscasts, of weather forecast segments, of the stock market segment, etc.

³⁵For example Nicolas Canteloup, a famous comedian who – among other things – has participated in the program “*Vivement dimanche prochain*” on France 2 and hosts the “*Revue de presque*” on Europe 1; the politician Daniel Cohn-Bendit who had a daily column in Europe 1 breakfast show and hosted on the same station the “*Dany Football Club*”. Another example is the one of Luc Ferry, philosopher and politician who served as the Minister of Education between 2002 and 2004, and who hosts “*Les mots de la philo*” on Radio Classique and participates in the “*Ferry - Juillard*” program on LCI.

per season). On average, each journalist/presenter appears 212 times in our data, an appearance here corresponding to the broadcast of a show on a given day, with a lot of heterogeneity depending on the journalists. The median journalist presents 3 distinct programs during our time period (2002-2020), and a quarter of them host only one show (online Appendix Figure 9).

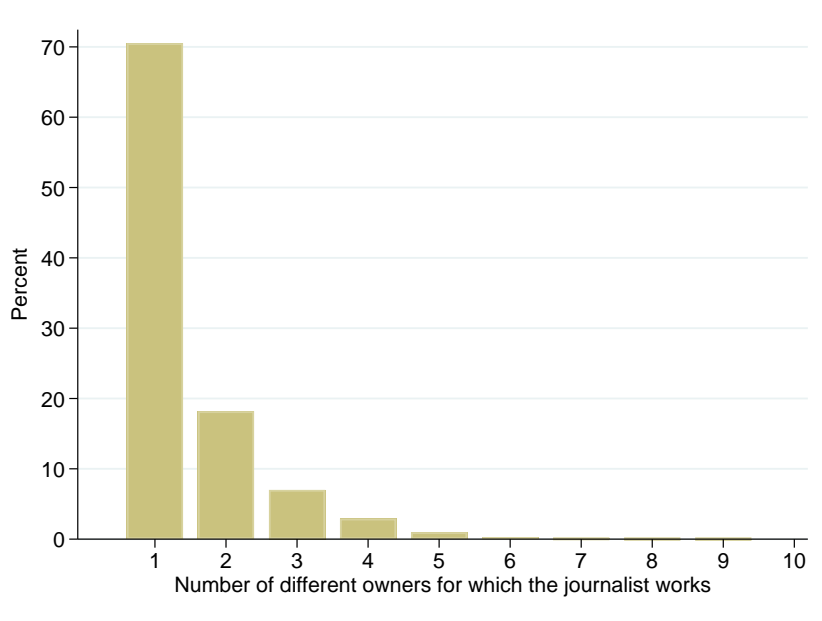
Some of these journalists always work for the same channel during our period of interest, while others appear on multiple channels, sometimes during the same time period.³⁶ Figure 13 plots the distribution of the number of distinct channels that journalists appear on. 50% percent of the hosts in the dataset only appear on one channel; 22% on two, 11% on three. For instance, Emmanuel Chain was a presenter on M6 between 1987 and 2003, simultaneously a presenter on Canal J from 1993 to 1996, then presenter on Canal+ in 2003-2004, and again on M6 in 2004, before joining TF1 in 2010. Appendix Figure 14 plots the number of distinct channels journalists appear on, but within a given season. While the exact figures vary from one season to the other, we see that on average, in a given season, four fifth of the journalists only work for one channel, while 20% appear on two channels or more.

A journalist may work for different channels, but not necessarily for different *owners*. Our goal is to isolate the part of the slant driven by journalists themselves. In the empirical analysis below, we use channel and day fixed effects to control for audience characteristics (demand-driven slant) and owner fixed effects to account for the owner’s influence on media content (supply-driven slant). We therefore focus on journalists working on channels belonging to different owners. Figure 2 reports the distribution of the number of journalists depending on the number of owners for which they work. More than two-thirds of journalists in our dataset work for two owners or more (see online Appendix Figure 15 to see these numbers by season).³⁷

Finally, we complement the INA information with additional data on the journalists that we collect from two sources: on the one hand, “LesBiographies.com”, a media-focused biographical and monographic online reference database that we scrape and, on the other hand, Wikipedia. More details on the data collection are provided in the online Appendix Section A.3. Online Appendix Table 4 reports summary statistics on journalists; below, we relate these characteristics with the propensity of the journalists to bias the news. A third of the journalists in our dataset are women, and 18% of them are born in the Paris metropolitan area. The

³⁶For example, Léa Salamé hosting a program on both France Inter and France Télévisions

³⁷For example, Guillaume Durand who, during the 2005-2006 season, hosted a program (daily interview) on CNews/I-Télé – owned by the “Groupe Canal Plus” at the time –, and the three-monthly program “*Campus, le magazine de l’écrit*” on France 2 (public television). In 2010-2011, he simultaneously co-hosted with Michael Darmon “*En route vers la présidentielle*” on CNews/I-Télé (“Groupe Canal Plus”), hosted “*Conversation inédites face aux français*” twice a month on France 2, and presented the Radio Classique morning show (Radio Classique been owned by LVMH). Another example is the one of Augustin Trapenard who, in the 2014-2015 season, both co-hosted the television program “*Le grand journal*” on Canal + (“Groupe Canal Plus” and then “Groupe Bolloré”) and presented the radio program “*Boomerang*” on France Inter (public radio station).



Notes: The figure reports the distribution of the number of journalists depending on the number of different owners for which they work. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 16 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, RMC Story, France 4, BFM TV, I-Tél é/CNews, LCI, franceinfo TV, LCP/Public Sénat, and 10 radio stations: France Bleu, France Inter, France Info, France Culture, and Mouv', RTL, RMC, Europe 1, Radio Classique, and BFM Business.

Figure 2: Distribution of the number of different owners for which the journalists work (2002-2020)

highest degree reported is a PhD for 8% of the journalists, 8 report to have graduated from a journalism school, and 5% from the ENA. Note however that these numbers might not be representative as we have information on education and origin only for a subset of journalists which might be endogenous to reporting biases and the popularity of a journalists .

2.2.2 Estimating the political leaning of the guests

To measure the political leaning of the guests (if any), we use a number of additional data sources that we briefly describe here. Details on data construction are provided in the online Appendix Section [A.1](#).

Identifying the politicians First, to identify the politicians and determine their party, we collect data on the identity of all the candidates running at the following elections: European elections (2009, 2014, 2019); local, i.e. both mayoral and cantonal elections (2001, 2008, 2014); Senatorial elections (2008, 2011, 2014, 2017); and National Assembly elections (2002, 2007, 2012, 2017). For all the candidates, we collect their reported party affiliation. In addition, we rely on information from the *Project Arcadie*³⁸ to track the political affiliation of elected members of Parliament during their legislative term (a number of elected MPs indeed change political parties during their mandate). Finally, we use data on the names of the government members (including the ministers, secretaries of state, cabinet members, etc.), and consider that people in office under a President of a given party have views of that said party.³⁹

Each data source provides us with a political party membership for a certain period. For the electoral data, this corresponds to the period beginning at the start of the election campaign (i.e. three months before the election) and finishes at the end of the mandate. We order the data sources according to their level of granularity and the importance of the political information they provide; e.g., we consider that competing in a national election with a political party label is generally more revealing than simply appearing on a list for mayoral elections (that can bring together several political families).⁴⁰

In total, using fuzzy matching procedures, we identify 18,073 politicians with their respective party affiliation, accounting for 26.8% of all appearances. For the 3,000 politicians with the highest number of appearances on television and radio – who jointly account for 90% of all the appearances of politicians – we further verify manually that their political affiliation is correct. For the 700 most frequent politicians whose political affiliation has changed between

³⁸www.projetarcadie.com.

³⁹There was no cohabitation in France during our period of interest.

⁴⁰The order we consider is the following: (i) membership of a parliamentary group; (ii) legislative elections; (iii) senatorial elections; (iv) members of government; (v) European elections; (vi) regional elections; (vii) cantonal elections; and (viii) municipal elections. If, for a political figure, we are missing information for a few months, we extend the last known political affiliation in order to fill in the gaps and to have complete information during the period. See online Appendix Section [A.1](#) for more details.

2002 and 2020, we similarly verify manually that the temporal dimension of their political affiliation is accurate.⁴¹

Classifying non politicians Politicians are not the only participants whose discourse may be slanted. In particular, some guests may be politically involved even if they never run for elections or participate in a government. Identifying the political leaning of politically engaged non politicians (PENOPs) is particularly challenging empirically, and doing so is one of the contributions of this paper.

To identify the PENOPs, we collect data from three different sources: (i) the summer universities of the political parties, (ii) the list of the contributors to politically-involved think tanks, and (iii) the signing of op-eds in support of candidates. Once more, we only briefly describe the data and methodology here and provide all the necessary details in the online Appendix.

First, we regard the summer universities of French political parties, which are a unique feature of the French context. French parties hold regular summer universities for their supporters, with “intellectuals” and pundits close to the party. We retrieve the programmes of these universities online or from archival data and manually enter from these lists the names of all participants, which are then affiliated to their respective political party. We gather information on 9,569 contributors, 3,942 of which match to our guest data set.

Our second metric to elicit the political leaning of PENOPs is their participation in politically-involved think tanks. Here, we proceed in three steps. As there does not exist an official registry of think tanks in France, we first build an exhaustive list of 70 think tanks from several sources. We then map each think tank, (when relevant) to political families using four criteria: management, funding, stated goal and community on Twitter.⁴² Finally, we rely on the present and past versions of the think tanks’ websites (using Wayback Machine), to retrieve the list of the contributors at any moment of time. Overall, we compile a list of 9,569 contributors to 23 politically affiliated think tanks, of which 4,430 appear on French TV and radio.

Finally, we identify all op-eds in favour of presidential election candidates published before the first round during our period of interest. For each of these op-eds, we collect the name of the signatories. Overall, we have information on 470 intellectuals or artists (273 of which appear on radio or TV) who supported a candidate at the presidential election, and consider

⁴¹For example, Bernard Kouchner served as a Minister under the conservative President Jacques Chirac, then joined the Socialist party before joining the conservative government under President Nicolas Sarkozy, and then leaving office as an independent politician.

⁴²For the latter, we observe which of the Twitter accounts we know to be politically polarized retweet these think tanks (Hervé, 2021). More details are provided in the online Appendix Section A.1.2. Online Appendix Table 5 lists the different think tanks for which we collected data, and their political affiliation when they can be considered as politically involved.

it as an endorsement of the respective party.

Unlike what we have done for the professional politicians, the three sources of information that allow us to identify the political affiliation of the PENOPs are less informative. Therefore, we cannot assign a political family as categorically as running for office allows us to do. We thus use a fuzzy approach by applying a mixture of Gaussian distributions to define both the political affiliation and its duration. The political axis is a continuous value on which the political families are positioned according to the Chapel Hill survey left-right general score (Jolly et al., 2022) that ranges between zero and ten. The time axis is split with a monthly granularity. The Gaussians we use are standard across the political axis, with a standard deviation of one. Across the time axis, we use an asymmetric Gaussian kernel with a sharp attack and a long tail – allowing us to have a neat political affiliation close to the event that provides the information (e.g. the date of the publication of an op-ed in support of a candidate) – and that is smoothly decreasing after. Once the mixtures are created with all our events (summer universities, think tank and op-eds), we categorize politically and temporally all the guests using our six political families (if the guests turned out to be politically engaged). Note importantly that we indeed allow our measure of guest ideology to be time-varying.

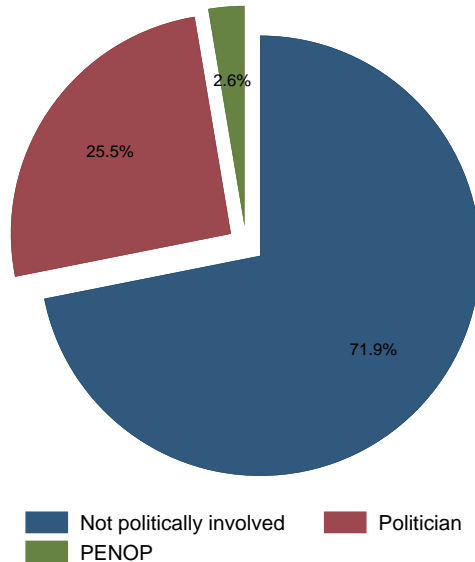
Overall, Figure 3 provide summary statistics on the guests depending on whether they are politically affiliated. In total, we can classify 18,073 individuals that account for 825,055 appearances (28.1%) in our data. We find that 25.5% of guest appearances are appearances of politicians, and 2.6% are appearances of PENOPs.⁴³ Online Appendix Figures 18, 19, 20 and 21 plot these differences respectively for public television channels, private TV generalist channels, private TV news channels, and radio stations. Not surprisingly, the relative share of not-politically involved guests tend to be much higher on generalist than on news channels.

2.3 Measuring media bias

From our measure of the political leaning of the guests, we can thus determine the slant of the shows and of the channels.

In the spirit of Durante and Knight (2012), we measure the slant of a show as the share of the speaking time devoted to a given ideology (through an invited guest) in the total length of the show. We do it first considering only the politicians (as is usually done in the existing literature) and then also taking into account the PENOPs. Our first measure is based on the speaking time of each political party among the total speaking time of all the politically-classified guests. Our second measure – that allows us to approximate the importance given to politics by each media outlet – is based on the speaking time of each political party among all the guests.

⁴³See online Appendix Figure 16 for more descriptive statistics on the classification of the guests – some guests indeed appear both as professional politicians in our data and as contributors to think tanks or participants in summer universities.



Notes: The Figure depicts the share of appearances of guests that fall in a political category. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business.

Figure 3: Political classification of the guests, 2002-2020

2.3.1 Only considering the politicians

Figure 4 depicts the evolution of the time share of each political group over time. Speaking time is aggregated at the season level, that is from September 1st to June 30th.⁴⁴ In sub-figure 4a, only the politicians are included. It appears clearly that after the Left wins the 2012 Presidential elections, right-wing politicians' speaking time share shrinks while left-wing politicians' speaking time increases. Then, following the election in 2017 of a Liberals president (Emmanuel Macron), his political family rapidly gains speaking time (LREM is classified as Liberals in the Chapel Hill surveys). This is due to the regulatory environment described above: the CSA requires a third of the speaking time to be dedicated to the President of the Republic, the government and their collaborators.

Hence, in sub-figure 4b, we perform the same analysis but drop the mandatory speaking time share of the government. The general picture is different, with an overall decrease over time of the speaking time share of the two main political families, and an increase since 2017 of the speaking time share of the Liberals, but to a lower extent. The speaking time share of the radical left, the greens and the radical right consistently remains below 10%. We will

⁴⁴Because programs broadcast during the Summer most often strongly differ from the usual programs, with for example a lot of reruns, we decided to drop the Summer from our preferred analysis. In the online Appendix Section F.2 we show that our main results are unchanged when we include the summer period. See e.g. online Appendix Figure 36 for the equivalent of Figure 4 but with the Summer included.

show below that our results are robust to ignoring the mandatory speaking time share of the government, given media outlets have no choice but to respect this obligation.

In both pictures, small bumps can be observed for the radical right in presidential-election years (2007, 2012 and 2017), as channels have to give an equal speaking time to candidates in the weeks prior elections (again due to the regulatory environment). In the online Appendix Figure 38, we drop these electoral periods when the speaking time is regulated by the government. Yet, doing so only slightly changes the overall picture.

2.3.2 Taking into account both the politicians and the PENOPs

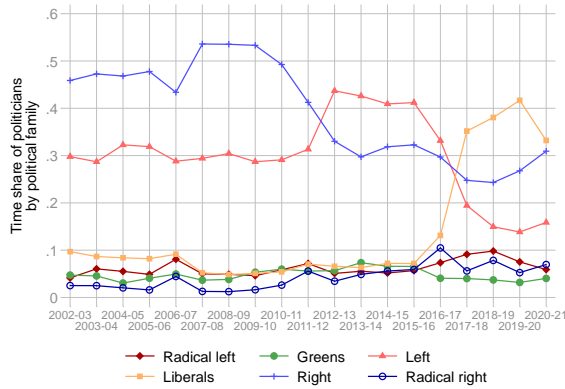
The above measures are only based on the speaking time share of the politicians. However, channels can also invite non-politician guests with a political stance. Doing so has the advantage for the outlets that it escapes speaking-time regulation.

We see from sub-figures 4c and 4d that including the PENOPs in our measure of slant changes the overall picture to a great extent (further, as we will see below, channels tend to slant content more using PENOPs than politicians). In particular, it increases the relative speaking time share of the radical parties. (In Section 3.1 below, when analysing the determinants of media bias, we provide similar descriptive evidence for each media outlet.)

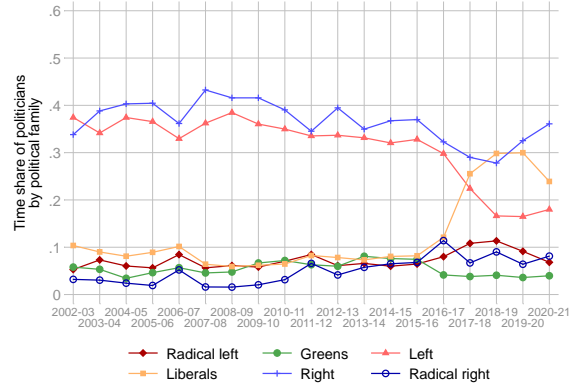
2.3.3 Are some political families overrepresented?

The observed differences in the speaking time share devoted for different political ideologies may reflect different demand for political content either due to audience preferences or the importance of a given ideology at a certain time. To address this, we use two different benchmarks: (i) the number of elected politicians of different parties (measured as the sum of the number of MPs and the number of senators), and (ii) the “popularity” of the parties as reflected in the polls as well as in the electoral results. Given the French majoritarian voting system, both benchmarks have potential shortcomings in representing political preferences of the audience. While radical parties tend to be underrepresented among elected politicians, they might be overrepresented in election polls. To measure speaking time shares on the media side, we use all politically-classified guests (i.e. both politicians and PENOPs) and dropping the mandatory speaking time for government.

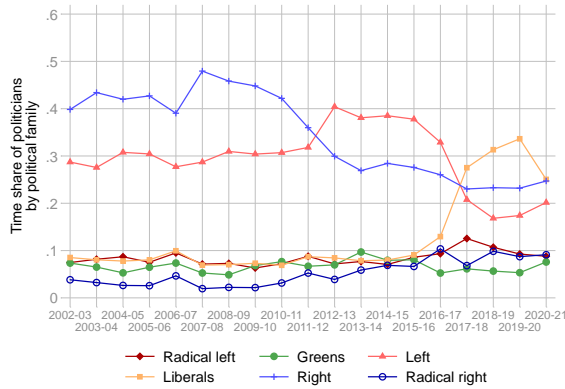
Online Appendix Figure 22 plots the difference (in percentage points) between the speaking time share devoted to each political family (as reported in Figure 4d) and the share of elected politicians represented by each political family. When using elected politicians as a benchmark, the fact that left-wing and right-wing political families benefit from more speaking time does not reflect a positive slant of the French media industry (considered overall) towards these families; On the contrary, the speaking time share of the Right and the Left is consistently lower than their share of elected national politicians (of course, as we will see



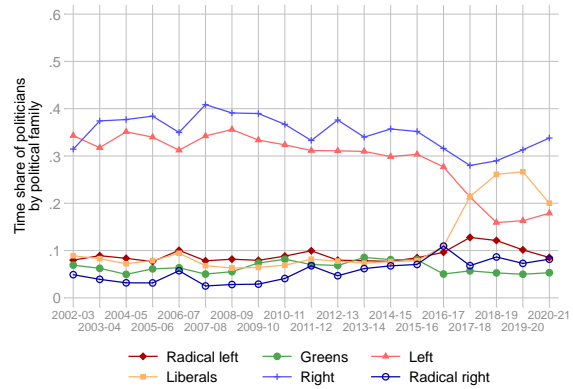
(a) Only politicians – All time periods



(b) Only politicians – Dropping mandatory speaking time for government



(c) All politically-classified guests – All time periods



(d) All politically-classified guests – Dropping mandatory speaking time for government

Notes: The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business. Speaking time is aggregated at the season level, that is from September 1st to June 30th (see online Appendix Figure 36 for a similar figure including the Summer).

Figure 4: Evolution of the speaking time of the guests, depending on their political affiliation

in Section 3 below, this varies depending on the media outlets). The only exception is 2018, following the election of a Liberal President, whose political family also obtained the majority of the seats at the National Assembly but – once the mandatory speaking time for the government is dropped – only benefits from a relatively low speaking time share.

The picture is quite different if we use the popularity of different political families as measured in the polls. For this analysis, we build a dataset of all polls for the presidential and legislative elections in France since 2002 and aggregate them at the level of the political families. Online Appendix Figure ?? shows that, when focussing on polls for the presidential elections, the radical-right family seems to be under-represented in the media. This has also been the case in recent years for the radical left, but to a lower extent. On the contrary, the Left is the political family that benefits the most from media coverage compared to its relative popularity as measured in the polls.

2.3.4 Weighting the speaking time shares by the audience of the shows

For now – and as is usually done in the literature – we have considered the speaking time shares devoted to each political family as if it was similar for a guest to be invited during a prime time show or in the middle of the night. Yet, it is obviously not the case, and channels may play around with the respect of pluralism by providing broadcast time to some political families at times when the audience is high, while doing the reverse for some other families.

Hence, we next investigate how weighting the speaking time share by the audience of the shows affects the descriptive evidence presented above. To do so, we collect audience data from Mediametrie. Online Appendix Figure 25 presents the result when we weight the speaking time by the average audience of the time slot. While the overall patterns are relatively similar to the ones documented in Figure 25, it seems that the main left-wing and right-wing parties, as well as the Liberal political family since its victory in the 2017 elections, seem to benefit from an “audience bonus” relatively to the radical and smaller parties. This is true whether we consider only the politicians, or both the politicians and the PENOPs.

2.4 Additional data sources and information

Finally, we briefly describe the additional data we collect for this article.

Media ownership For each of the channels in our sample, we collect detailed information on their owner(s). The ownership information mainly comes from the CSA, and we also rely on the Orbis database (Bureau Van Dijk).⁴⁵ Finally, we complement this information with a careful review of all the changes in ownership documented in *La correspondance de la presse*, a daily publication specialized in the media sector. During our period of interest, a number

⁴⁵Orbis is a firm-level database that encompasses firms’ financial statements and ownership structure.

of different ownership changes took place: (i) the Bouygues Group bought AB group’s shares in TMC in May 2009; (ii) Direct 8 was sold by Vincent Bolloré to the Canal Plus Group in September 2011; (iii) Vincent Bolloré took control of the Canal Plus Group (Canal +, C8, CNews) in April 2015; and (iv) Altice bought BFM TV and RMC from Alain Weill in July 2015. We describe the time line of these changes in the online Appendix Section [B.3](#).

Audience characteristics Finally, we collect data on the characteristics of the viewers/listeners of each channel, in particular their political preferences. More precisely, we rely on survey data from the 2013, 2018, 2019 and 2020 *Digital News Report* ([Reuters Institute, 2013, 2018](#)).⁴⁶ For each year, we compute the average ideology of the viewers of the different channels, and compare it to the one reported overall by all the surveyed individuals. Online Appendix Figure [27](#) reports the results. We find that the individuals who report consuming public radio or public television tend to be consistently on the left of the overall population, as well as viewers of Canal+, while viewers of BFM, LCI and TF1 are consistently on the right.

3 Do journalists themselves bias the news? Measuring the relative importance of owners and hosts in slanting media content

In this section, we first measure the political slant of television channels and radio stations, and then investigate whether journalists themselves slant the news. To do so, we estimate the following model at the show level:

$$\text{political slant}_{s,h,c,o,t} = X_s\beta + \lambda_h + \gamma_c + \alpha_o + \theta_t + \epsilon_{s,hc,o,t} \quad (1)$$

where s indexes the shows, h the journalists hosting the show, c the channels, o the owners of the channels, and t the week of the show as well as the day of the week. An observation here is

⁴⁶Similar data has been used by [Kennedy and Prat \(2019\)](#) and [Cagé et al. \(2020b\)](#) but focusing on the online news consumption; here, we consider media consumption offline. The choice of the survey years was driven by whether or not the questionnaires include questions about political ideology. The sample includes 1,016 individuals for France for the year 2013, 2,006 for 2018, 2,005 for 2019, and 2,038 for 2020. Among the survey questions, respondents are asked whether they watch public television, Canal+, I-Tele, LCI, BFM TV, TF1, and M6, and whether they listen to public radio or private radio: “Which of the following brands have you used to access news ***offline*** in the last week (via ***TV, radio, print, and other traditional media***)?” Please select all that apply.”. Online Appendix Figure [26](#) reports the average viewership/ audience of the different channels. They are also asked about their “political ideology”: “Some people talk about ‘left’, ‘right’ and ‘centre’ to describe parties and politicians. (Generally socialist parties would be considered ‘left wing’ whilst conservative parties would be considered ‘right wing’). With this in mind, where would you place yourself on the following scale?”, with a 1 (Very left-wing) to 7 (Very right-wing) scale.

thus a show s broadcast on a given date t on a channel c and hosted by journalist h . λ_h , γ_c , α_o and θ_t are respectively host fixed effects, channel fixed effects, owner fixed effects, and week and day-of-the-week fixed effects. X_s is a vector of show-level characteristics, in particular their genre (including television news, magazines, interviews, talk shows, documentaries, etc.),⁴⁷ the number of journalists hosting the show, the frequency of the show (daily, weekly, monthly or other), and the length of the show. Standard errors are clustered at the journalist level.

Our dependent variable of interest, political slant $_{s,h,c,o,t}$, is a measure of the political slant of the show. We use alternatively the speaking time shares calculated in all appearances or only in appearances of guests with a political lean, and either only the politicians or both the politicians and the PENOPs.

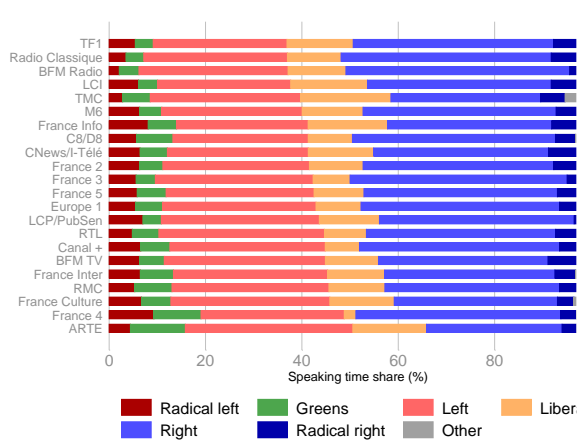
3.1 Measuring the slant at the channel level: Descriptive evidence

Before turning to the empirical estimation, we plot descriptive evidence similar to the one presented in Figure 4 above, but depending on the media outlets. Figure 5 depicts the time share of each political group depending on the channels. Clear differences appear between media outlets, that we will explain in the next sub-section. E.g., whether we consider only the politicians (sub-Figure 5b) or both the politicians and the PENOPs (sub-Figure 5d), it appears clearly that the television channels ARTE and France 4 devotes overall more speaking time to the overall left (i.e. the radical left, the greens and the “traditional” left) than the radio stations Radio Classique and BFM Radio, and the television channel TF1.

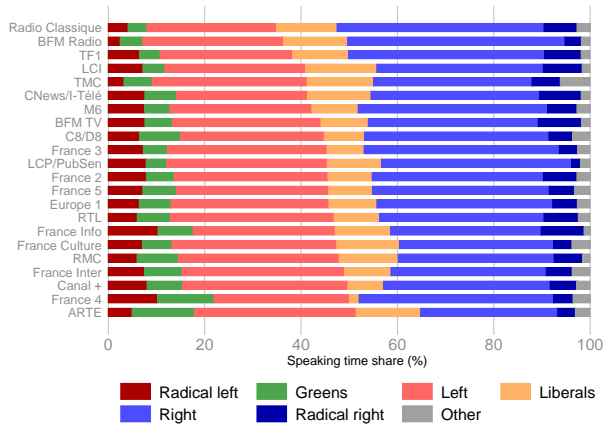
Strong differences also appear when we consider the time share devoted to the radical right. If we consider both the politicians and the PENOPs (sub-Figure 5d), we see e.g. that the 24-hour news channels LCI, CNews/I-Télé and BFM TV and the news radio station France Info devote more speaking time to radical-right guests than other channels. This effect is mainly driven by the professional politicians, however. If we only consider the PENOPs, on average during our time period, the radical-right speaking time share is higher on the four radio stations France Inter, BFM Radio, France Culture and Radio Classique than on other outlets.

These differences between the different television channels and radio stations can reflect a number of different factors. First, channels may want to cater to the preferences of their audience (even if, as we will see, all the stations serve the same national market), but the bias may also come from the preference of the owners of the channel and/or from the journalists themselves who may shield content production from owner influence. Hence, we now turn

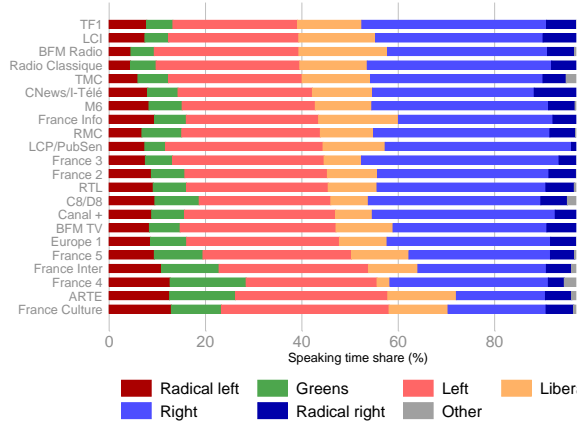
⁴⁷Note that, in the regression analysis, we drop very specific events such as the official interventions or interviews of the President of the Republic – in the case of the presidential interviews for example, a number of journalists from different channels tend to be invited to interview – on a given channel – the President at a special occasion, while the journalists may not officially work for the channel.



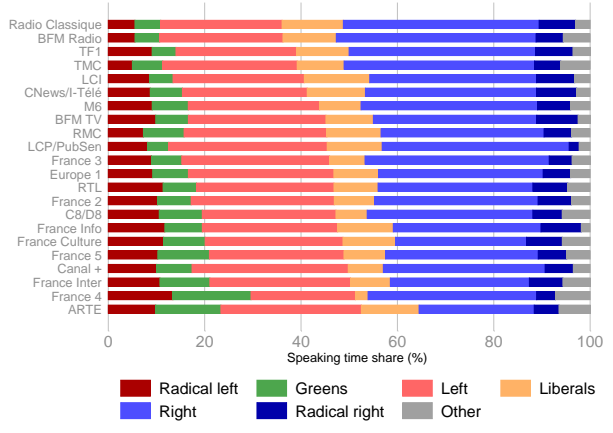
(a) Only politicians – All time periods



(b) Only politicians – Dropping mandatory speaking time for government



(c) All politically-classified guests – All time periods



(d) All politically-classified guests – Dropping mandatory speaking time for government

Notes: The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business (see online Appendix Figure 37 for a similar figure including the Summer).

Figure 5: Speaking time of the political families, depending on the channels, 2002-2020

to the econometric analysis so as to disentangle the different mechanisms at play behind the slant.

3.2 Measuring the slant at the channel level: Empirical estimation

We start by documenting the political slant of each radio station and television channel, i.e. by focusing on the channel fixed effects γ_c . Our goal is to determine whether some channels systematically grant more speaking time to given political parties compared to others, everything else equal.⁴⁸

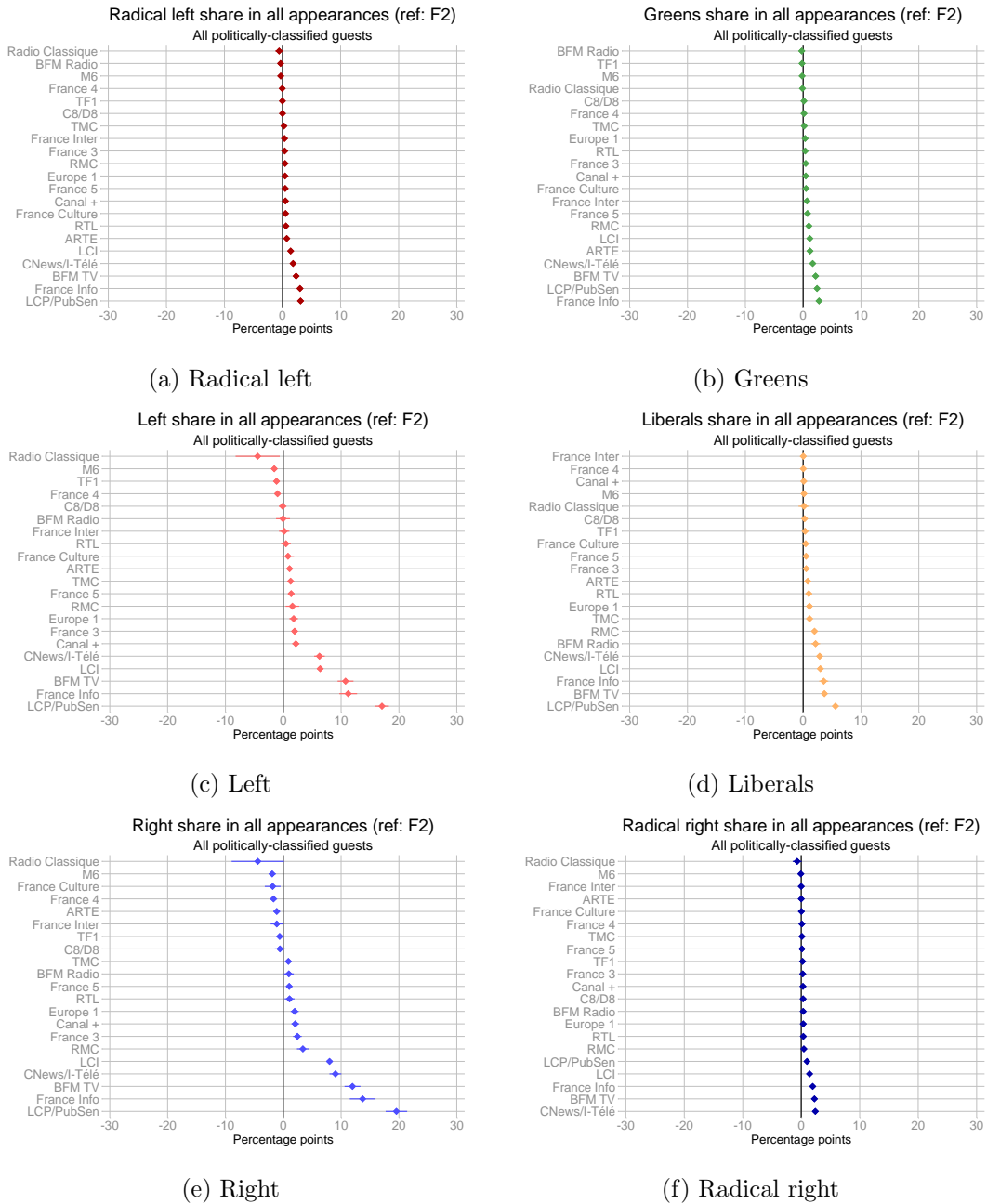
In our preferred approach, France 2, the leading public television channel, is set as the reference. Hence, for each c , we interpret γ_c as a measure of media bias of channel c relative to France 2, i.e. whether a channel systematically gives more or less speaking time to politicians from a given party compared to France 2. Importantly, all the channels in our sample serve the same market. They are all French channels operating at a national level, meaning that their potential viewers (listeners) do not differ in terms of demographics or political leaning. Hence, differences in slant across channels may reflect differences in *targeted* audience, but they are not driven by differences in *potential* audience. In other words, media outlets may decide to serve a specific (political) segment of the market to differentiate themselves from their competitors (see e.g. Anand et al., 2007; Gabszewicz et al., 2001).

Figure 6 presents the results when the speaking time shares are calculated in appearances of guests among all the guests, and both the politicians and the PENOPs are included.⁴⁹ Sub-figures 6a, 6b, 6c, 6d, 6e, and 6f report the point estimates respectively for the radical left, the greens, the left, the liberals, the right, and the radical right. Overall, we find that the speaking time shares of all the political families tend to be relatively higher on France Info and on LCP/Public Sénat, and more generally on all the 24-hour news channel than on other channels, due to the fact that these channels devote more times to politics (and so invite relatively more guests with a political affiliation).

The picture is different if we compute the speaking time shares of the different political families only among the politically-classified guests. From Figure 7, it appears clearly that, on average during our time period, the radical right benefits from much more speaking time on CNews/I-Télé than on other channels (sub-figure 7f). It is particularly striking given that, on average, there is much less heterogeneity between stations regarding the speaking time

⁴⁸Alternatively, we can perform the analysis at the channel level and estimate the following model: political slant _{c,o,t} = $\gamma_c + \theta_t + \epsilon_{c,o,t}$, where c index the channels, o the owners and t the date. When we do so, for each channel and day, we compute the daily speaking time share of each political family (from the radical left to the radical right) at the channel level. We also compute the difference in speaking time share between the right (radical right and “traditional” right) and the left (radical left, greens and “traditional” left). Results are presented in the online Appendix Section D and E.

⁴⁹See online Appendix Figure 30 for the results when only the politicians are included, and Figure 31 for only the PENOPs.



Notes: each sub-figure plots the channel fixed effects obtained when estimating the following model: political slant_{s,c,t} = X_sβ + γ_c + θ_t + ε_{s,c,t} (see the text for details). In Figure 6a, political slant_{s,c,t} is the speaking time share of the radical left, the one of the greens in Figure 6b, the left in Figure 6c, the liberals in Figure 6d, the right in Figure 6e, and the radical right in Figure 6f. Channels are sorted according to these estimates. Speaking time shares calculated in appearances of guests among all the guests, and both the politicians and the PENOPs are included. The omitted channel (reference point) is France 2. The data covers the time period ranging from January 1st 2002 to December 31st 2020.

Figure 6: Channel-level slant – Speaking time shares calculated in appearances of guests among all the guests (including both politicians and PENOPs), 2002-2020

share devoted to the radical right than regarding the speaking time shares devoted to the other political families. Importantly, a significant part of the heterogeneity between channels comes from the PENOPs. Online Appendix Figure 30 reports estimates similar to the ones presented in Figure 7 but only including the professional politicians. If we focus on the radical right, we see that, compared to France 2, CNews/I-Télé “only” devotes 1.81 percentage points more than France 2 to the speaking time of the radical right, i.e. slightly less than BFM TV (1.87) and about the same as Radio Classique (1.72). On the contrary, when we consider both the politicians and the PENOPs (sub-Figure 71), the difference between CNews/I-Télé and France 2 during our time period is, everything else equal, of 5.03 percentage points (and the second channel devoting the most speaking time to the radical right, LCI, is “only” 2.09 percentage points above France 2).

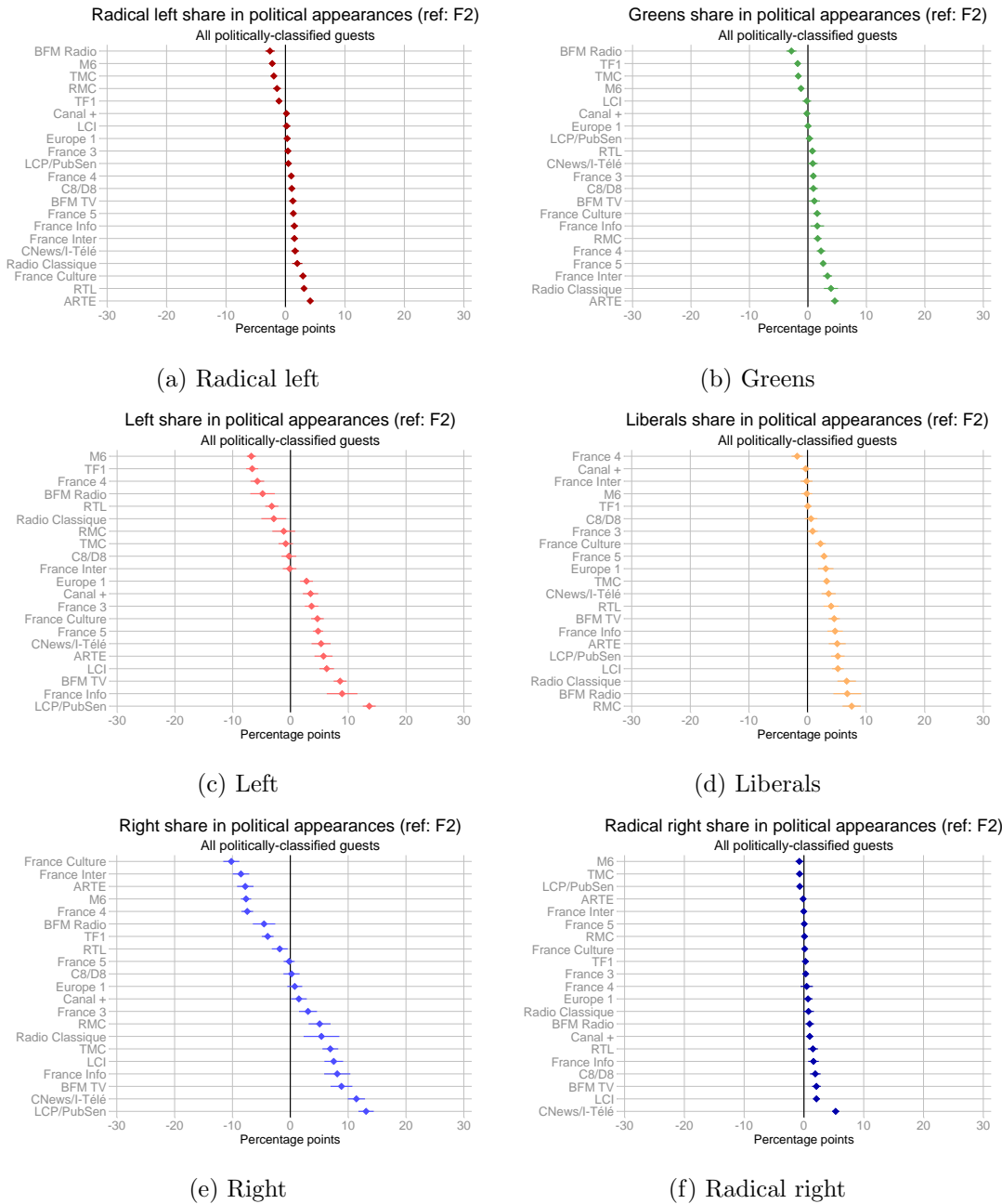
Changing media bias Importantly, the slant of a given channel may evolve over time, to begin with – as we will see below – because of ownership changes. Hence, we also estimate media bias for each channel at the annual level. Online Appendix Figures 32 and 33 report the results respectively for the private and public television stations, with the exception France 2 that is consistently used as a reference point, as well as the private and public radio stations.

Because in Section 4 below, we will document the impact of the takeover of the Canal+ group by Vincent Bolloré, it is of interest here to focus on the changing media bias of CNews/I-télé, the 24-hour television channel of the group. Figure 8 reports the results for the speaking time share devoted on the channel to the radical right (the speaking time shares are calculated in appearances of politically-classified guests, including both the politicians and the PENOPs).⁵⁰ While, between 2007-08 and 2014-15, the coverage of the radical right was roughly similar on CNews/I-télé than on France 2, we observe a clear move of CNews/I-télé towards the radical right beginning in 2015-16, i.e. at the time of the takeover. This move has been reinforced over the years; in 2019-20, the speaking time share of the radical right, everything else equal, was more than 20 percentage-point higher on CNews than on France 2. In Section 4 below, we investigate the extent to which this changing slant might be explained by Vincent Bolloré’s own political preferences.

3.3 Measuring the slant at the host level

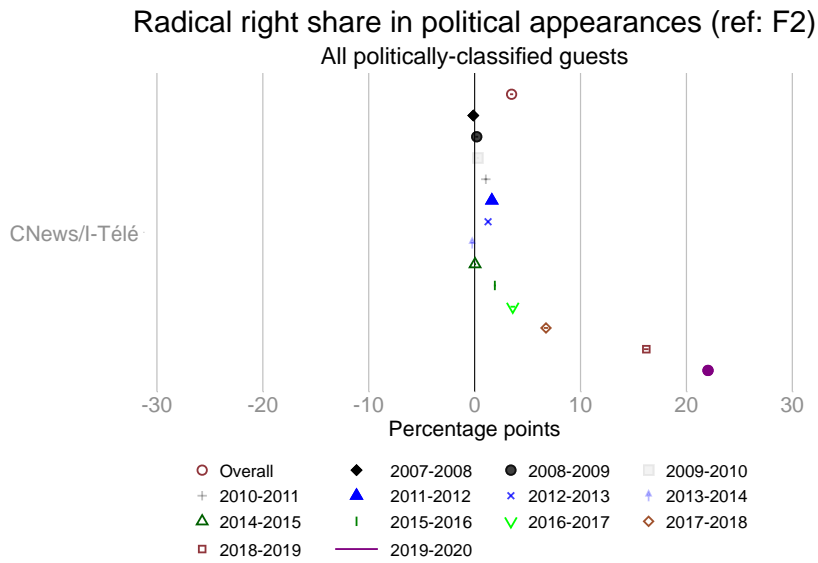
One of the contributions of this article is to measure the extent to which media bias is driven by journalists themselves. To do so, we estimate equation (1) and rely on the fact that, as described in Section 2.2, a number of journalists work on different channels owned by different owners during our period of interest (either during the same season or from one season to the other). Controlling for date fixed effects, channel fixed effects – capturing audience

⁵⁰See online Appendix Figure 34 for a similar illustration but only with the politicians.



Notes: each sub-figure plots the channel fixed effects obtained when estimating the following model: political slant $_{s,c,t} = X_s\beta + \gamma_c + \theta_t + \epsilon_{s,c,t}$ (see the text for details). In Figure 7a, political slant $_{s,c,t}$ is the speaking time share of the radical left, the one of the greens in Figure 7b, the left in Figure 7c, the liberals in Figure 7d, the right in Figure 7e, and the radical right in Figure 7f. Channels are sorted according to these estimates. Speaking time shares calculated in appearances of politically-classified guests, and both the politicians and the PENOPs are included. The omitted channel (reference point) is France 2. The data covers the time period ranging from January 1st 2002 to December 31st 2020.

Figure 7: Channel-level slant – Speaking time shares calculated in appearances of politically-classified guests (including both politicians and PENOPs), 2002-2020



Notes: The figure plots the channel fixed effects obtained for CNews/I-télé when estimating the following model: $\text{political slant}_{s,c,t} = X_s\beta + \gamma_c + \theta_t + \epsilon_{s,c,t}$ independently for each season (see the text for details). Speaking time shares are calculated in appearances of politically-classified guests, and both the politicians and the PENOPs are included. The omitted channel (reference point) is France 2.

Figure 8: The changing slant of CNews/I-télé – Evolution of the relative speaking time share devoted to radical-right guests (including both politicians and PENOPs) in appearances of politically-classified guests (compared to France 2)

characteristics and demand-driven bias –, and owner fixed effects – capturing supply-driven bias, – host fixed effects λ_h account for the role played by the journalists themselves in the choice of guests.

In our preferred specification, the sample we use includes 3,966 journalists who work for multiple owners during our time period. We show below that the overall picture is unchanged if we rather focus on the sub-sample of journalists who work for multiple owners *during the same season*. We interpret increases in the explanatory power of the model when adding host fixed effects and these fixed effects being statistically significant as a sign that hosts themselves are biased. Of course, the sample of journalists working for multiple owners is a selected sample; in the online Appendix Table 6, we show for example that there is a lower share of women among these journalists. However, one might expect these journalists to also be the ones who are the most likely to be able to bias the news toward their own preferences.

Explanatory power of the models Table 1 reports the R-squared and Adjusted R-squared of the estimation of model (1). In this table, we compute the speaking time share of the different political families using the appearances of guests with a political lean, and consider both the politicians and the PENOPs. (Online Appendix Table 7 reports the results of the estimation when the speaking time share is measured taking into account all the appearances (i.e. including the non-political guests); in Table 8, only the politicians are included.) In the upper Table 1a, we present these estimates for the right-left difference, in the middle Table 1b for the radical right, and in the bottom Table 1c for the radical left. Column (1) only controls for the show characteristics, the week and the day-of-the-week fixed effects. In Column (2) we add the channel fixed effects, in Column (3) the owner fixed effects, and in Column (4) the journalist fixed effects.

When we only control for the show characteristics and the date fixed effects, the R-squared of the estimation is equal to 0.025 for the right-left difference. Introducing channel fixed effects improves the explanatory power of the model by 0.01 percentage points, and further controlling for owner fixed effects does not affect it. On the contrary, introducing journalist fixed effects increases the explanatory power of the model by 0.019 percentage points, from 0.035 to 0.054. In other words, even after controlling for the slant of the shows that is due to demand- and supply-driven bias (with channel and owner fixed effects), the preferences of journalists themselves seem to play an important role. This is consistent with the predictions of Dyck and Zingales (2003) and Baron (2006).

Journalist fixed effects We next quantify the journalist fixed effects. Figure 9 plots the estimated fixed effects for the journalists when we estimate equation (1). We only report the fixed effects that are statistically significant at the 5% level (this is the case for 2,601

Table 1: Explanatory power of the journalist fixed effects – Sample of journalists working for multiple owners between 2002 and 2020, Speaking time shares calculated in appearances of guests with a political lean (including both politicians and PENOPs)

(a) Right-Left difference				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	429,810	429,810	429,810	429,514
Clusters (journalists)	3,966	3,966	3,966	3,670
R-squared	0.025	0.035	0.035	0.054
Adjusted R-squared	0.023	0.032	0.033	0.043
(b) Radical right				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	429,810	429,810	429,810	429,514
Clusters (journalists)	3,966	3,966	3,966	3,670
R-squared	0.031	0.035	0.036	0.058
Adjusted R-squared	0.029	0.033	0.034	0.047
(c) Radical left				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	429,810	429,810	429,810	429,514
Clusters (journalists)	3,966	3,966	3,966	3,670
R-squared	0.024	0.026	0.027	0.043
Adjusted R-squared	0.021	0.024	0.024	0.032

Notes: The table reports the estimated R-squared when estimating equation (1) with show characteristics and week and dow-of-the-week fixed effects (Column (1)), and channel fixed effects (Column (2)), and owner fixed effects (Column (3)), and journalists fixed effects (Column (4)). An observation is a journalist-show. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 16 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 10 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business. The upper table (a) reports the results for the right-left difference in the speaking time shares, the middle table (b) for the radical right speaking time, and the bottom table (c) for the radical left speaking time. Speaking time shares are calculated in appearances of guests with a political lean; both politicians and PENOPs are included.

journalists out of the 3,965 journalists included in the regression⁵¹ for the right-left difference, and for 2,362 journalists for the radical right). The upper Figure 9a reports these estimates for the right-left difference and the bottom Figure 9b for the far right. The speaking time shares are calculated using the appearances of guests with a political lean, and we consider both the politicians and the PENOPs (as in Table 1).

While the shape of the distribution is roughly similar for our two measures of political slant, the magnitude of the effect does vary, and there are much more differences between journalists in explaining the right-left difference than the radical-right bias. We see from these figures that, even after controlling for channel and owner fixed effects, journalists differ in their propensity to invite guests with different political leanings.

Of course, the choice of the hosts is not exogenous – owners may favour hosts who are well-known for their political bias to slant the news in a certain direction. As we will see in the next section, a change in ownership can trigger a change in hosts. But the findings of Table 1 demonstrates that journalists themselves slant the news, beyond the preferences of the owners.

4 How do owners slant the news? Evidence from Vincent Bolloré’s takeover of the Canal+ Group

4.1 Identification strategy

We now study how a change in ownership affects media bias. To do so, we focus on the takeover by Vincent Bolloré of the channels of the Canal Plus group (Canal +, C8 and CNews) in April 2015. As highlighted in the introduction, Vincent Bolloré indeed has “*a record of involving himself in the running of the media outlets he controls, personally interfering in the choice and development of content and the selection of contributors*” (Reporters Without Borders, 2016). We compare the channels that experienced a takeover to other channels that experienced no takeover over the period in a difference-in-differences framework.

More precisely, we estimate the following model:

$$\text{political family time share}_{c,t} = \mathbf{1}(\text{Bolloré take over}_c) \times \mathbf{1}(\text{After}_t) + \gamma_c + \delta_t + X'_{c,t}\beta + \epsilon_{c,t} \quad (2)$$

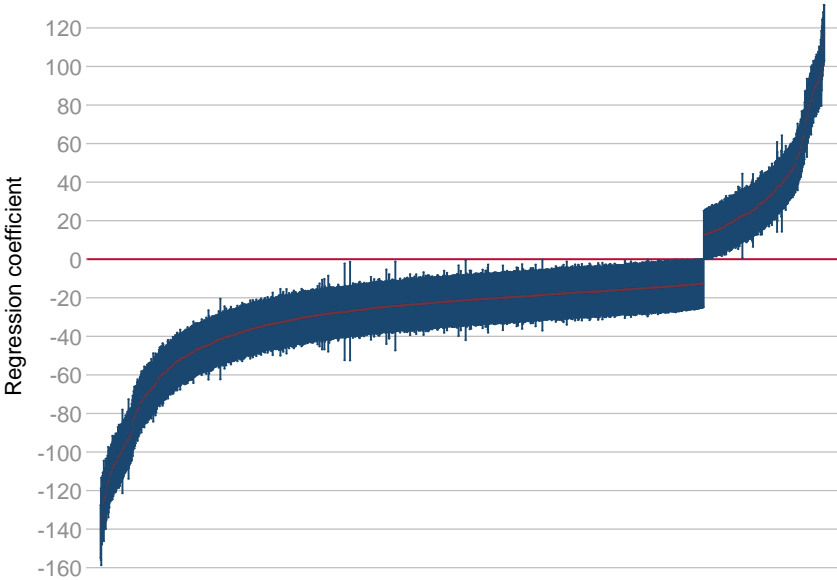
where political family time share_{c,t} is the time share of a given political family on channel *c* at time *t*. In the main specification, we weight the speaking time of a given guest by the average audience at the time of the day they are aired.⁵²

⁵¹3,966 journalists are included overall but one is omitted for the sake of comparison.

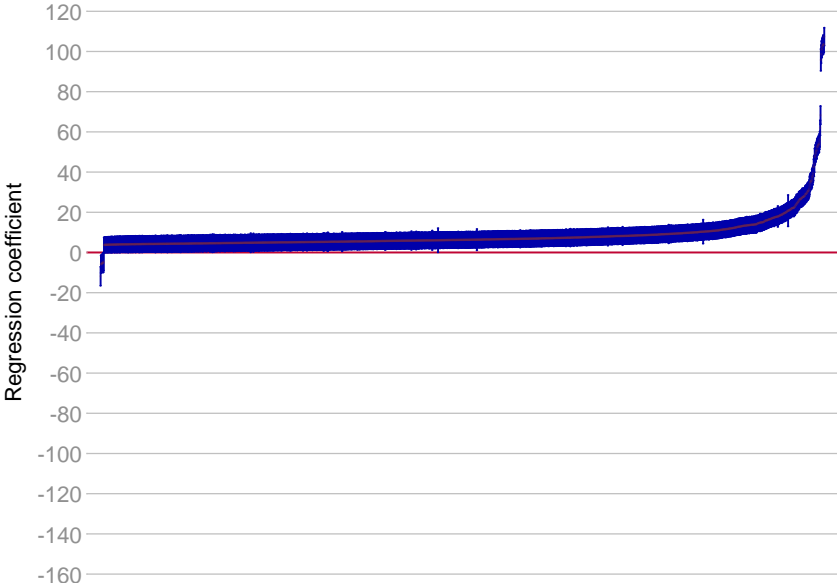
⁵²Specifically, we use radio and television audience curves to weight the speaking time. The weights account for how many people have turned on the television or the radio to listen to *any* station. The weights are thus

Figure 9: Fixed effect coefficients for journalists – Sample of journalists working for multiple owners between 2002 and 2020, Speaking time shares calculated in appearances of guests with a political lean (including both politicians and PENOPs)

(a) Right-left difference



(b) Far right



Notes: The Figure plots the estimated fixed effects for the journalists when we estimating Equation 1. We only report the fixed effects that are statistically significant at the 5% level. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 16 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 10 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business. The upper Figure 9a reports these estimates for the right-left difference, the bottom Figure 9b for the far right.

$\mathbf{1}(\text{Bolloré take over}_c)$ is an indicator variable for whether the channel is affected by Vincent Bolloré’s takeover, and $\mathbf{1}(\text{After}_t)$ is an indicator variable equal to 0 before the takeover and to 1 once it has taken place. γ_c are channel fixed effects and δ_t are season fixed effects. $X'_{c,t}$ are channel-level controls, controlling for the total screen time of guests on this channel as well as for TMC and C8 ownership before 2009 and 2012 respectively. Standard errors are clustered at the channel level. In terms of timing, we use a sample ranging from September 2005 to August 2020.

4.2 Results

Table 2 reports the difference-in-differences estimates from Equation 2. The outcome variable is the share of politically-classified guests in Column (1), the time share difference between right-wing guests and left-wing guests in Column (2), the time share of left-wing guests (that include here the radical left, the greens, and the “traditional” left) in Column (3), and the time share of the right-wing guests (that includes the radical right and the “traditional” right) in Column (4). All these outcome variables are expressed in percentage points and vary between 0 and 100. The bottom row of each table reports the value of the outcome variable on Bolloré’s channels during the 2013-14 season (i.e. during the last season before the takeover).

Outcome variables in Panel (a) are based on all politically-classified guests, whether or not they are professional politicians. After the takeover, on average, the speaking time difference between the right and the left has increased by 10.6 percentage points on Bolloré channels, relative to other channels. The bottom row indicates that, in 2013-14, the channels gave 14 additional percentage points of speaking time to the left than to the right. This difference in favor of the left was expected, as a left wing government was in power at the time and CSA rules demand that the ruling party be granted a third of the speaking time. The effect of the Bolloré takeover brings the right-wing time share nearly on par with the left-wing share, even though the right is not in power as of today.

Panels (b) and (c) report the corresponding estimates, but measure outcome variables using only professional politicians (b) or only politically engaged non-politicians (PENOPs) (c). While the takeover causes the right-left gap to increase by 8 percentage points among professional politicians (an increase that is not statistically significant, however), it increases by 17 percentage points among PENOPs (significant at the 10% level). In other words, the change in slant is much larger among the PENOPs, whose speaking time is not monitored by the CSA.

Table 3 presents similar estimates, but with a breakdown between the three Bolloré channels for all the television channels and radio stations. The idea here is to give more weight to guests who speak during peak hours than to those who speak in off-peak hours.

nels. There is substantial heterogeneity across channels regarding the share of guests who are politically classified. In relative terms, Canal+ was the channel that was the most to the left before the takeover: in 2013-14, it granted the most speaking time to the left and the least to the right. After the takeover, its share of politically-engaged guests declined by 8 percentage points, from a 19% base level. By contrast, the share of politically-classified guests more than doubled on C8, which was the channel giving the most speaking time to the right and the least to the left. The speaking time of politically-classified guests on CNews increased by about 15% following the takeover. Taken together, these results suggest that the channels that became more political are those that represented right-wing politicians the most before the ownership change, potentially catering to a more right-wing audience relative to Canal+.

Table 4 reports estimates with each political family time share as outcome variables. Both on C8 and CNews, the time share of the radical right nearly doubled following Bolloré's takeover.⁵³ The time share of the right increased by 3 percentage points (from a baseline level of 27%) on Canal+. Taken together, these results suggest that channels that were already more to the right moved even further right (C8 and CNews), while Canal+ – that was the most to the left before the takeover – moved to the right. It might reflect demand constraints, with the average Canal+ viewer being more left-wing or moderate than typical CNews and C8 viewers.

These increases on the right of the political spectrum were compensated by decreases in the left-wing politicians time shares on both C8 and CNews. Only the radical left faces an increase or no change in its time share following the change in ownership. These channels therefore become more polarized – with more radical-right voices, less left-wing voices and, if anything, a slight increase in radical-left guests –, a finding that is consistent with many shows centering around fierce debates between speakers with strongly opposed opinions. On Canal+, the increase in the share of right-wing politicians was compensated by a decrease in the share of green politicians.

Figure 10 reports event-study estimates and graphically illustrates the large increase in the radical-right speaking time share following Bolloré's takeover. First, we detect no statistically significant pre-trend, which lends support to our identifying assumption, the absence of diverging pre-trends. Second, we document a gradual increase, starting during the 2016-2017 season, of the time share dedicated to radical-right guests. Among the three channels acquired by Bolloré, this increase is particularly striking on CNews (bottom panel). Compared to a pre-takeover time share of 7.4 percent, the time share of radical-right guests had increased by nearly 15 percentage points on CNews by 2019-2020 due to the takeover, a +200% increase.

⁵³For additional evidence on the radical-right shift of C8 in recent years, see [Sécail \(2022\)](#)

Table 2: Effect of the Bolloré takeover on political families time shares

(a) Politicians and politically engaged non-politicians (PENOPs)				
	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Bolloré \times After	0.0564 (4.070)	10.64** (4.719)	-5.630 (3.560)	5.012*** (1.566)
R-sq	0.034	0.323	0.182	0.496
Within R-sq	0.010	0.071	0.062	0.157
N	225	225	225	225
# channels	15	15	15	15
\bar{y} Bolloré	20.87	-10.75	50.89	40.14
(b) Only politicians				
	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Bolloré \times After	-1.859 (3.368)	8.303 (4.843)	-5.377 (4.723)	2.925* (1.624)
R-sq	0.007	0.248	0.114	0.463
Within R-sq	0.002	0.213	0.093	0.419
N	225	225	225	225
# channels	15	15	15	15
\bar{y} Bolloré	16.07	-8.95	51.38	42.43
(c) Only politically engaged non-politicians (PENOPs)				
	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Bolloré \times After	1.802 (1.397)	17.47* (8.309)	-8.725* (4.707)	8.743* (4.164)
R-sq	0.304	0.080	0.059	0.128
Within R-sq	0.223	0.004	0.007	0.003
N	223	223	223	223
# channels	15	15	15	15
\bar{y} Bolloré	4.8	-17.82	51.86	34.04

Notes: The table reports difference in differences estimates from Equation 2. The sample used includes the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

Table 3: Effect of the Bolloré takeover on political families time shares, heterogeneity by channel

	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Canal+ \times After	-7.807*** (1.146)	7.851 (4.886)	-4.045 (3.708)	3.806** (1.480)
C8 D8 \times After	5.042*** (1.683)	13.79* (6.731)	-9.875* (5.117)	3.913* (2.160)
CNews I-Télé \times After	5.057*** (0.856)	11.68*** (3.253)	-4.912* (2.646)	6.772*** (1.014)
R-sq	0.096	0.324	0.184	0.496
Within R-sq	0.006	0.072	0.063	0.161
N	225	225	225	225
# channels	15	15	15	15
\bar{y} Canal+	19.07	-21.96	57.01	35.05
\bar{y} C8	3.82	4.36	43.44	47.8
\bar{y} CNews	39.72	-14.64	52.22	37.58

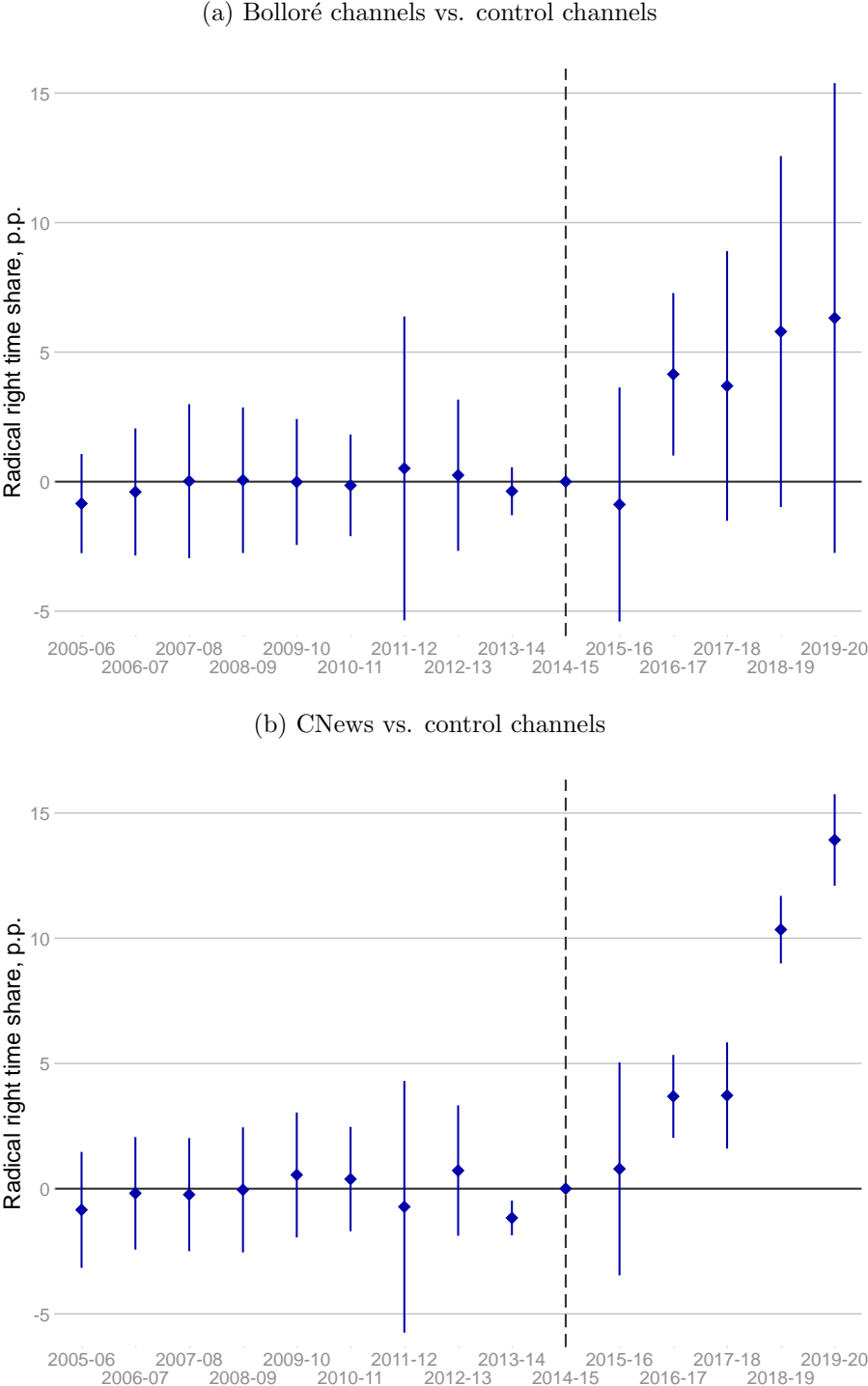
Notes: The table reports difference in differences estimates from Equation 2. The sample used includes the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

Table 4: Effect of the Bolloré takeover on political families time shares, heterogeneity by channel and political families

	(1)	(2)	(3)	(4)	(5)	(6)
	Radical left	Greens	Left	Liberals	Right	Radical right
Canal+ \times After	-0.337 (0.432)	-1.154*** (0.302)	-2.554 (3.503)	-1.375 (2.278)	3.282** (1.405)	0.524 (0.422)
C8 D8 \times After	3.908*** (0.702)	-2.786*** (0.455)	-11.00** (4.955)	5.100 (3.533)	0.452 (2.130)	3.460*** (0.466)
CNews I-Télé \times After	0.0864 (0.373)	-0.215 (0.253)	-4.783* (2.503)	-4.039* (1.918)	0.0633 (0.975)	6.708*** (0.417)
R-sq	0.377	0.053	0.169	0.416	0.539	0.361
Within R-sq	0.313	0.020	0.087	0.310	0.280	0.284
N	225	225	225	225	225	225
# channels	15	15	15	15	15	15
\bar{y} Canal+	7.3	6.28	43.43	5.25	26.72	8.33
\bar{y} C8	5.7	2.01	35.73	3.09	42.97	4.83
\bar{y} CNews	5.36	8.51	38.35	8.06	30.18	7.4

Notes: The table reports difference in differences estimates from Equation 2. The sample used includes the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

Figure 10: Event study coefficients of the effect of the Bolloré takeover on far right time share



Notes: The figure reports event study estimates adapted from Equation 2. The outcome is the The sample used include the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

4.2.1 Robustness

When estimating the impact of Bolloré’s takeover, we use as a benchmark all the television channels and radio stations not owned by Bolloré (either before or after the takeover). A potential concern, however, is that other television channels may have been impacted by the Bolloré’s takeover as well through a spillover effect. For instance, radical-right guests may attract viewers and other channels, to keep attracting viewers in competitive environment, might start inviting more radical-right guests as well. In that case, we would underestimate the true effect of the takeover. Alternatively, other channels may want to differentiate their programs from Bolloré’s by inviting less radical-right guests (which will be the case in an horizontal differentiation framework). In that case, we would overestimate the effect of the takeover.

For this reason, as a robustness check, we estimate our specification using only radio stations as a control group. The underlying idea is that Bolloré’s television channels are not direct competitors of radio stations. E.g. while audience peaks in the evening for television, it peaks in the morning for radio. Our sample consists in the three Bolloré channels and the three control group radio stations (France Culture, France Info and France Inter). Appendix Tables [10](#), [11](#) and [12](#) and Figure [35](#) report the estimates we obtain when we exclude non-Bolloré television channels from the control group. Because we drop observations, we have less statistical power, but the point estimates are relatively stable. We also find a statistically significant increase in the right-left time share difference. Although point estimates are not statistically significant, they are much larger for politically-engaged non politicians than for professional politicians. We also find that guests on Canal+ become significantly less likely to be politically classified, and that the time share of radical-right politicians on C8 and CNews nearly doubles. This is also supported by event study estimates. Taken together, and despite a lower statistical power, these results suggest that our estimates are not affected by control group television channels being impacted by the takeover.

4.3 Mechanisms

So far, we have documented that the Bolloré takeover has a significant impact on the editorial line of the acquired media outlets. But how does a new owner caused the guests mix to change significantly?

To better understand what drives these changes in media slant, we explore potential mechanisms. In particular, we study whether ownership change affects program types and triggers changes in hosts. We use the Plurimedia data set to study these changes as it includes all programs, making it possible to examine extensive margin responses. Importantly, the Plurimedia data covers only television channels between October 2009 and December 2020.

We estimate the causal impact of change in media control over media content and hosts using a difference in difference framework. As before, we use channels experiencing no takeover as a comparison groups for channels experiencing one.

$$y_{c,t} = \mathbf{1}(\text{Taken Over}_c) \times \mathbf{1}(\text{After}_t) + \gamma_c + \delta_t + \epsilon_{c,t}$$

$y_{c,t}$ is the outcome of interest defined for channel c in month t . $\mathbf{1}(\text{After}_t)$ is an indicator variable for whether the month t comes after the control change month. We include twenty months prior the control change, and forty months after as the effects may take time to unfold. In alternative specifications, we drop July and August, as programs tend to change in the summer months. $\mathbf{1}(\text{Taken Over}_c)$ is an indicator variable for whether the channel is affected by a change in control over the period of interest. γ_c are channel fixed effects, they control for differences in levels across channels. δ_t are month fixed effects, accounting for any month-specific shocks that are common across channels. Standard error clustered at the channel level to account for serial correlation.

Identifying assumption The identifying assumption is that treated and not treated channels would have followed the same trend in the outcomes of interests have there been no change in media control. Our estimates can be interpreted as causal to the extent that this assumption holds true. It might not be the case if media outlets experiencing a change in control were facing market conditions different than other outlets (declining viewership, declining revenues, etc.). Whether this assumption holds in this context is ultimately an empirical question. To gauge its plausibility, we systematically plot the monthly averaged outcome of interest at the month level for treated and untreated firms in months before and after the change in control.

Change in hosts We first explore whether a change in media control affects the screen time of people who were hosts before the takeover. We have documented that hosts contribute to shape channels' slant. We now want to understand whether a change in media ownership triggers a reallocation of hosts across channels. For that purpose, we measure for each month and channel the screen time share of hosts who were on screen during the month prior control change. More formally, we we define it as follows:

$$\text{incumbent hosts time share}_{c,t} = \frac{\sum_h \text{length}_{h,c,t} * \mathbf{1}(\text{length}_{h,c,t_0-1} > 0)_{h,c}}{\sum_h \text{length}_{h,c,t}} \quad (3)$$

where $\text{length}_{h,c,t}$ is the screen time length of host h (length of the show divided by the number of hosts) on channel c in month t and $\mathbf{1}(\text{length}_{h,c,t_0-1} > 0)_{p,c}$ is an indicator variable

for whether the host had a screen time strictly greater than 0 in the month prior control change. As a robustness test, we also compute the same outcome of interest, but excluding programs whose start time is between midnight and 5am as data quality for night programs can be lower. For convenience, we will refer to programs starting after 5:00 am and before 00:00 am daytime programs.

We use Plurimedia data to explore whether the ownership change impacts the screen time share of hosts who were there before the takeover. We use these data rather than INA data as a newly acquired channel may start broadcasting more talk shows, and have people formerly hosting games or sports programs as hosts, most of which are not documented in the INA data. We therefore focus on people whose role is host (*animateur* or *presentateur* in French). If there are several hosts in a given show, we implicitly assume that speaking time is split equally among hosts and divide the length of the show by the number of hosts. There are 1,188,810 host appearance in the data and 3,680 unique hosts, meaning that the average host appears 323 times.

Figure 11 describes how the screen time share of incumbent hosts (i.e. hosts who had a strictly positive screen time in the month prior the takeover) evolves around ownership change. The grey line corresponds to the mean of the incumbent hosts time share in channels that did not experience a takeover. The blue line corresponds to on of the channels experiencing a takeover. Panel (a) to (d) refer to the takeover the Canal Plus group channels by Bolloré in 2015. In panel (a), the blue line corresponds to Canal +, C8 and CNews combined, the other graphs depict the evolution of the outcome for each channel separately. The solid red line indicates the time of the takeover.

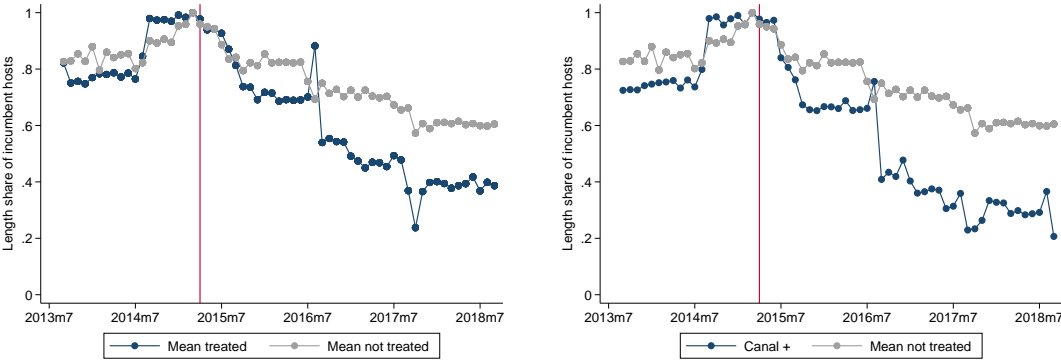
Table 5 reports the estimates from Equation 3. In columns (1) and (2), all shows are included, while in columns (3) and (4) only shows starting between 5:00am and midnight are. In columns (1) and (3), all months are included while columns (2) and (4) exclude summer months (July and August). Overall, on Bolloré channels, the length share of incumbent hosts and journalists decreased by 12 percentage points following the takeover. On Figure 11, the gap between Bolloré channels and control channels visibly widens over time. In 2018, incumbent hosts accounted for 40% of screen time on Bolloré channels, while they had 60% of screen time on control channels.

The effect is particularly large for Canal+ and for CNews, with a reduction of the incumbent host time share of respectively 20 ppt and 10 ppt compared to control channels. The incumbent host time share declined markedly both in summer 2015 and 2016 on Canal+, as star hosts of the channels decided to leave (*Le Petit Journal* for instance). The drop occurs in the second semester of 2016 for CNews, consistent with the large strike conducted by hosts and journalists at that time period, protesting against editorial changes. By contrast, the decline is smaller on C8, and Figure 11 actually shows this gap narrows over time, probably

because the hosts who did stay on the channel gradually gained more screen time, suggesting complying with the new owner can be a winning strategy.

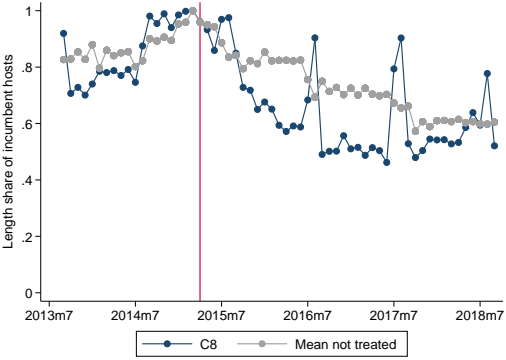
Interestingly, of the three, Canal+ was the channel granting the most speaking time to the left, and it is also the channel whose hosts were the most likely to have left. C8 on the other hand was the channel giving the most screen time to the right, and experienced the smaller reduction in the time share of incumbent hosts. The patterns of hosts' changes mirror changes in political slant on these channels, which supports the idea that changes in slant were mediated by changes in hosts.

Figure 11: Length share of incumbent hosts around takeovers (daytime)

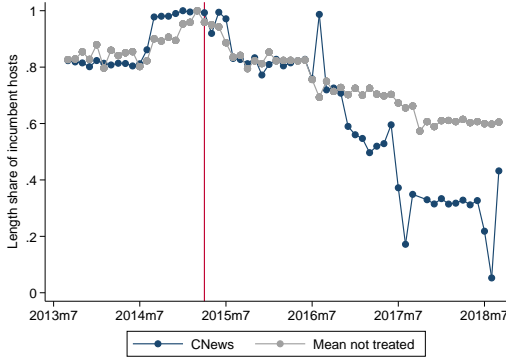


(a) Canal Plus, C8 and CNews takeover in 2015

(b) Canal Plus takeover in 2015



(c) C8 takeover in 2015



(d) CNews takeover in 2015

Notes: The vertical red line marks the month the transaction took place, and the dashed red line corresponds to the date when the CSA (supervisory authority) approved the ownership change, if applicable. Blue lines represent the mean of the outcome variable in treated channels, the grey line does the same for control channels.

Types of shows. Figure 12 report the time share of each show type (mostly news and talk shows in these cases) for two news channels: BFM TV and CNews. While the share of talk shows on BFM only gradually builds up over time, it dramatically increases at CNews around

Table 5: Effect of takeovers on the length share of incumbent hosts (in percentage points)

(a) All Bolloré channels

	(1)	(2)	(3)	(4)
Takeover	-0.122** (0.0499)	-0.137** (0.0507)	-0.130** (0.0506)	-0.148** (0.0478)
N	669	548	669	548
R-square	0.694	0.758	0.694	0.758
Summer	Yes	No	Yes	No
Daytime only	No	No	Yes	Yes

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

(b) Canal+

	(1)	(2)	(3)	(4)
Takeover	-0.187*** (0.0407)	-0.201*** (0.0422)	-0.191*** (0.0410)	-0.203*** (0.0420)
N	548	449	548	449
R-square	0.707	0.744	0.697	0.736
Summer	Yes	No	Yes	No
Daytime only	No	No	Yes	Yes

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

(c) C8

	(1)	(2)	(3)	(4)
Takeover	-0.0762* (0.0407)	-0.118** (0.0421)	-0.0721 (0.0410)	-0.116** (0.0420)
N	548	449	548	449
R-square	0.640	0.708	0.625	0.696
Summer	Yes	No	Yes	No
Daytime only	No	No	Yes	Yes

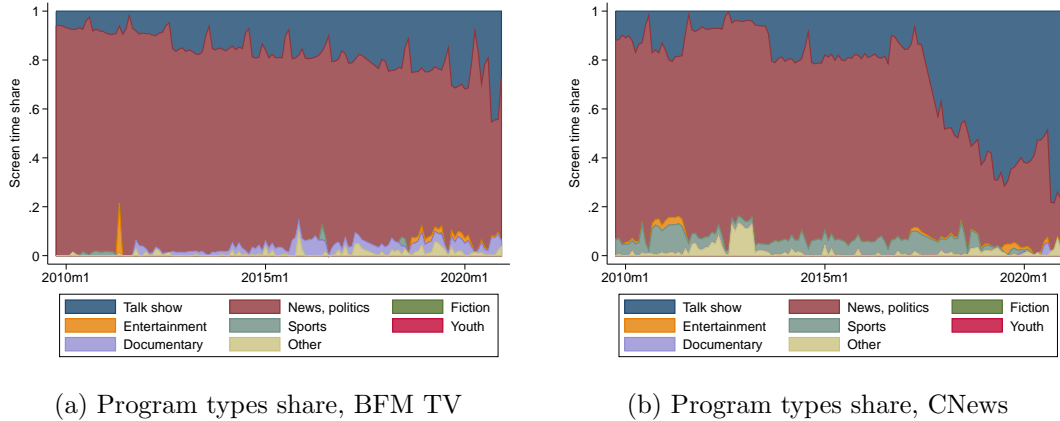
Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

(d) CNews

	(1)	(2)	(3)	(4)
Takeover	-0.101** (0.0404)	-0.0911* (0.0417)	-0.126** (0.0407)	-0.126** (0.0416)
N	547	448	547	448
R-square	0.649	0.699	0.654	0.701
Summer	Yes	No	Yes	No
Daytime only	No	No	Yes	Yes

Standard errors in parentheses
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 12: Descriptive statistics on types of shows



Notes: The figures depict the monthly cumulative time share of each program type using Plurimedia data. Only programs starting between 5:00am and midnight are included. Sub-figure 12a presents the numbers for BFM, and sub-figure 12b for CNews.

2017.

We next explore whether a change in media control affects the programs broadcast. We measure for each month and channel the length share of each genre of programs. The outcome of interest is the following:

$$\text{program type time share}_{c,t} = \frac{\sum_p \text{length}_{p,c,t} * \mathbf{1}(\text{type} = s)_{p,c}}{\sum_p \text{length}_{p,c,t}} \quad (4)$$

where $\text{length}_{p,c,t}$ is the length of program p on channel c in month t and $\mathbf{1}(\text{type} = s)_{p,c}$ is an indicator variable for whether the program belongs to the genre s we are considering. To build this measure, we exclude programs starting between midnight and 5am as data quality for these programs is generally lower and they are often given generic names such as “night programs.”

Figure 13 plots the length share of different program types in channels taken over and in the channels of the control group. Blue lines plot the monthly average of the time share of a given show type for channels that experience a takeover, while grey lines do the same for firms that experience no change in ownership. After the 2015 takeover, Canal + had less talk shows which were replaced by fiction, entertainment and sport content, consistent with the decline in the time share of politically classified guests. This decline in talk shows’ time share seems to have led to talk show hosts being fired or let go after the takeover.⁵⁴ On C8, fiction and documentaries are replaced by entertainment shows and sports. On CNews, although the

⁵⁴Examples include Maitena Biraben, Yan Barthes, Ali Baddou or Renaud Le Van Kim, <https://www.liberation.fr/futurs/2016/06/02/canal-bollere-createur-original-de-departs-en-serie.1456938/>

effects take time to unfold, news shows are replaced by talk shows. That the effects take time to unfold is in line with the raucous adjustments following the takeover. In particular, a large strike over the channel’s management broke out in November 2016, with many journalists leaving the channel, which led to large changes in the show schedule next September.

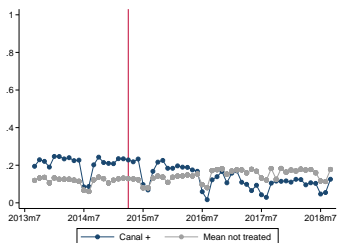
5 Robustness checks and Discussion

5.1 Robustness

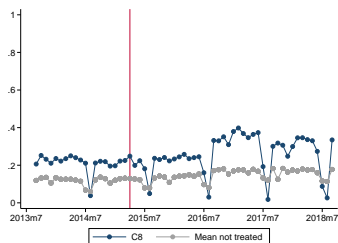
We perform several robustness checks. This section briefly describes them; the detailed results for these tests are available in the online Appendix.

Exhaustive coverage In the core of the analysis, our sample includes 22 television stations and radio channels from January 1st, 2002 to December 31st, 2020. However, as explained in Section [2.2.1](#), because of budget cuts at the INA, for two television channels (BFM TV and France 4) and five radio stations (BFM Radio, RMC, Europe 1, Radio Classique, and RTL), there is a decline in the number of documented guests after 2018 due to a number of retirements not being replaced, which led to these channels no longer being (thoroughly) documented.) Hence, in the online Appendix Section [F.1](#), we show that our findings are robust to only considering the 15 television channels and radio stations that are fully documented between September 1st, 2006 and August 31st, 2018.

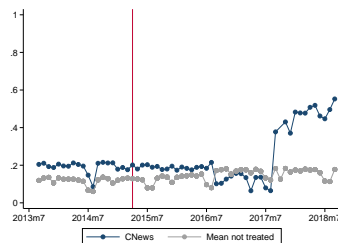
Talk shows



(a) Canal takeover in 2015

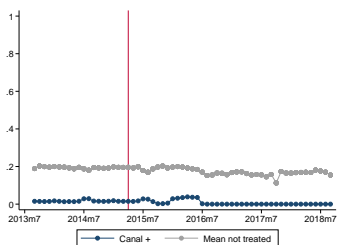


(b) C8 takeover in 2015

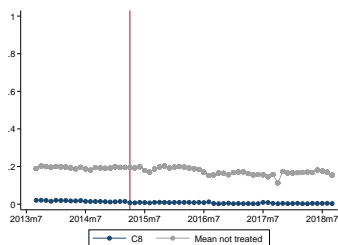


(c) CNews takeover in 2015

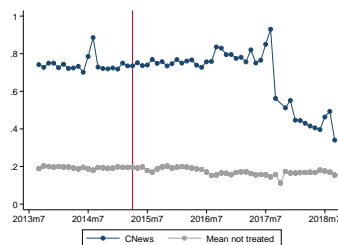
News and Politics



(d) Canal takeover in 2015

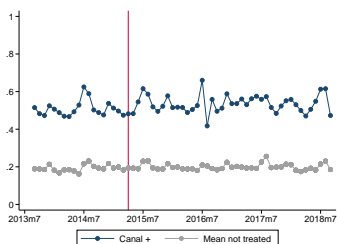


(e) C8 takeover in 2015

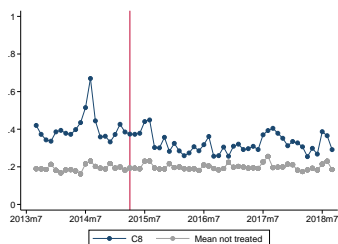


(f) CNews takeover in 2015

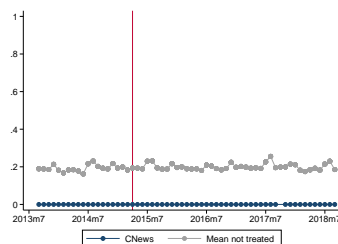
Fiction



(g) Canal takeover in 2015

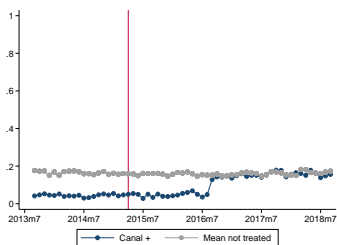


(h) C8 takeover in 2015

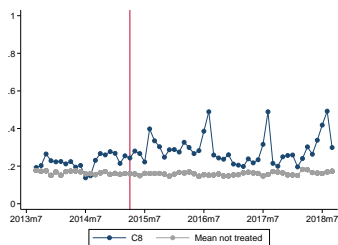


(i) CNews takeover in 2015

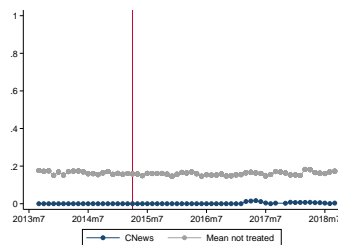
Entertainment



(j) Canal takeover in 2015



(k) C8 takeover in 2015



(l) CNews takeover in 2015

Notes: The vertical red line marks the month the transaction took place, and the dashed red line corresponds to the date when the CSA (supervisory authority) approved the ownership change, if applicable..

Figure 13: Program types around Bolloré takeover of Canal Plus Group in 2015

6 Conclusion

In a context of decreasing advertising revenues, business tycoons' appetite for traditional media outlets does not seem to wane. Recent empirical evidence has shown that changes in ownership can affect media content, therefore potentially impacting the set of information viewers have and their ability to hold elected officials accountable. These concerns warrant a better understanding of the mechanisms through which owners may impact media slant.

In this paper, we study the role played by hosts and journalists, who are charged with the daily production of media content, and how they react to changes in ownership. For this purpose, we use data on hosts and guests in French television and radio shows from 2002 to 2020. Using a difference in difference framework we study a major takeover in the french media market: the 2015 Canal Plus group takeover by Vincent Bolloré, the “French Murdoch”.

Using the political affiliation of guests, we can measure whether some channels systematically grant more or less speaking time to left-wing or right-wing political parties. We find substantial variation across channels, with some channels overrepresenting right-wing parties with respect to France 2, the leading public television channel. We also find substantial variation in media bias across groups of channels with a similar owner. Using hosts working for channels that have different owners, we next document that hosts themselves exhibit statistically significant bias in who they grant speaking time to. This implies that the bias observed at the media outlet level is also partly driven by host-level slant. The allocation of hosts across channels therefore matters to explain media slant.

We next study the impact of Bolloré takeover of the Canal Plus group. We document that it translated into 11 extra percentage points in the time share difference between right and left-wing politicians. The effect is driven by a near doubling in the speaking time of radical-right politicians .

We finally document that, after the takeover, the time share of programmes hosted by incumbent anchors sharply decreases with respect to control channels, implying that the change in slant observed at the channel level could be triggered by a reallocation of hosts across channels. According to this, some hosts cannot shield their editorial independence from owner views contrasting with their own and thus sort across channels where their own slant is more in line with that of the channel.

References

- Anand, Bharat, Rafael Di Tella, and Alexander Galetovic**, “Information or Opinion? Media Bias as Product Differentiation,” *Journal of Economics and Management Strategy*, 2007, 16 (3), 635–682.
- Anderson, Simon P and John McLaren**, “Media Mergers And Media Bias With Rational Consumers,” *Journal of the European Economic Association*, 2012, 10 (4), 831–859.
- Ansolabehere, Stephen, Rebecca Lessem, and James M Snyder**, “The Orientation of Newspaper Endorsements in U.S. Elections, 1940-2002,” *Quarterly Journal of Political Science*, oct 2006, 1 (4), 393–404.
- Bakker, Ryan, Erica Edwards, Liesbet Hooghe, Seth Jolly, Jelle Koedam, Filip Kostelka, Gary Marks, Jonathan Polk, Jan Rovny, Gijs Schumacher, Marco Steenbergen, Milada Vachudova, and Marko Zilovic**, *1999–2014 Chapel Hill Expert Survey Trend File, Version 1.1*, University of North Carolina, Chapel Hill, 2015.
- Balan, David J., Patrick DeGrava, and Abraham L. Wickelgren**, “Ideological Persuasion in the Media,” Working Paper 2014.
- Baron, David**, “Persistent Media Bias,” *Journal of Public Economics*, 2006, 90, 1–36.
- Barone, Guglielmo, Francesco D’Acunto, and Gaia Narciso**, “Telecracy: Testing for Channels of Persuasion,” *American Economic Journal: Economic Policy*, may 2015, 7 (2), 30–60.
- Bekkouche, Yasmine, Julia Cagé, and Edgard Dewitte**, “The heterogeneous price of a vote: Evidence from multiparty systems, 1993–2017,” *Journal of Public Economics*, 2022, 206, 104559.
- Bernhardt, Dan, Stefan Krasa, and Mattias Polborn**, “Political polarization and the electoral effects of media bias,” *Journal of Public Economics*, 2008, 92 (5), 1092–1104.
- Besley, Timothy and Andrea Prat**, “Handcuffs for the Grabbing Hand? Media Capture and Government Accountability,” *American Economic Review*, 2006, 96 (3), 720–736.
- Bursztyjn, Leonardo, Georgy Egorov, and Stefano Fiorin**, “From Extreme to Mainstream: The Erosion of Social Norms,” *American Economic Review*, nov 2020, 110 (11), 3522–3548.
- Cagé, Julia and Benoît Huet**, *L’information est un bien public. Refonder la propriété des médias*, Paris: Le Seuil, 2021.
- , **Nicolas Hervé, and Béatrice Mazoyer**, “Social Media and Newsroom Production Decisions,” Working Papers 20-14, NET Institute oct 2020.
- , – , and **Marie-Luce Viaud**, “The Production of Information in an Online World,” *The Review of Economic Studies*, 2020, 87 (5), 2126–2164.
- Capozzi, F.**, *Vincent Bolloré. The New King of the European Media: Telecom Italia’s French Conqueror Has Ambitious Plans Which Coincide with Those of Renzi for Broadband and Berlusconi for Mediaset Pamphlet*, goWare, 2016.
- Chan, Jimmy and Wing Suen**, “A Spatial Theory of News Consumption and Electoral Competition,” *The Review of Economic Studies*, 2008, 75 (3), 699–728.
- Chiang, Chun-Fang and Brian Knight**, “Media Bias and Influence: Evidence from Newspaper Endorsements,” *The Review of Economic Studies*, 2011, 78 (3), pp. 795–820.
- Della Vigna, Stefano and Ethan Kaplan**, “The Fox News Effect,” *Quarterly Journal of Economics*, 2007, 122 (3), 1187–1234.

- DellaVigna, Stefano and Eliana La Ferrara**, “Chapter 19 - Economic and Social Impacts of the Media,” in Simon P Anderson, Joel Waldfogel, and David Strömberg, eds., *Handbook of Media Economics*, Vol. 1 of *Handbook of Media Economics*, North-Holland, 2015, pp. 723–768.
- **and Johannes Hermle**, “Does Conflict of Interest Lead to Biased Coverage? Evidence from Movie Reviews,” *The Review of Economic Studies*, 2017, *84* (4), 1510–1550.
- Diermeier, Daniel, Jean-François Godbout, Bei Yu, and Stefan Kaufmann**, “Language and Ideology in Congress,” *British Journal of Political Science*, 2012, *42* (01), 31–55.
- DiTella, Rafael and Ignacio Franceschelli**, “Government Advertising and Media Coverage of Corruption Scandals,” *American Economic Journal: Applied Economics*, oct 2011, *3* (4), 119–151.
- Djankov, Simeon, Caralee McLeish, Tatiana Nenova, and Andrei Shleifer**, “Who Owns the Media?,” *Journal of Law and Economics*, 2003, *46* (2), 341–381.
- Dougal, Casey, Joseph Engelberg, Diego García, and Christopher A Parsons**, “Journalists and the Stock Market,” *The Review of Financial Studies*, 2012, *25* (3), 639–679.
- Durante, Ruben and Brian Knight**, “Partisan Control, Media Bias, And Viewer Responses: Evidence From Berlusconi’s Italy,” *Journal of the European Economic Association*, 2012, *10* (3), 451–481.
- , **Paolo Pinotti, and Andrea Tesei**, “The Political Legacy of Entertainment TV,” *American Economic Review*, jul 2019, *109* (7), 2497–2530.
- Dyck, Alexander and Luigi Zingales**, “The Media and Asset Prices,” Working Paper 2003.
- Ellman, Matthew and Fabrizio Germano**, “What Do That Papers Sell? A Model of Advertising and Media Bias,” *The Economic Journal*, 2009, *119* (537), 680–704.
- Gabel, Matthew J and John D Huber**, “Putting Parties in Their Place: Inferring Party Left-Right Ideological Positions from Party Manifestos Data,” *American Journal of Political Science*, 2000, *44* (1), 94–103.
- Gabszewicz, Jean J, Dider Laussel, and Nathalie Sonnac**, “Press advertising and the ascent of the ‘Pensée Unique’,” *European Economic Review*, may 2001, *45* (4-6), 641–651.
- Galvis, Ángela Fonseca, James M Snyder, and B K Song**, “Newspaper Market Structure and Behavior: Partisan Coverage of Political Scandals in the United States from 1870 to 1910,” *The Journal of Politics*, 2016, *78* (2), 368–381.
- Gentzkow, Matthew and Jesse M Shapiro**, “Media Bias and Reputation,” *Journal of Political Economy*, 2006, *114* (2), 280–316.
- **and** – , “What Drives Media Slant? Evidence from US Daily Newspapers,” *Econometrica*, 2010, *78* (1).
- Germano, Fabrizio and Martin Meier**, “Concentration and self-censorship in commercial media,” *Journal of Public Economics*, 2013, *97* (C), 117–130.
- Groseclose, Tim and Jeffrey Milyo**, “A Measure of Media Bias,” *Quarterly Journal of Economics*, 2005, *120* (4), 1191–1237.
- Hervé, Nicolas**, “Quelle Modélisation de l’espace Politique Français Sur Twitter ?,” in “EGC2021, Extraction et Gestion Des Connaissances” 2021.
- Jensen, Robert and Emily Oster**, “The Power of TV: Cable Television and Women’s Status in India,” *The Quarterly Journal of Economics*, 2009, *124* (3), pp. 1057–1094.
- Jolly, Seth, Ryan Bakker, Liesbet Hooghe, Gary Marks, Jonathan Polk, Jan Rovny,**

- Marco Steenbergen, and Milada Anna Vachudova**, “Chapel Hill Expert Survey trend file, 1999–2019,” *Electoral Studies*, 2022, 75, 102420.
- Kennedy, Patrick J and Andrea Prat**, “Where Do People Get Their News?,” *Economic Policy*, 2019, 34 (97), 5–47.
- Knight, Brian and Ana Tribin**, “Opposition Media, State Censorship, and Political Accountability: Evidence from Chavez’s Venezuela,” Working Paper 25916, National Bureau of Economic Research jun 2019.
- **and** —, “The Limits of Propaganda: Evidence from Chavez’s Venezuela,” *Journal of the European Economic Association*, 2019, 17 (2), 567–605.
- La Ferrara, Eliana, Alberto Chong, and Suzanne Duryea**, “Soap Operas and Fertility: Evidence from Brazil,” *American Economic Journal: Applied Economics*, 2012, 4 (4), 1–31.
- Larcinese, Valentino, Riccardo Puglisi, and James Snyder**, “Partisan bias in economic news: Evidence on the agenda-setting behavior of U.S. newspapers,” *Journal of Public Economics*, 2011, 95 (9-10), 1178–1189.
- Louis-Sidois, Charles and Elisa Mougin**, “Silence the Media or the Story: Theory and Evidence of Media Capture,” Working Paper 2020.
- Marsh, David, Paul ‘t Hart, and Karen Tindall**, “Celebrity Politics: The Politics of the Late Modernity?,” *Political Studies Review*, 2010, 8 (3), 322–340.
- Martin, Gregory J and Ali Yurukoglu**, “Bias in Cable News: Persuasion and Polarization,” *American Economic Review*, 2017, 107 (9), 2565–2599.
- Martin, Gregory J. and Joshua McCrain**, “Local News and National Politics,” *American Political Science Review*, 2019, 113 (2), 372–384.
- Mastrorocco, Nicola and Arianna Ornaghi**, “Who Watches the Watchmen? Local News and Police Behavior in the United States,” Trinity Economics Papers tep0720, Trinity College Dublin, Department of Economics feb 2020.
- Miho, Antonela**, “Small Screen, Big Echo? Estimating the Political Persuasion of Local Television News Bias using Sinclair Broadcast Group as a Natural Experiment,” Working Paper 2020.
- Mullainathan, Sendhil and Andrei Shleifer**, “The Market for News,” *American Economic Review*, 2005, 188 (2), 355–408.
- Médiamétrie Press Releases**, “L’Année TV 2021,” Technical Report, Reporters Without Borders 2022.
- Petrova, Maria**, “Newspapers and Parties: How Advertising Revenues Created an Independent Press,” *The American Political Science Review*, 2011, 105 (4), pp. 790–808.
- Povich, Elaine S**, *Partners and Adversaries*, Freedom Forum, 1996.
- Puglisi, Riccardo and James M Snyder**, “Newspaper Coverage of Political Scandals,” *The Journal of Politics*, 2011, 73 (3), 931–950.
- **and James Snyder**, “The Balanced U.S. Press,” NBER Working Paper 17263, National Bureau of Economic Research, Inc jul 2011.
- Reporters Without Borders**, “Media Oligarchs Go Shopping,” Technical Report, Reporters Without Borders 2016.
- Reuters Institute**, “Digital News Report 2013,” Annual Report 2013.
- , “Digital News Report 2018,” Annual Report 2018.

- Simonov, Andrey and Justin M. Rao**, “What Drives Demand for Government-Controlled News? Evidence from Russia,” Columbia Business School Research Paper No. 17-100 2020.
- , **Szymon K Sacher, Jean-Pierre H Dubé, and Shirsho Biswas**, “The Persuasive Effect of Fox News: Non-Compliance with Social Distancing During the Covid-19 Pandemic,” Working Paper 27237, National Bureau of Economic Research may 2020.
- Sobbrio, Francesco**, “Citizen-editors’ endogenous information acquisition and news accuracy,” *Journal of Public Economics*, 2014, 113, 43–53.
- Sécail, Claire**, “L’élection Présidentielle 2022 Vue Par Cyril Hanouna. 1. La Pré-Campagne (Automne 2021),” 2022. [[Voir en ligne](#)].
- West, Darrell M. and John M. Orman**, *Celebrity Politics* Real politics in America, Prentice Hall, 2003.
- Wheeler, Mark**, *Celebrity Politics* Contemporary Political Communication, Wiley, 2013.
- Wood, Natalie T . and Kenneth C. Herbst**, “Political Star Power and Political Parties,” *Journal of Political Marketing*, 2007, 6 (2-3), 141–158.
- Xu, Guosong**, “Friends in Media,” Working Paper 2021.

Online Appendix to the Paper: Hosting Media Bias Evidence from the Universe of French Broadcasts, 2002-2020

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A Data set construction

A.1 Classifying guests politically

In this section, we provide details on the methodology we use to classify the guests in our sample. We distinguish between politicians on the one hand, and politically-engaged non-politicians, which we call PENOPs, on the other hand.

A.1.1 Politicians

To classify the politicians, we use several data sources:

- **Arcadie project.** The Arcadie project is an open data website that gathers information on elected officials. For instance, their age, gender, profession, place of birth, spouse job, electoral district, committee assigned to, social media accounts, etc. We collect data on the group affiliation of MPs. Each year, they are supposed to pay a membership fee to the parliamentary group they are assigned to. Some of them, when they switch party during their term start paying their membership to another group. This is the information we collect. This way we can track the party affiliation of MPs, who are major political figures in the French political landscape.
- **Electoral data.** We then collect election data for several elections: legislative elections (National Assembly), senate elections, European elections, regional elections, departmental elections and municipal elections.¹ If candidates run by lists, we get all the names on the list (European elections for example). One exception are municipal elections. Given some municipalities are very small, the last candidate on a municipal election list almost never gets elected and never appears in the media. In this case, we keep the top 5 candidates of each list in municipalities with at least 100,000 registered voters, and the first on the list for municipalities with at least 20,000 registered voters. For elections, we consider candidates are affiliated to the party whose label they are running with three month before the election date (to account for the campaign period), and three months before the end of the mandate (they might be running again with a different affiliation).
- **Government.** We collect government members (*ministres*, *secrétaires d'état*, and *directeur de cabinet du président*), and consider they are affiliated to the president's party.

Next, for each person in a given month, we search the above mentioned data sets for a political affiliation. We give some data sources precedence over others. The first one is the Arcadie data set, as party affiliation is allowed to change within terms. Next, we use

¹ *Régions* and *départements* are intermediate tiers of government in France. Municipalities are the lowest.

legislative elections (National Assembly elections), Senate elections, and then whether the person is in the government. Government data comes after legislative and senate elections data because, sometimes, the government includes politicians from distinct adjacent parties. For instance, politicians from the Green party have worked under the socialist president, while not affiliated to the socialist party. We then use other election data sources in the following order: European, regional, departmental, and municipal elections. If some politicians have “holes” in their electoral careers, we extend their past affiliation in the future.

A.1.2 Politically-engaged non-politicians (PENOPs)

To determine the political leaning (if any) guests who are not politicians, we use data from three different sources: (i) the annual summer meetings organized by political parties (*universités d’été*), (ii) think tank staff and contributors, (iii) endorsements of politicians in op-eds published in the press. Our goal is to collect data on behaviors that we consider, when aggregated, reveal the political leaning of a person. These behaviors are analyzed with a probabilistic model in which the recurrence of such behaviors is considered indicative of a given political leaning.

Summer meetings of political parties We collect data on the participants of political party summer meetings. These meetings typically gather politicians and party executives but also academics, media personalities, businessmen, activists, or union representatives. By participant, we here mean people whose name was on the program and who were invited to give a speech or take part in a round table. Although taking part in such events does not imply that the person is affiliated to a party, we consider it is suggestive of the political leaning of a person.

We collect data from various sources. For recent meetings, we retrieve the program on the party website (typically, events from 2021 and sometimes 2020). For older events, we used the Wayback machine search engine (Web archive). We also directly contacted parties and asked them the program of their past meetings. Some answered positively to our requests and shared copies of the programs from their own archives (UMP/LR, Modem and Les Verts/EELV).

[Check the figures below](#): Overall, we have an extensive coverage of the French political landscape: close to one hundred programs (n=96), from the radical right to the radical left. It is to be noted, however, that the information was scarcer on the right than on the left: Parti socialiste, Parti communiste and Les Verts/EELV nearly account for 50% of the programs (47, 51 if you include the more recently born LFI), while liberal parties account for 20% of the sample (18 programs for the Modem, UDI and LREM). Meanwhile, important right-wing parties such as FN and UMP/LR account for less than 15% of the sample, with 12 programs retrieved for the two parties combined. As a general observation, summer meet-

ings of left wing parties are large events directed at a substantial audience, reaching beyond the circle of political activists, hosting hundreds of speakers from the party leadership and civil society; they are also generally held every year. Right wing parties' events are however different. Their audience is mostly restricted to political activists, and sometime include the youth section of the party, with the goal of training young political activists and letting them meet important figures of the party. These parties hold summer meetings less regularly, with many blank years (especially on presidential elections years), and there are less speakers. These discrepancies may be explained by historical and ideological reasons, summer universities or large instructional events being a traditional tool of the progressive political forces to reach a broader audience, as opposed to conservative parties centering on a network of local elites, without needs of propagating their ideology to large segments of the population. For this reason, we also collect data on the summer meetings of smaller right wing parties: *Action Française* (a nationalist and royalist micro-party), *La Manif pour Tous* (a political movement created in opposition to same-sex marriage in 2013 which later transformed in a political party), *Chrétienté-Solidarité* (a Catholic traditionalist political organization close to the National Rally), *Oser la France* (Christian socially and economically conservative political movement), *Renaissance Catholique* (traditionalist catholic political movement), *Acteurs d'Avenir* (Christian organization aimed at educating "tomorrow's Christian leaders"), and *La Convention de la Droite* (a summer meeting organized by radical right politicians to foster alliances with traditional right-wing parties).

- **La France Insoumise** (radical left). 4 summer meetings, 2017-2020. Programs found online.
- **Parti de Gauche** (radical left). 6 summer meetings, 2011-2013, 2015-2017. Online and Wayback machine.
- **Parti Communiste Français** (radical left). 11 summer meetings, 2008, 2009, 2011-2020. Found with the Wayback machine.
- **Europe Ecologie Les Verts** (greens). 20 summer meetings, 2002-2021. Received from party's archivists, and online.
- **Mouvement Républicain Citoyen** (left). 6 summer meetings, 2008-2012, 2014.
- **Les Radicaux de Gauche** (left). 2 summer meetings, 2018-2019. Online.
- **Parti socialiste** (left). 16 summer meetings, 2002-2015 and 2020-2021. Received from the Fondation Jean Jaurès, and found with the Wayback machine
- **Le Vent se Lève** (left). 2 summer meetings, 2018-2019. Online.

- **Mouvement Démocrate** (liberals). 13 summer meetings, 2008-2020. Received from party's archivists, and online.
- **La République En Marche** (liberals). 2 summer meetings, 2019, 2020. Found online.
- **Union des Démocrates et Indépendants** (right). 3 summer meetings, 2018-2020. Obtained from Wayback machine and online.
- **Union pour la Majorité Présidentielle/Les Républicains** (right). 9 summer meetings, 2003, 2006, 2008, 2009, 2011, 2015, 2017, 2020, 2021. Received from party's archivists.
- **Acteurs d'Avenir** (right). 11 summer meetings, 2010-2015 and 2017-2021. Online and Wayback machine.
- **Osons la France** (radical right). 3 summer meetings, 2018-2020. Online and Wayback machine.
- **La Manif pour Tous** (radical right). 7 summer meetings, 2013-2019. Online and Wayback machine.
- **Chrétienté et Solidarité** (radical right) 10 summer meetings. 2008-2013, 2015, 2016, 2019, 2021. Online and Wayback machine.
- **Front National/Rassemblement National** (radical right). 3 summer meetings, 2011, 2013 and 2016. Found with the Wayback machine.
- **Convention de la droite** (radical right). 1 summer meeting, 2019. Online.
- **Action Française** (radical right). 4 summer meetings, 2017-2019, 2021. Found online.

Think tanks Next, we collect data on staff members and contributors of think tanks. Many intellectual figures, pundits, or more generally policy commentators regularly contribute to think tanks publications. These publications can be long and detailed reports, or posts on recent news events on the think tank's website. Our goal is to collect the name of contributors and staff members as, plausibly, choosing to associate one's name with a think tank reflects some form of political alignment.

We start by identifying the main French think tanks. To do so, we start with the list compiled by the Open Think Tank Directory, and sort them according to their number of Twitter followers, as documented in the data set. We focus on think tanks that have more than 5,000 followers, as others are generally really niche. We then discard the think tanks that do not have a web site, or that have no publications. It is the case of, for instance, the *Fondation Danielle-Mitterrand - France Libertés* that mostly raises funds and financially

supports targeted projects. We also discard think tanks that can be assimilated to research centers (INRAE, CERI, etc.) and do not exhibit a particular political leaning, or that are affiliated to an administration (France Stratégie, CEPIL, etc.) as their leaderships change with elections. We also do not consider very recent think tanks, such as *Hémisphère Gauche*, *Institut La Boétie* (both created in 2020). We decided to include all organizations, whether a foundation or a non-profit organization, whose stated goal is to inform the political debate and which, for that purpose, produces reports and (or) organizes conferences. Some of these think tanks are generalists, others focus on economic, geopolitical, judicial or environmental issues for example.

For each think tank, we map them to political parties based on several criteria. First, founders or top management staff are sometimes clearly politically involved. For instance the *Fondapol*'s founder, Jérôme Monod, was the cabinet director of Jacques Chirac, and its current director, Dominique Reynié, is a right-wing elected official. The *Fondation Gabriel-Péri*, named after a communist politician, was created by the Communist Party itself. *Terra Nova* was created by Olivier Ferrand, a Socialist Party executive. Next, we rely on the think tank's own stated goal. For example, *Polemia*, founded by far-right politician Jean-Yves Le Gallou, claims on its "About us" that its work is structured around "identity defense, criticism of oligarchy, and media tyranny," which are typical of the far right rhetoric. ATTAC, a radical left organization, states that it fights for "social and environmental justice and conducts actions against the power of finance and multinational companies," which in this case is ideologically typical of radical left movements. We also study the funding of these think tanks. We have data on which organization members of parliament decided to grant part of their discretionary budget line (known as *réserve parlementaire*) to. ² Finally, we collect the Twitter handle of each think tank and of members of parliaments. Using simple retweets (retweets without comments), we situate each think tank in the French political space. This is illustrated in Figure 1. If, with these methods, the political positioning of think tanks is still ambiguous, or if they do not seem to be politicised, then we consider they are not political and do not classify them.

We then collect data on staff members and contributors. For staff members, we use the think tank's web page "Our team" (or the equivalent). Using the Wayback machine, we collect all the names of people on this web page for every year since 2002, or for as many years as possible. For contributors, we scrape publication title, dates and authors. Table 5 reports the list of think tanks for which we collect data, their creation date and political family. The next two columns present the number of staff members and contributors that we found for each think tank. The same person can be counted several time is she has been part of the staff

²This dataset is called "Reserve Parlementaire" and is available from 2013 to 2017. We look at the party affiliation of the MPs who granted money to think tanks drawing from their own budget line that they can use at discretion for either fund non-profit organizations or local governments.

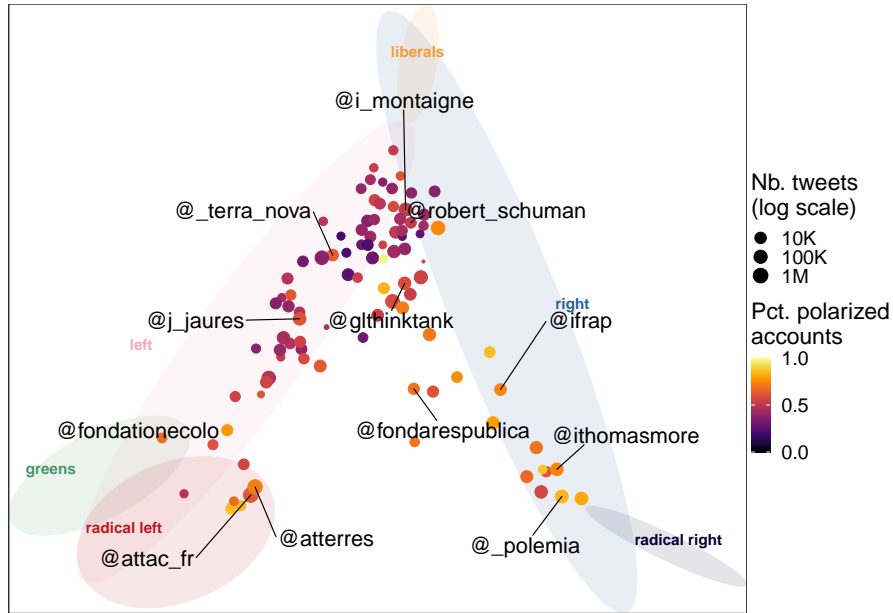


Figure 1: Think tanks projected on the French political Twitter space

for several years, or contributed to several publications. For some think tanks, no staff was found. It is the case of Polemia, which does not disclose this information on its website. For some think tanks, there are no contributors (Fondation Copernic, Fondation pour la Nature et l’Homme, and The Shift Project). That is either because all publications are not signed at all, or signed as a team (Copernic). Sometimes, the format of publication being very ad hoc and different each time, we were not able to scrape author names (Fondation pour la Nature et l’Homme and The Shift Project). In the last two columns, the Table reports the number of occurrences of staff members and contributors that were matched with INA data. The figures are always smaller, which is because people never appearing in the media. Overall, we match nearly 9,000 occurrences of staff members, and more than 18,000 occurrences of contributors.

Endorsements in newspapers We collect the names of people who signed opinion pieces in newspapers in which they endorse a candidate running in the first round of the presidential elections. Such opinion pieces are generally signed by several persons and detail the reasons why they support a given candidate. We only focus on endorsements published before the first round. Voting decisions as stated between the first and second round of elections might be driven by the willingness to defeat the opponent (especially when a radical right politician qualified in the second round, as in 2002 and 2017), rather than real endorsement of the candidate’s platform and values.

Combining party meetings, think tanks and endorsements data We finally combine the data described above in a probabilistic model. Using the Chapel Hill Expert Survey, we

place each political family on a left right scale, ranging from 0 to 100. Each behavior (summer meetings attendance, think tank participation, and endorsement) is mapped to a political family, and is attributed a left right score between 0 and 100. For each behavior, we extend it temporally with a decay using an asymmetric Gaussian distribution: its intensity decays very fast before the event, and slowly after. When the intensity slips below a threshold, we consider the individual in unaligned.

When an individual has taken part in events matched to distinct families (for example, attended summer meetings of the Green party, and contributed to a socialist think tank), we compute a decay-weighted average of her left-right placement. In the end, we discretize this left right placement using the midpoint between political families. For example, if in a given month, an individual has a left-right placement of 40, then we consider she belongs to the party whose left-right placement is the closest.

Figure ?? illustrates the procedure for Daniel Cohn-Bendit, a Green politician who was a member of the European Parliament from 1994 to 2014. The x-axis represents time, the y-axis the left-right scale, from 0 to 100. Yellow lines correspond to the midpoint between political families' left-right placement as computed from the Chapel Hill Expert Survey. They define each political family's political space over time. Blue lines are contour lines of the asymmetric Gaussian distributions. Red dots represent the monthly weighted average of the political placement on the left-right scale, and green dots represent the variance of the placement.

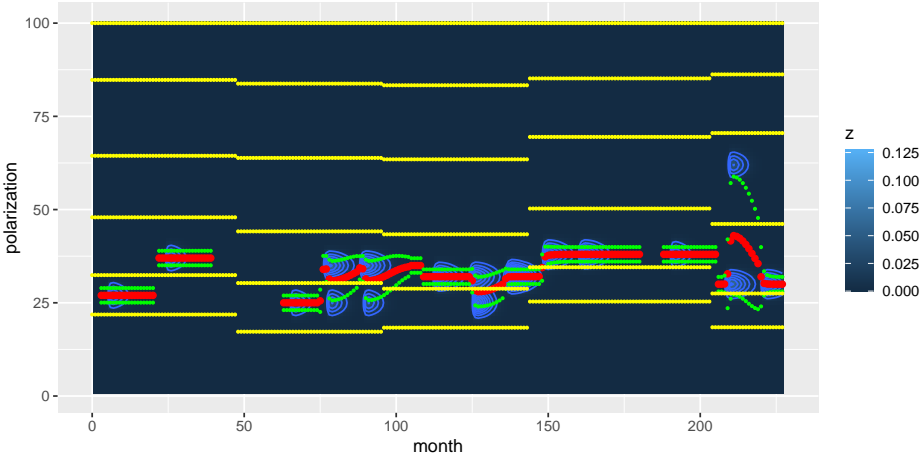


Figure 2: Political classification using endorsements, party events and think tanks

A.2 Other data on guests

In addition to political classification, we use several data sources to describe guests demographic and professional characteristics.

A.2.1 INA data

We first use INA data which, for each individual, provide a short description of the guest profession, her gender, her year of birth, and her country. For gender, INA data indicate whether the person is male or female. Table 7 plots the share of women across seasons, for all appearances, and only for appearances that we classify politically. It has increased between 2002 and 2020, from 18% to 27%.

INA data also provide a short description of guests' age and profession. This information is rather general (“politician” rather than “mayor of Paris” for instance) and not time-varying. If an individual however had several professions during her career, both are generally detailed. For example David Douillet, a judo gold medalist who later became Minister of Sports, has “judoka, politician” listed as profession. We then classify professions into groups by searching keywords in the guest description. A given guest can fall in multiple categories if her description contains keywords corresponding to distinct categories. The categories are the following:

- **Politicians:** “homme politique,” “femme politique,” and “personnalité politique.”
- **Activist:** union leader, think tank director or member, foundation director, NGO director, etc.
- **Media:** any profession related to the media and publishing sector.
 - **Journalist:** journalist, reporter, editor, newspaper director, etc.
 - **Director and producer:** director, producer, assistant producer, film editor (“monteur”), audiovisual technician, etc.
 - **Host**
 - **Opinion:** columnist, critique, etc.
 - **Writer:** writer, novelist, poet, essayist, etc.
 - **Director:** publication director, program director, production director, channel director, etc.
- **Business and finance:** businessman, CEO, market analyst, banker, asset manager, etc.
- **Administration:** senior civil servant (“haut fonctionnaire”), supreme court, diplomat, military officer, judge, magistrate, etc.
- **Entertainment.**
 - **Cinema and theater:** actor, actress, stage director, screenwriter, etc.

- **Music:** singer, musician, songwriter, opera singer, DJ, etc.
 - **Dance:** dancer, choreographer, etc.
 - **Pictorial arts:** painter, photographer, etc.
 - **Festival:** festival director, etc.
 - **Other:** clown, magician, model, Miss France, etc.
- **Sports.**
 - Football
 - Rugby
 - Tennis
 - Cycling
 - Other
 - **Pundits.** It should be noted that people classified with these key words re far from all being academics. Some of them hold PhDs and now work in consulting or think tanks, others for example are described as economist because they have written books about economic issues.
 - **Social sciences and humanities:** economist, sociologist, political scientist, geopolitics specialist, demographer, philosopher, historian, archaeologist, etc.
 - **Hard sciences and medicine:** medical doctor, surgeon, climatologist, physicist, chemist, etc.
 - **Polls and communication:** opinion polls, communication consultant, publicist, etc.

We have data on profession for 88% of appearances, and 81% of guests are classified in at least one category. Table ?? depicts the appearance share of guests in each category.

A.2.2 Wikidata

We also use Wikidata to collect data on people in the INA data set (journalists and guests). We collect data on: date of birth, place of birth, education, profession, employers and citizenship. The procedure is as follows: for each name in our data set (first name and last name), we search Wikidata and get the top 10 results, of which we discard those that are not an instance of “human” (i.e. a book, a place, etc.). For each name, we get between 0 and 10 results.

We then merge each Wikidata search result with the INA dictionary of name (*thesaurus*) and assess match quality. To do so, we create a score. A match’s score is obtained as follows:

- Whether the first name and last name match. While the first Wikidata result might refer to the right person, the second might refer to a sibling or parent. There might be false negatives if the person uses a different name (Léa Salamé vs. Hala Salamé), or only their first name (Arthur, Magloire).
- Whether the birth year matches. Unfortunately, birth year is often missing in INA data.
- Whether the birth year is plausible. We give a higher score to Wikidata matches whose birth year is in the top 90% of the distribution (born after 1937). It helps discard people who have common names and have a homonym in history (military officer in the 19th century, etc.)
- Whether the gender matches.
- Whether the country of citizenship matches.
- Whether there is overlap between, on the one hand Wikidata label and profession strings, and profession in INA data.

For each name, we keep the Wikidata match that has the best score. In case of tie, we keep the highest ranked in the Wikidata search results (likely more famous). We then drop all search results in the bottom decile, as the low score often indicates that most data fields were missing, and assessing the match quality is impossible. Of the about 40,000 with at least 10 appearances that were searched in Wikidata, we find 21,048 valid matches, a fraction of them being journalists.

A.3 Data on journalists

INA data, as for guests, also provide information on journalists characteristics (gender, year of birth, country). Similarly, we collect data from Wikidata and match it to our data set for both guests and journalists. Because, in the case of journalists, we are particularly interested in their work experience, we additionally collect data from *Les Biographies*.

Les Biographies Data on journalists come from the online version of a publication, akin to *Who's Who*, which contains concise biographical information on notable people in France. Each notice generally indicates the date and place of birth, the education and professional career (position, firm, start and end date) of the considered individual.

We focus on hosts and journalists, and for this reason we only retrieve notices of people related to the media industry. To do so, we use a key word search on the *Les Biographies* website using a premium account. The key words refer to channel names or media groups. They are the following: Arte, BFM, BFMTV, C8, Canal +, CNews, Europe 1, France 2,

France 3, France 4, France 5, France Bleu, France Classique, France Culture, France Info, France Inter, France Télévision, I-télé, Groupe Les Echos, Groupe RTL, Groupe TF1, Groupe M6, Lagardère Active, LCI, M6, Mediawan, NextRadioTV, Radio France, RMC, RMC Sport, RTL, TF1, TMC, Vivendi, and W9. We collect the notice content of any person whose description contains at least one of these tokens.

We then focus on the career of these people. For each job entry, we disentangled the firm from the job title, and the classified job titles into several categories.

- Journalists and hosts. This category is broadly defined and refers to all positions related to the media content: journalist, reporter, host, editor, columnist, etc.
- Participants. This category gathers people who regularly participate in shows, typically talk shows or debate shows.
- Top executives. It includes people that have a C-level position in a media outlet (CEO, CFO, etc.). We also create a dummy variables for whether the person was the CEO.
- Others. It generally includes people whose job is neither C-level, nor directly related to content creation, like for instance head of marketing, head of advertising, etc.

As a result, for each person that has a notice on *Les Biographies*, we have his or her professional time line, with the duration of each position, the firm, and the job type. Of course, young hosts or journalists, that rarely appear on screen are less likely to have a *Les Biographies* notice. Overall, we collect data on 5,001 individuals.

B The French media and political landscape: Detailed Information

As of today in Metropolitan France, there are 30 national digital terrestrial television channels: 7 public channels, 18 free national private channels, and 5 national pay channels. Table 1 describes these channels.

Table 1: French national digital terrestrial television channels

#	Channel	Sample			Creation	Ownership		Audience share		
		Main	Core	Free/Pay		2002 (or inception)	2020	2002	2007	2020
1	TF1	Yes	Yes	Free	1935	Bouygues	Bouygues	32.7	30.7	19.2
2	France 2	Yes	Yes	Free	1964	Public	Public	20.8	18.1	14.1
3	France 3	Yes	Yes	Free	1972	Public	Public	16.4	14.1	9.4
4	Canal+	Yes	Yes	Mixed	1984	Canal Plus	Bolloré	3.7	3.4	1.2
5	France 5	Yes	Yes	Free	1986	Public	Public	2.3	3.3	3.5
6	M6	Yes	Yes	Free	1987	Bertelsmann	Bertelsmann	13.2	11.5	9.0
7	Arte	Yes	Yes	Free	1992	Public	Public	1.6	1.8	2.9
8	C8	Yes	Yes	Free	2005	Bolloré	Bolloré	–	0.2	2.6
9	W9			Free	2009	Bertelsmann	Bertelsmann	–	0.9	2.6
10	TMC	Yes	Yes	Free	1954	AB & Bouygues	Bouygues	–	1.2	3.0
11	TFX			Free	2005	AB	Bouygues	–	0.6	1.6
12	NRJ 12			Free	2005	NRJ	NRJ	–	0.4	1.3
13	LCP	Yes	Yes	Free	2000	Public	Public	–	–	–
14	France 4	Yes		Free	2005	Public	Public	–	0.4	1.2
15	BFM TV	Yes		Free	2005	Weill	Altice	–	0.2	2.9
16	CNews	Yes	Yes	Free	1999	Canal Plus	Bolloré	–	0.3	1.4
17	CStar			Free	2005	Lagardère	Bolloré	–	0.4	1.1
18	Gulli			Free	2005	Lagardère & Public	Bertelsmann	–	0.8	1.3
20	TF1 Séries Films			Free	2012	Bouygues	Bouygues	–	–	1.8
21	L'Equipe			Free	1998	Amaury	Amaury	–	–	1.3
22	6ter			Free	2012	Bertelsmann	Bertelsmann	–	–	1.7
23	RMC Story			Free	2012	Diversite TV	Altice	–	–	1.5
24	RMC Découverte			Free	2012	Weill	Altice	–	–	2.3
25	Cherie 25			Free	2012	NRJ Group	NRJ Group	–	–	1.1
26	LCI	Yes	Yes	Free	1994	Bouygues	Bouygues	–	–	1.2
27	Franceinfo			Free	2016	Public	Public	–	–	0.7
41	Paris Première			Pay	1986	Paris & L. des eaux	Bertelsmann	–	–	–
42	Canal+ Cinéma			Pay	1996	Canal Plus	Bolloré	–	–	–
43	Canal+ Sport			Pay	1998	Canal Plus	Bolloré	–	–	–
	Planète+			Pay	1988	Canal Plus	Bolloré	–	–	–
Total sample viewership								90.7	85.2	70.4

Notes: Audience data from Mediametrie. Data is missing either when the channel did not exist yet, or when Mediametrie reports did not display the information (mostly for smaller channels).

Our dataset covers the period 2007-2018, and 23 different television and radio channels that we describe in turn in this section. We also provide in this section to give a sense of the relative importance of these different channels aggregate figures on their audience in March 2021.

Table 2: French radio stations, excluding music only and local stations

Station	Sample		Creation	Ownership		Audience share	
	Main	Core		2002	2020	2003	2020
France Inter	Yes	Yes	1947	Public	Public	9.8	14.7
France Info		Yes	1947	Public	Public	4.9	4.7
France Bleu			1947	Public	Public	5.7	5.8
France Culture	Yes	Yes	1947	Public	Public	–	2.7
RTL	Yes		1933	Bertelsmann	Bertelsmann	11.5	12.6
Europe 1	Yes		1955	Lagardère	Lagardère	7.8	3.9
RMC	Yes		1943	Weill	Altice	2.8	5.3
Radio Classique	Yes		1983	LVMH	LVMH	–	2.4
BFM Business	Yes		1992	Altice	Altice	–	–
Audience share of non-local, non-music only stations						–	54.9
Audience share of our sample						–	50.1

Notes: Audience data from Mediametrie.

B.1 Public broadcasters

In France, there are 9 public television stations: France 2, France 3, France 4, France 5, France Ô, Arte, and LCP-Public Sénat. Our dataset includes information for the FIVE main channels: France 2, France 3, France 4, France 5, and Arte. The audience share of France 2 in March 2021 was 14.4%, the one of France 3 9.1%, and the one of France 4 0.9%³

We also have information for 4 public radio channels: France Bleu, France Culture, France Info and France Inter, which are the four main public radio stations with news programs. The audience share of France Inter in November-December 2020 was 14.7%, the one of France Info 4.7%, and the one of France Bleu in 5.8%. (The remaining channels are , France Musique, Fip, and the Mouv’.)

Appointment of public media groups directors The French public broadcasting service is made of “*France Télévisions*” for television on the one hand (i.e. in our dataset France 2, France 3, France 4, France 5, and franceinfo TV), and “*Radio France*” for radio on the other hand (France Culture, France Info, and France Inter). As of today, the heads of “France Télévisions” and of “Radio France” are appointed by the CSA. However, this has not always been the case during our period of interest. Indeed, between 2009 and 2013, a law gave the President of the Republic the task of appointing the president of “France Télévisions”, after receiving the assent of the CSA. This law was strongly criticized for it places the nominally independent public sector media under direct state control. In 2013, this provision was reversed and the authority of the CSA to name the director of “France Télévisions” restored

³In comparison, the audience of France 5 was 3.3%; the one of Arte 2.9%.

(see e.g. ?).

B.2 Private broadcasters

Regarding private television, our dataset covers all the channels which have at least some news programs, i.e. C8/D8, Canal +, M6, TF1, and TMC.

It excludes those channels whose focus is only on entertainment: CStar that devotes more than 75% of its airtime to music; Gulli, aimed primarily at children aged 4 to 14; NRJ TV mainly devoted to music and culture; TFX; W9 whose airtime is mostly devoted to music; TF1 Séries Films that is dedicated to audiovisual fiction and cinematographic works; L'Equipe that is devoted to sport; 6ter; RMC Story; RM Découverte, a documentary channel dedicated to discovery and knowledge.; and Chérie 25 focused on magazines and documentaries.⁴

Our dataset also includes the 3 24-hour news channels: BFM TV, CNews/I-Télé, LCI, as well as 4 private radio channels broadcasting news programs: Europe 1, RMC, RTL, and Radio Classique. Europe 1, RMC, and RTL are the three private generalist radio services in France.

These different television channels and radio stations have changed hands a number of times during our period of interest. For the sake of the presentation here, we regroup them depending on their shareholder.

Groupe TF1. **TF1**, which was a public channel at the time of its creation, became private in 1987 after its acquisition by Bouygues (an industrial group specialized in construction, real estate development, telecommunications, and transportation). As of today, Bouygues owns 43.90% of the channels' capital, the rest of the capital been divided as follows: 28,80% floating stock abroad, 20,00% floating stock in France, and 7,30% for TF1 employees (TF1 shares are listed on the Premier Marché of the Paris Stock Exchange – Euroclear code 005490). The audience share of TF1 in March 2021 was 20.5%.

LCI was launched in 1994 on behalf of the media group TF1 as a pay television channel. It became a free channel in 2016. It is still owned by the “Groupe TF1”. The audience share of M6 in March 2021 was 1.1%

The Groupe TF1 also owns the channel **TMC**. Launched in 1954, TMC is selected in 2003 by the CSA to be broadcast free-to-air on preselection No. 10 of the free TNT. This allowed it to obtain maximum coverage of the French territory as soon as it was launched on TNT in 2005. In 2005, the Goupe TF1, together with the Groupe AB (a business group in the field of broadcasting), bought the capital shares owned by Pathé in the channel (80% of the capital, the remaining 20% been owned by the Principality of Monaco. In 2010, the Groupe TF1

⁴Furthermore, these television stations tend to have a rather low audience: 2.5% for W9; 3% for TMC; 1.6% for TFX; 1.1% for NRJ12; 1.1% for CStart; 1.1% for Gulli; 1.6% for TF1 Séries Films; 1.5% for L'Equipe; 1.5% for 6Ter; 1.4% for RMC Story; 2% for RMC Découverte; 1.2% for Chérie 25.

bought the shares owned by the Groupe AB (a transaction allowed by the CSA). In 2016, the Groupe TF1 finally bought the capital shares owned by the Principality of Monaco and became the unique shareholder of TMC.

Groupe M6. **M6** (Métropole Télévision) was launched in 1987. 48.26% of its capital is own by the “SA Immobilière Bayard d’Antin”, i.e. RTL Group (Bertelsmann). The rest of the capital is divided as follows: 7, 24% is owned by the “Compagnie nationale à portefeuille” (a family-owned professional shareholder), and 43.35% corresponds to floating stock. The audience share of M6 in March 2021 was 9.5%

RTL Group (Bertelsmann) also owns the radio station **RTL**⁵ The audience share of RTL in November-December 2020 was 12.6%.

NextRadioTV. NextRadioTV, founded in 2000 by Alain Weill, is a company consisting of BFM TV and RMC. In 2015, Altice (a multinational telecommunications corporation founded and headed by Patrick Drahi, and the parent company of SFR) bought 49% of NextRadioTV, 51% of the capital been still held by Alain Weill.⁶ In 2016, SFR Group / Altice took exclusive control of Groupe News Participations, which holds 99.7% of NextRadioTV’s capital (a transaction permitted in 2017 by the competition authority⁷ and approved in 2018 by the CSA).

BFM TV was launched in 2005 by NextRadioTV. As of today, 100% of the capital of BFM TV is owned by NextRadioTV whose 99.7% of the capital is owned directly or indirectly by the company “Groupe News Participations” (GNP), 99.7% of the capital of the latter being owned by “Altice Content Luxembourg”, i.e. SFR (Patrick Drahi). The audience share of BFM TV in March 2021 was 2.8%

NextRadioTV also fully owns the private radio station **RMC**. RMC, founded in 1943, was bought in 2001 by NextRadioTV. The audience share of RMC in November-December 2020 was 6.1%.

Groupe Canal Plus. As of today, the “Groupe Canal Plus” is made of the following television channels: Canal+, C8, and CNews.⁸ A limited company, the “Groupe Canal Plus” is itself 100% owned by Vivendi. Since 2015, the “Groupe Bolloré” (with Vincent Bolloré) is

⁵Founded in 1933 as Radio Luxembourg, the station’s name was changed to RTL in 1966. It broadcast from outside France until 1981, because only public stations had been allowed until then. In 1981, privately run radio stations were allowed to broadcast in France and RTL has since then broadcast in France.

⁶As part of this operation, two new companies were created: one the one hand, News Participation, which owns NextRadioTV – 51% controlled by Alain Weill and 49% by Altice –, and on the other hand, Altice content, whose goal is to invest in media companies.

⁷décision n° 17-DCC-76 en date du 13 juin 2017.

⁸As well as CStar that is not included in our sample given it is not a generalist channel.

the main shareholder of Vivendi with 26.28% of the capital (all the other shareholders own less than 5% of the capital).

C8 (formerly Direct 8 – D8) was launched in 2005 by Vincent Bolloré⁹ and bought by the “Groupe Canal Plus” in 2011. As of today, 100% of the capital of C8 is owned by the “Groupe Canal Plus”. The audience share of C8 in March 2021 was 2.7%.

CNews (formerly I-Télé), a 24-hour news channel, was launched in 1999 by the “Groupe Canal Plus”. Initially a subscription-based television services, it is transformed into a free channel as of its arrival on French digital terrestrial television in October 2005. 99.8% of CNews is owned by the “Groupe Canal Plus SA” (the remaining 0.20% been owned by Canal+ Finance SA). The audience share of France 2 in March 2021 was 1.9%.

Canal+ was launched in 1984 as the first French premium television (and the first private national television company¹⁰) At the time of its launch, its main shareholder was the “Groupe Havas”, a publicly-traded company whose main shareholder was the State itself. The capital share owned by Havas – the company was privatized in 1987 – in Canal Plus progressively decreased, and in 1987 the channel was listed on the stock exchange. At the time, its two main shareholders were Havas and the Compagnie Générale des Eaux.¹¹

The audience share of Canal+ in March 2021 was 1.1% (but remind that Canal+ is a premium television channel).

Europe 1 Europe 1 is a privately owned radio station created in 1955, owned and operated by Lagarère since 1974 (Lagarère SCA at the beginning of the period, Lagarère Active as of today). The audience share of Europe 1 in November-December 2020 was 3.9%.

⁹The official creation of the channel took place in 2001, with a number of tests. It was officially launched in 2005 with the “Télévision numérique terrestre” – digital terrestrial television platform.

¹⁰In 1984, the government initially granted Canal-Plus a public service concession for twelve years. The concession was renewed in 1994.

¹¹More precisely, in 1984, more than 60 percent of the capital of the channel was held by state-controlled shareholders: Havas (42.13%) and nationalized banks (the Société Générale, the Banque Nationale de Paris (BNP), the Crédit Lyonnais, the Crédit Commercial de France (CCF), and the Banque Régionale d’Escompte et de Dépôt (Bred), 18.18 % in all).The other (private) shareholders were the Compagnie générale des eaux, L’Oréal, the Garantie Mutuelle des Fonctionnaires (GMF) (5%) and the regional daily newspaper *Ouest-France* (1.66%). Agence Havas, while remaining the largest shareholder in Canal Plus, held only 25% of its capital at the end of March 1986, through a number of capital increases and the sale of 12.5% of its shares. Furthermore, thanks to a capital increase, Perrier became a shareholder in 1986 with 5% of the capital, as well as Gilbert Gross’s SGGMD (5%), the British group Granada (3%), and the Compagnie Financière Saint-Germain (2%), a holding company. In March 1986, the Compagnie Générale des Eaux (CGE) was still the leading private partner of the channel with 15.65% of its capital. It was followed by L’Oréal (10.41%), the Société Générale (10%), the Garantie Mutuelle des Fonctionnaires (GMF) (5.21%) and a group of banks (12.5%). The balance is held by various mutual funds and regional press groups associated with the creation of Canal Plus from the outset. In 1987, the CGE has strengthened its position in the capital of Canal Plus, increasing its capital share from 15.65% to 21.49% (through the purchase of the 5.21% of the shares held by the GMF and the acquisition of the shares (0.63%) of the Bred). At the time Canal Plus went public (in November 1987), its main shareholder were Havas (24.23%), CGE (20.72%), L’Oréal (7.7%), Société Générale (8.08%), CCF (6.82%), and Perrier (5%).

Radio Classique Launched in 1983 by Christian Pellerin,, Radio Classique broadcast mainly classical music, but also segments of economic and political news. In 1986, the station was 25% owned by RTL and 75% by the real estate company Lucia (a land holding company created by Christian Pellerin). In 1992, Pellerin sold Radio Classique to Sagem, a group specialized in professional and military electronics. In 1999, Desfossés International, a subsidiary of Bernard Arnault’s group, LVMH (and media division of LVMH), bought 100% of the capital of Radio Classique. In 2000, Desfossés International became DI Group.^[12] In 2008, as a result of the buyout of the economic daily *Les Echos* Bernard Arnault, DI Group is renamed “Groupe les Echos” (with Nicolas Beytout as the CEO).

Note that all the private television channels have to establish a convention with the CSA.

B.3 Changes in media ownership

Bouygues Group buys AB Group’s shares of TMC in 2009. In 2005, TMC is sold to Bouygues Group and AB Group, each of them holding 40% of TMC. In December 2006, Bouygues bought 33.5% of the shares of AB Group. A clause in the 2006 agreement ensured that TF1 could not buy TMC. This clause expired in April 2009. In May 2009, TF1 announces that it is negotiating with AB group to buy its 40% of TMC. In January 2010, the competition authority approves the transaction. TF1, with 80% of the shares, has control over TMC.^[13]

Bolloré sells Direct 8 to the Canal Plus Group in 2011. In September 2011, Canal Plus Group (owned by Vivendi) announces the acquisition of 60% of the television branch of the Bolloré Group, which owns Direct 8 (which will later be named D8 and C8). The Bolloré Group is paid in Vivendi shares. In exchange for the 60% of its television channels, the Bolloré television obtained 1.7% of the Vivendi Group, which owns of the Canal Plus Group. As a result the Bolloré Group owns 4.41% of Vivendi shares. The transaction is approved by the CSA and the Competition Agency in September 2012. Direct 8 is renamed D8.^[14]

Bolloré takes over the Canal Plus Group in 2015. At the beginning of 2015, the Bolloré Group had 5.1% of the shares in the Vivendi Group, a publicly traded company that owns the Canal Plus channels (Canal +, D8 and I-Télé). Vincent Bolloré, at the head of the Bolloré Group had been a chairman of the surveillance committee of Vivendi since June 2014. On March 26th 2015, the Bolloré Group registered more than 10% of the shares in Vivendi. In April 2015, it had raised its equity up to 14.4%. Mid-April, Vincent Bolloré obtained during

¹²Bernard Arnault bought Desfossés International (that edited the financial dailies *La Tribune* and *l’Agefi*) in 1994.

¹³<https://www.lesechos.fr/2010/06/reperes-le-rachat-de-tmc-et-nt1-par-tf1-440812>

¹⁴https://www.challenges.fr/high-tech/bollore-a-4-41-de-vivendi-apres-la-vente-de-direct-8-a-canal_260850, <https://investir.lesechos.fr/actions/actualites/canal-achete-60-de-direct-8-et-direct-star-a-bollore-370> <https://www.capital.fr/entreprises-marches/nouveau-feu-vert-de-la-concurrence-au-rachat-de-d8-par-canal-922>

the general meeting of shareholders with more than two thirds of votes that a French law doubling the vote shares of long-term owners applies.¹⁵ In exchange for this approval, he had promised extra dividends. As a result of the vote, the Bolloré Group obtained about 26% of the vote shares, making it the reference shareholder. In July 2015, he named Maxime Saada CEO of the Canal Plus Group.¹⁶

Altice gradually takes control of NextRadioTV from 2015. NextRadioTV is publicly-traded group owning the television channels BFM TV, RMC Sport and RMC Story as well as the radio stations RMC and BFM Radio. It was created by Alain Weill in 2005, who owned 37.8% of its capital and 48.6% of the vote share at the beginning of 2015. In July 2015, he announces a “strategic partnership” with Patrick Drahi, a long-standing business partner. Patrick Drahi owns Altice, a group that includes SFR (a mobile telecommunication company), Numericable (a cable operator and telecommunication company) and Altice Content (Libération, L’Express, Strategies, Mieux Vivre Votre Argent, L’Expansion). They create a holding named News Participation, controlled at 51% by Alain Weill and at 49% by Altice Contents. This holding will become the new owner of NextRadioTV. In exchange, Alain Weill obtains 24% of Altice Content. In February 2016, News Participation owns more than 97% of NextRadioTV. In June 2017, the Competition Authority approves the takeover, the CSA in April 2018. In November 2017, Alain Weill becomes the CEO of Altice France, which includes Altice Content and, therefore, NextRadioTV.¹⁷ As a result, although NextRadioTV is now owned by Altice (Drahi), its CEO, Alain Weill, has remained in control all along, as he now the CEO of the Altice branch that owns NextRadioTV.

B.4 Regulatory background

Regarding the presidential election, we need to distinguish between the so-called *intermediate period* (from the publication of candidate lists to official start date of the campaign) and the thirty-day official campaign itself (two weeks for the first round, then another two for the second round). The official campaign begins on the second Monday preceding the first

¹⁵This law, also named Loi Florange, voted in 2014, aimed at favoring long-term firm ownership rather than speculation by opportunistic shareholders.

¹⁶<https://www.bollore.com/bollo-content/uploads/2018/01/03-26-15-bollore-vivendi.pdf>, <https://www.bollore.com/bollo-content/uploads/2018/12/bollore-rs-2015.pdf>, <https://www.lesechos.fr/2015/04/bollore-continue-de-monter-en-puissance-dans-le-capital-de-vivendi-247478>, <https://www.lesechos.fr/2015/04/chez-vivendi-vincent-bollore-paracheve-sa-prise-de-pouvoir-258929>, <https://www.lopinion.fr/edition/economie/comment-vincent-bollore-prend-contrôle-vivendi-petite-porte-105199>, https://www.challenges.fr/entreprise/vivendi-cette-ag-qui-pourrait-porter-bollore-au-pouvoir_67801.

¹⁷<https://www.reuters.com/article/nextradiotv-altice-idFRL5N10713P20150727>, <https://www.strategies.fr/actualites/medias/1021127W/alain-weill-et-patrick-drahi-s-associent-pour-racheter-nextradio-tv.html>, https://www.lemonde.fr/economie/article/2015/07/27/le-groupe-de-patrick-drahi-se-positionne-pour-racheter-4700363_3234.html, <https://www.autoritedelaconcurrence.fr/fr/communiqués-de-presse/13-juin-2017-medias>

round of voting and comes to a halt at midnight on the eve of the ballot. It then resumes on the day when the two front-runners are announced and comes to a final halt at midnight on the eve of the second round. Today, the principle of “equitable” speaking time prevails during the intermediate period.¹⁸ Under the supervision of the CSA, the speaking time of the various parties during the “intermediate” campaign must reflect the extent to which they are representative of the French political landscape, as well as their capacity to demonstrate their intention to run candidates. There are three criteria of a party’s “representativeness”: its results in the most recent elections; the number and position of elected officials that it claims to have; and the evidence of opinion polls.¹⁹ The official campaign, on the other hand, operates in accordance with the principle of “equal speaking time” for the candidates.

As to parliamentary elections, the French electoral code stipulates that – for the broadcasting of video clips – the parties with formally constituted groups in the National Assembly shall together have a total of three hours for the first round, while parties without such groups may each have seven minutes’ broadcasting time provided they can show that at least seventy-five candidates are running in their name.

B.5 Political landscape

¹⁸The organic law of April 25, 2016, updated the rules governing presidential elections, including the allocation of speaking time. Previously, strict equality had been stipulated for candidates and their supporters throughout the “intermediate” period, which was naturally advantageous to the “smallest” campaigns. (Note, however, that this strict equality related only to speaking time, not to total airtime, and that the latter included TV and radio editorial material on candidates and their supporters.) On the rules governing pluralism during and outside election periods, see the information available on the CSA website, <https://www.csa.fr>.

¹⁹See the CSA recommendation no. 2016-2 of September 7, 2016 to the radio and television services for the presidential elections: <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000033104095&categorieLien=id>.

Table 3: Main Political Parties

Party	Ideology	L-R general	L-R economics	L-R social
Parti Communiste Français	Radical left	1.1	1.1	3.8
La France Insoumise	Radical Left	1.7	1.1	2.4
Europe Ecologie-Les Verts	Greens	2.5	1.9	1.6
Parti Socialiste	Socialists	3	3.1	2.8
Mouvement Démocrate	Liberal	6.1	6.2	4.5
La République En Marche	Liberal	6.3	6.3	3.2
Les Républicains	Conservatives	7.9	8.1	6.9
Debout la France	Radical Right	9	7	8.3
Front National	Radical Right	9.6	5.9	8.9

Notes: L-R values are drawn from the Chapel Hill Expert Survey and range from 0 (Left) to 10 (Right). When available, 2019 data is used, 2014 otherwise. L-R general corresponds to a general placement on a left-right scale from 0 to 10. L-R economics refers to the party’s ideological stance on economic issues such as privatization, taxes, regulation, etc. Parties on the economic left advocate for the government taking an active role in the economy, the right, a reduced role. L-R social corresponds to the variables “galtan”, the party positioning on social and cultural values, from 0 - Libertarian or postmaterialists in favor of the expansions of personal freedoms to 10 - Traditional or authoritarian in favor of order, tradition and stability. The political parties in bold are those that have been in power at least once over the past two decades.

C Data: Television and radio shows

C.1 Type of shows

Fiction includes all movies and TV series. Entertainment is a broad category gathering games, reality shows, performances, or programs related to music, reading, cooking, gardening or any other leisure activity. Talk shows include any show based on having several guests engaging in conversations, whether they talk about personal experiences, express political views or comment the news. News/politics shows mainly revolve around news shows, as well as equivalent programs on news channels, even if stretched on longer time slots. This category also include one-to-one interviews of politicians, especially in morning and evening shows of news channels. Youth account for all programs destined for a younger audience. Documentaries are programs dwelling on a single (or a limited number) topics. The remaining category, *other*, include shows like weather forecasts or unclassified shows. For some channels, programs scheduled late in the night are sometimes given generic titles such as “night programs.” When analyzing types of shows, we exclude programs starting between midnight and 5am to avoid effects being driven by changes in data precision over that slot.

In the remainder of the section, we describe the main talk shows for each channel in our dataset.

C.2 Public TV broadcasters

C.2.1 France 2

Talk shows

- Vivement Dimanche

Vivement Dimanche! is a program presented by Michel Drucker since 1998. Each week he receives in his red sofa a sports personality, artistic or political to discuss his life and his news. Produced by DMD production, the show was interrupted between 2016 before resuming in August 2018.

- On n'est pas couché

On n'est pas couché is a talk-show presented and produced by Laurent Ruquier. Since 2006, each week he receives several personality from the world of the media, culture or politics. This show succed *Tout le monde en parle* and it replaces by *On est en direct* in 2020.

- Le monde d'après

Le monde d'après is a program presented by Franz-Olivier Giesbert between 2012 and

2013. The program, produced by Jean-Pierre Cottet, will then be replaced by *Tout peut changer* hosted by Laurent Bazin.

- Ce soir (ou jamais!)

Ce soir (ou jamais!) is a debate program presented by Frédéric Taddei since 2006. First on France 3, the show is then broadcast on France 2 from 2013. Produced by France Televisions and MFP, it will be replaced by *Hier, aujourd'hui, demain!* in 2016.

- On a tout essayé ⇒ on n'a pas tout dit

On a tout essayé is a weekly magazine show hosted by Laurent Ruquier that comments on current events in both a serious and humorous way. It is produced by *Tout sur l'écran* and is broadcast on France 2 from 2000 before being replaced by *On a pas tout dit* in 2007.

- Vous aurez le dernier mot

Vous aurez le dernier mot is a French talk show broadcast on France 2 from 2009 to 2010, presented by Franz-Olivier Giesbert and produced by Marc-Olivier Fogiel. It succeeded Daniel Picouly's *Café littéraire* and was replaced by *Semaine critique*.

- L'émission pour tous

L'émission pour tous is presented by Laurent Ruquier and replaced by *Jusqu'ici tout va bien*. Broadcast from January to March 2014, the show is produced by Tout sur l'écran and Ruq Productions, the production company of the presenter Laurent Ruquier.

- Jusqu'ici tout va bien

Jusqu'ici tout va bien is a talk show that describes the news by mixing humor. Broadcast from September to December 2013, the show is presented by Sophia Aram. Due to low ratings the show is replaced by *L'émission pour tous*. This show is produced by Morgane Production and France televisions.

- 6 à la maison

The program *6 à la maison* is presented by Anne-Elisabeth Lemoine and Patrick Cohen since October 21, 2020. This show, produced by 3e oeil productions, is a cultural program and was created to coincide with the curfew that came into effect in France to fight against Covid19.

Political magazines

- Télématin (including “les 4 verites” and the news bulletins during the program)

Télématin is a news magazine broadcast since January 7, 1985, based on the American model Today. Several presenters have succeeded each other such as Roger Zabel, William

Leymergie, Thierry Beccaro and Laurent Romejko until Laurent Bignolas today. The show is produced by France tv studio and is broadcast on Antenne 2 and then France 2 after the change of name of the channel.

- Thé ou café

Thé ou Café is a cultural magazine broadcast on France 2 since 1996, presented by Catherine Ceylac. In each program she receives a different guest. The show is produced by France Televisions which decided to stop the production in 2018 despite the protest of several personalities.

- esprits libres

Esprits Libres is a critical review of literary news presented by Guillaume Durand and produced by Carrere Group. In 2006, it succeeded the program Campus with the same presenter, and was replaced in 2008 by *Café littéraire* presented by Daniel Picouly.

- l'arene de france

The program *L'Arène de France* is a magazine of social debates presented by Stéphane Bern. It was broadcast from September 2006 to June 2007 on France 2.

- À vous de juger

A vous de juger is a monthly political program presented by Arlette Chabot between September 2005 and April 2011. The program, produced by France Televisions, succeeds *100 minutes pour convaincre* presented by Olivier Mazerolle and is replaced by *Des paroles et des actes*.

- Des paroles et des actes ⇒ l'émission politique

Des paroles et des actes is a political program presented by David Pujadas (then presenter of the 8pm news on France 2) between June 2011 and May 2016. The program is broadcast on France 2 and succeeds *À vous de juger* presented by Arlette Chabot and is replaced by *L'émission politique*.

- Ça se discute

The program *ça se discute* was broadcast between 1994 and 2009 on France 2. This society magazine where several guests testify each week is presented and produced by Jean-Luc Delarue. He is also the presenter of *Toute une histoire*.

- Vous trouvez ça normal

Vous trouvez ça normal? is a TV debate show broadcast on France 2 between September and December 2012. This weekly show is presented by Bruce Toussaint and produced by 3e Œil Productions.

- Des mots de minuit
Des mots de minuit is a cultural program broadcast on France 2 and online on Culture-box. Presented and produced by Philippe Lefait and is broadcast from 1999 to 2013. Each week, the presenter discusses profound subjects with his guest for an hour and a half. This program succeeds *Le cercle de minuit*, presented by Laure Adler, and is replaced by *Des mots de minuit, une suite*.
- Actuality
The Talk-Show *Actuality* is presented by Thomas Thouroude, previously on the Canal+ channel, which analyzes and simplifies live news. This show is produced by France Televisions, Elephant and 4 productions and broadcast from September 2016 to March 2017.
- "face aux français conversations inedites"
This program is presented by Guillaume Durand between 2010 and 2011. He receives during two hours two guests to show a new aspect to the viewers.
- Semaine critique!
Semaine Critique! is a weekly cultural and political program presented by Franz-olivier Giesbert. Each week, four guests (political, cultural or media) discuss current events and literary releases. The show is produced by MMM productions and Et la suite (productions) and is broadcast on France 2 between September 2010 and May 2011.
- Prise directe
Prise directe is a monthly program presented by the journalist Béatrice Schönberg that deals with social issues. The program is broadcast on France 2 between 2009 and 2011 and is produced by Elephant & Cie.
- 19h le dimanche
The news magazine *19h le dimanche* is presented by Laurent Delahousse, famous presenter of the JT of France 2. Broadcast between September 2017 and May 2020, the program is composed of news reports and testimonials.
- Hier, aujourd'hui, demain
Hier, aujourd'hui, demain is a monthly cultural and literary program presented by Frédéric Taddei. This program is produced by Jean-François Peralta and broadcast on France 2. It succeeds the program *Ce soir (ou Jamais!)* in September 2016 and is replaced by *Interdit d'interdire* in June 2017.
- Ils font bouger la france
Ils font bouger la France is a magazine hosted by Béatrice Schönberg. This society

magazine is produced by Éléphant & Cie and broadcast in September 2007 and 2009 on France 2.

- **Vendredi si ça me dit**

The cultural magazine *Vendredi si ça me dit* is presented by Christophe Hondelatte and produced by Pitch TV. This show succeeds in September 2008 to *On n'a pas tout dit*, hosted by Laurent Ruquier. *Service Maximum* replaces this show from November 2008.

- **Questions directes**

Questions directes is a current affairs debate broadcast on France 2 hosted by Julian Bugier with the aim of giving the French the opportunity to speak again on current societal topics in front of intellectuals or expert guests. The show is produced since March 2018 by France Televisions and Maximal productions.

- **L'entretien politique**

L'entretien politique is a political program constituting the short version of *L'émission politique*. Presented by Léa Salamé and David Pujadas (later replaced by Thomas Sotto). A guest is thus subjected to questions from the presenters for 30 minutes. The program was broadcast between 2016 and 2017, during the presidential election period.

- **Y a un debut à tout**

Y'a un début à tout is an entertainment magazine presented by Daniela Lumbroso and broadcast from 2001 to 2004 on France 2.

- **Vous avez la parole**

Vous avez la parole is an occasional political program that receives major French personalities and confronts them with the French and then with their political, economic and media opponents. Presented by Léa Salamé and Thomas Sotto and produced by France televisions, the show is broadcast since 2019 and replaces *L'émission politique* on France 2.

- **100 minutes pour comprendre**

The program *100 minutes pour comprendre* is a live political and news program presented by Olivier Mazerolle and Alain Duhamel. This program is a slightly modified version of *100 minutes pour convaincre* to discuss more specific topics, such as the war in Iraq. The program was broadcast occasionally between 2002 and 2005.

- **100 minutes pour convaincre**

The program *100 minutes pour convaincre* is a live political and information program presented by Olivier Mazerolle with Alain Duhamel at his side. They received a political personality in charge of exposing his ideas on the major themes chosen by the editorial

team. Produced by France Télévisions, the program was broadcast from 2002 to 2005 before being replaced by *À vous de juger*.

Investigative journalism TV programs

- Envoyé special

Envoyé spécial is a news magazine broadcast every Thursday on Antenne 2 and France 2. Since 1990, several journalists have succeeded to present it. The first is Paul Nahon, then Bernard Benyamin between 1990 and 2001 taken over by Francois Joly and Guilaine Chenu. Since 2016 the show is presented by Elise Lucet, famous French journalist, known for her interest in investigative journalism. The magazine has been produced for 30 years by France Televisions.

- Complément d'enquête

Complément d'enquête is an investigative magazine broadcast in the second half of the evening weekly since 2001. First presented by Benoît Duquesne (2001-2014), then by Nicolas Poincaré (2014-2017), Thomas Sotto (2017-2018), it is now presented by Jacques Cardoze. This magazine is produced by France 2 and broadcast on the same channel.

- cash investigation

Cash Investigation is an investigative magazine specializing in revealing scandals in the business world since 2012. The show is presented by Elise Lucet, a famous French journalist, known for her interest in investigative journalism and her tenacity in wanting to hold accountable those responsible for the affairs she exposes. The magazine is produced by Premières Lignes Télévision and broadcast on France 2.

- Infrarouge

Infrarouge is a documentary program on social issues since 2006. The program is broadcast occasionally and does not have a presenter. Each issue is produced by a different production company but the program is always broadcast on France 2 in the second or third part of the evening.

- Cellule de crise

Cellule de crise is a news magazine broadcast since 2016 on France 2, the program invites viewers to relive a specific moment in recent history. Initially presented by David Pujadas, it was replaced in 2017 by Julian Bugier. The show, produced by the company Brainworks achieves its record audience on the occasion of its issue on the attacks of November 13, 2015 in France.

- Les infiltrés

Les infiltrés is a bi-monthly program broadcast on France 2 which specializes in shooting

its reports in hidden camera. First presented by David Pujadas it is then taken over by Marie Drucker in 2011. The show is produced by the company CAPA and stops in 2013.

- La soiree continue

La soirée continue is a program presented by Julian Bugier in the second half of the evening following a documentary drama. The show has been broadcast on France 2 since 2016.

C.2.2 France 3

Talk shows

- Ce soir (ou jamais !)

Ce soir ou jamais! is a debate program presented by Frédéric Taddei since 2006. First on France 3, the show is then broadcast on France 2 from 2013. Produced by France Televisions and MFP, it will be replaced by *Hier, aujourd'hui, demain!* in 2016.

- Même le dimanche

Même le dimanche is a weekly program that reviews cultural news around guests. The show is presented by Wendy Bouchard and Dave and is produced by Carson Prod. It succeeds the program *Du côté de chez Dave* in 2016 and stops in 2017.

- Vendredi sur un plateau

Vendredi sur un plateau is a talkshow hosted by Cyril Vignier. The show is produced by Plan C Productions and broadcast on France 3 from September 2011 to December 2011.

- Vie privée, vie publique

Vie privée, vie publique is a documentary program hosted and produced by Mireille Dumas. The program, in the form of interviews, is broadcast on France 3 between October 2000 and 2011.

- Le divan de marc olivier fogiel

Le divan de Marc Olivier Fogiel is a magazine broadcast on France 3. The show is based on the principle of a psychoanalysis consultation, a concept introduced by Henry Chapier in 1987. Marc-Olivier Fogiel's show is broadcast from 2015 and stops in 2018 when the presenter joins the Altice group (BFM TV channel).

Political magazines

- *Midi en France* ⇒ then become “*dimanche en France*”
Midi en France is a magazine that promotes French culture on France 3. Broadcast since 2011, the magazine succeeds *Direct chez vous!* and is first presented by Laurent Boyer, then he is replaced in 2015 by Vincent Ferniot until 2019.
- ‘Comme un vendredi ⇒ “7 à voir”’
Comme un Vendredi is a weekly news magazine presented by Samuel Etienne who receives a guest. Broadcast on France 3 between October 2008 and 2010, the show changes its name in June 2009 and becomes *7 à voir*.
- *Avenue de l’Europe*
Avenue de l’Europe is a weekly news program about one of the 28 countries of the European Union. Presented by Véronique Auger, the program is broadcast on France 3 between 2006 and 2019.
- *Le monde d’après* ⇒ *tout peut changer*
Le Monde d’après is a monthly program presented by Franz-Olivier Giesbert whose objective is to decipher current society. The program was broadcast on France 3 between 2012 and 2013 before becoming *tout peut changer*.
- *France Europe Express*
France Europe Express is a political debate program presented by Christine Ockrent, Gilles Leclerc and Serge July on France 3. The program replaces *Dimanche soir* in 1997 and is replaced by *Duel sur la 3* in 2007. From 2001, the program is broadcast in parallel on France Info.
- *Duel sur la 3*
Duel sur la 3 is a political debate program presented by Christine Ockrent on France 3. The show replaces *France Europe Express* in 2007 and is replaced by *Comme un Vendredi* in 2008.
- *Mots croisés*
Mots croisés is a debate program on political and societal issues with 6 guests. The program began in 1997 on France 3 and was first presented by Alain Duhamel, then by Arlette Chabot, Yves Calvi and finally Anne-Sophie Lapix until 2015.
- *Hors série*
Hors Série is a documentary program presented alternately by Béatrice Schönberg and Marie Drucker. The program is broadcast since 2009 on France 3 was previously presented by Samuel Etienne and Patrick Poivre d’Arvor.

- Dimanche en politique

Dimanche en politique is a political program presented by Francis Letellier since 2011 on France 3 where he receives every Sunday a French politician. Until 2016 the program was called *12/13 Dimanche*.

Investigative journalism TV programs

- pièces à conviction

Pièces à conviction is an investigative program broadcast on France 3. The program is presented by Elise Lucet from 2000 to 2011, then by Patricia Loison and finally by Virna Sacchi from 2016 to 2021.

C.2.3 France 4

Talk shows

- touche pas à mon poste

Touche pas à mon poste! is a talk show presented and produced by Cyril Hanouna. The show is broadcast since 2010 and is first broadcast on France 4 and D8 before being broadcast on C8. *Touche pas à mon poste* has replaced *Morandini!*.

- le culture club

Culture Club is a program presented by Stéphane Blakowski and Alexis Trégaro between 2005 and 2006.

- faut pas rater ça !

Faut pas rater ça! is a program broadcast on France 4 between 2012 and 2013. The show is presented by Florian Gazan and produced by Sébastien Cauet.

Political magazines

- les agités du bocal

Les agités du bocal is a weekly show broadcast on France 4 and presented by Alexis Trégarot and Stéphane Blakowski. This show is produced by Téléparis between January and December 2007.

- l'autre jt

L'autre JT is a magazine composed of subjective and committed reports. The program was broadcast on France 4 between 2014 and 2016 and is presented by Arnaud Muller.

Investigative journalism TV programs

- nouveaux regards

Nouveaux regards is a program broadcast on France 4 between 2009 and 2008 that follows Questions de générations. The program is directed by Olivier Delacroix.

C.3 Private TV broadcasters

C.3.1 BFM TV

Political magazines

- et en meme temps

Et en même temps is broadcast on BFMTV between 18h and 20h every Sunday. The show is hosted by Apoline de Malherbes between 2017 and 2020

- news et compagnie

News et compagnie is a daily program broadcast on BFMTV between 2014 and 2019, and presented by Nathalie Levy.

- bfm politique le point rmc

BFM Politique is a weekly political interview program presented by Anna Cabana and Apolline de Malherbe.

- aujourd'hui le

- 19h ruth elkrief

19h Ruth Elkrief is a news program (especially political). The program was broadcast on BFMTV between 2005 and 2020 and was presented by Ruth Elkrief.

- bfm story

BFM Story is a program presented by Olivier Truchot and Alain Marschall every evening between 5 and 6 pm. The program, which debates a current event, is broadcast on BFM TV.

News

- QG de l'info

Le QG de l'info is a daily program presented by Ronald Guinrange and Thomas Sotto on BFM TV between 2007 and 2009.

- non stop

Non Stop is a program of BFM broadcasted since 2007. Many presenters have succeeded each other at the head of this program which aims to broadcast continuous information.

C.3.2 Canal+

Talk shows

- le grand journal

Le Grand Journal is an entertainment talk show broadcast on Canal+. The free-to-air show was presented in turn by Michel Denisot, Antoine de Caunes, Maïtena Biraben and Victor Robert. *Le Grand Journal* is produced by KM and then by Flab prod (from 2015) and is broadcast between 2004 and 2007.

- le before du grand journal

Le Before du Grand Journal is a daily entertainment show broadcast on Canal+ before *Le Grand Journal*. Presented by Thomas Thouroude, the show is produced by KM and Black Dynamite and is broadcast between September 2013 and June 2015.

- Le petit journal

Le Petit Journal is a news and entertainment show broadcast on Canal+. The show is presented and by Yann Barthès for 12 years before leaving his place to Cyrille Eldin when he left on TMC to present *Quotidien*. *Le Petit Journal* is produced by Bangumi and then Flab Prod and is broadcast between 2004 and 2017 before being replaced by *La Case en +*.

- La case en +

La case en + is a program broadcast on Canal + that replaces *Le Petit journal* from 2017. The show is presented by Cyrille Eldin.

- La nouvelle edition

La Nouvelle Edition is an entertainment program that replaces *L'édition Spéciale* since 2011 on Canal +. Presented by Daphne Bürki, the show is stopped in 2016.

- Salut les terriens ! (then on D8)

Salut les Terriens is a talk show broadcast on Canal+ and C8. Presented and produced by Thierry Ardisson following his departure from France 2, the show offers a commentary on current events. It was broadcast between 2006 and 2016 on Canal + and between 2016 and 2018 on C8.

- Clique

Clique is a weekly talk show broadcast for free on Canal+ presented Mouloud Achour. The show is interested in the current world is produced since 2019 by Première Fois Productions.

- Le Gros Journal
Le Gros Journal is a daily talk show broadcast on Canal+. Presented by Moulou Achour, the show is produced by Première fois Production and aired between September 2016 and June 2017.
- Tout le monde il est beau
Tout le monde il est beau, tout le monde il est gentil is a talk show hosted by Bruce Toussaint. The show is a new version of *Le Petit Rapporteur* and is broadcast on Canal+ between September 2010 and June 2011.
- Hanounight show
Hanounight Show is a weekly entertainment show hosted and produced by Cyril Hanouna. The show was broadcast on canal+ between November 2016 and June 2017.
- Rendez vous avec kevin razy
Rendez-vous avec Kevin Razy is a weekly comedy news show hosted by Kévin Razy broadcast on Canal+. The show is produced by K.Prime productions and Showrun Productions and has been broadcast since February 2017.

Political magazines

- La matinale
La Matinale is a French morning show inspired by *Télématin* and broadcast free of charge on Canal+ between 2004 and 2013. The show is alternately presented by Thierry Gilardi, Bruce Toussaint, Maïtena Biraben, Ariane Massenet and Nathalie Lannetta.
- Dimanche +
Dimanche + is a weekly political magazine broadcast on Canal+ between 2006 and 2013. Each week, the program receives a political guest to discuss the news. The magazine is first presented by Laurence Ferrari and then Anne-Sophie Lapix from 2008.
- Le supplement
Le Supplément is a weekly magazine show broadcast on Canal+ and produced by Laurent Bon and the Bangumi company. The program is broadcast from 2012 and is first presented by Maïtena Biraben and then by Ali Baddou before being replaced by the program *Le tube* in 2016.
- L'édition speciale
L'édition spéciale is a news program mixed with entertainment. Presented first by Samuel Etienne and then by Bruce Toussaint, it is broadcast between 2007 and 2011. The show succeeds *En aparté* and is replaced by *La Nouvelle Edition*.

- L'info du vrai
L'info du vrai is a daily news and debate program broadcast on Canal+ and rebroadcast on Cnews. Presented by Laurence Ferrari before being taken over by Yves Calvi in 2018, the show has been broadcast since 2017 and is produced by Canal +, Jérôme Bellay and Cnews.
- L'effet papillon
L'effet papillon is a magazine devoted to international news broadcast on Canal +. Presented by Victor Robert and then Daphne Roulier, the program was broadcast from 2006 to 2018 and produced by the CAPA Agency.
- En aparté
En aparté is a weekly and then daily magazine show broadcast on Canal +. Presented by Pascale Clark, the show is produced by Angel Productions. It succeeds *Nous ne sommes pas des anges* in 2001 and is replaced by the special edition in 2007.
- Un café, l'addition
Un café, l'addition is a weekly program dealing with current affairs broadcast on Canal+ between 2007 and 2008. Presented by Pascale Clark, the show is inspired by her former show on RTL *on refait le monde*.
- Un autre midi
Un autre midi is a show hosted by Victor Robert and broadcast on Canal+ from September 2010. The show is replaced in 2011 by the *News Show* presented by Ariane Massenet.
- Les reporters du dimanche
Les reporters du Dimanche is a current affairs program offering reports on society and politics presented by Cyrille Eldin. The show will be broadcast between 2018 and 2020.
- La semaine des guignols
La Semaine des Guignols is a weekly comedy show compiling the five weekly shows of *Les Guignols de l'info*. The show is broadcast between 1992 and 2018 and is produced by NPA Production.

Investigative journalism TV programs

- Faites passer l'info
Faites passer l'info is a magazine show presented by Jean-Baptiste Rivoire that gives consumers a voice and is broadcast on Canal+. The show was broadcast from 2006 to 2008.

- Special investigation

Spécial Investigation is an investigative magazine presented by Stéphane Haumant and broadcast on Canal+ between 2002 and 2016. This magazine was first called *Lundi Investigation* until 2007 and then *Jeudi Investigation* until 2008.

Investigative journalism TV programs

- faites passer l'info
- special investigation

C.3.3 C8/D8

Talk shows

- touche pas à mon poste

Touche pas à mon poste! is a talk show presented and produced by Cyril Hanouna. The show is broadcast since 2010 and is first broadcast on France 4 and D8 before being broadcast on C8. *Touche pas à mon poste* has replaced *Morandini!*.

- morandini !

Morandini! is a daily media show presented by Jean-Marc Morandini and produced by Endemol France. The show is broadcast on Direct 8 from 2006 until the takeover of the channel by the Canal + group in 2012, where it will be replaced by *Touche pas à mon poste!*.

- salut les terriens ! (before on Canal+)

Salut les Terriens is a talk show broadcast on Canal+ and C8. Presented and produced by Thierry Ardisson following his departure from France 2, the show offers a commentary on current events. It was broadcast between 2006 and 2016 on Canal + and between 2016 and 2018 on C8.

- coucou les martiens

Coucou les martiens is a weekly talk show broadcast on C8. The show is presented by Tom Villa and it precedes *Les terriens du Samedi!* Since 2018.

Political magazines

- william a midi

William à Midi is a daily society magazine presented and produced by William Leymergie. The show has been broadcast since 2017 on C8 and it replaces *La Nouvelle Edition*.

- le grand 8
Le Grand 8 is a daily talk show presented by Laurence Ferrari on D8. The show is produced by D8 between 2012 and 2016 before being replaced by *La nouvelle Edition*.
- langue de bois s'abstenir
Langue de bois s'abstenir is a weekly talk show presented by Philippe Labro. The show is produced and broadcast on C8 between 2008 and 2021.
- est-ce que ça marche ?
Est-ce que ça marche is a daily magazine show presented by Ariane Massenet and Camille Combal. The show is produced by Cyril Hanouna and is broadcast on C8 between September 2013 and June 2014.
- face à alain minc
Face à Alain Minc is a program describing current events, politics and economics. The show is broadcast since 2008 on C8.

Investigative journalism TV programs

- enquete inedite
Enquête inédite is a news magazine presented by Adrienne Malleray between 2010 and 2013 on C8.

C.3.4 LCI (news channel)

Political magazines

- 17 20
- choisissez votre camp
Choisissez votre camp is a daily talk show broadcast on LCI between 2010 and 2016.
- on en parle
.
- la mediasphere
La médiasphère is a daily program broadcast on LCI that focuses on the media since 2010. The program is presented by Christophe Moulin.
- l'invite de l'economie
L'invité de l'éco is a daily column where each day Isabelle Gounin receives a key player in the economic news.

- le club de l'économie
Le Club de l'économie is a weekly program presented by François Xavier Pietri and broadcast on LCI where each week he interviews two economists.
- Ici matin
LCI matin is a news program broadcast every morning on LCI between 2005 and 2013. Several presenters succeeded each other before the show became *La matinale*.
- 19-20 : Michel Field
19/20 Michel Field is a news program broadcast daily on LCI between 2005 and 2008.
- le ring
Le ring is a political program broadcast on LCI and presented by Michel Field and Murielle Mesnier between 2008 and 2010.
- cinq à sept
- politiquement show
Politiquement show is a political news program broadcast on LCI since 2005. First presented by Michel Field and Patrick Buisson, the show is now headed by Arlette Chabot.
- oui ou non
- 24 heures en questions
24 heures en questions is a news debate program presented by Yves Calvi on LCI. The program was later replaced by *24 heures Pujadas*, l'info en questions.

C.3.5 M6

Political magazines

- 100% mag
100% mag is a daily magazine show broadcast on M6 between 2008 and 2014. The show is first presented by Estelle Denis, then Faustine Bollaert and finally Louis Ekland and is produced by C.Productions and M6.

Investigative journalism TV programs

- Aone interdite
Zone Interdite is a bi-monthly investigative magazine broadcast on M6 since 1993 and produced first by Métropole Production and then by C.Productions. Several presenters have succeeded each other at the head of the show, such as Bernard de La Villardière, Anne-Sophie Lapix, Mélissa Theuriau or Ophélie Meunier.

- Enquete exclusive
Enquête exclusive is a weekly magazine program dealing with political, economic and social issues around the world. The program is broadcast on M6 since 2005, produced by C. Productions and is presented since that same date by Bernard de La Villardière.
- 66 minutes
66 minutes is a weekly news magazine broadcast on M6 since 2005. The show is first presented by Aïda Touihri and then by Xavier de Moulins since 2012 and is produced by C.Productions.
- Capital
Capital is a magazine dealing with economics broadcast on M6 since 1988 and produced by C.Productions. The show was first presented by Emmanuel Chain for 15 years, then by Guy Lagache, Thomas Sotto, François-Xavier Ménage, Bastien Cadeac and today by Julien Courbet.

C.3.6 TF1

Talk shows

- Sans aucun doute (then on TMC)
Sans aucun doute is a magazine aimed at helping viewers with their legal problems broadcast on TF1 then TMC. The show is produced by Quai Sud Télévisions and then by the conceperia and is presented by Julien Courbet except between 2008 and 2009 when he gives up his place to Christophe Moulin.
- Action ou verite
Action ou vérité is a talk show broadcast and produced by TF1 in 2016 presented by Alessandra Sublet.
- “L’hebdo show avec arthur” ⇒ “cinq à sept avec arthur”
L’hebdo show avec Arthur is a talk show broadcast in 2016 on TF1 and produced by Satisfaction and The Television Agency. The show is presented by Arthur and will be replaced by *Cinq à Sept avec Arthur*.

Political magazines

- Au field de la nuit ⇒ au fil de la nuit
Au Field de la nuit is a literature program broadcast on TF1 between 2008 and 2015. Presented by Michel Field and produced by Anne Barrère, the show is then broadcast on NT1 and then LCI.

- Sept à huit
Sept à huit is a weekly magazine show broadcast on TF1 since 2000. The program succeeds 18:20 Dimanche and is first presented by Laurence Ferrari and Thomas Hughes then Anne-Sophie Lapix and Harry Roselmack who took over the presentation since 2008.
- Vol de nuit
Vol de nuit is a literary program broadcast on TF1 between 1999 and 2008. It is presented by Patrick Poivre d'Arvor and succeeds *Ex-Libris* before being replaced by *au Field de la nuit*.
- Les coulisses de l'économie
Les coulisses de l'économie is an economics program presented by Jean-Marc Sylvestre between 2001 and 2008 on TF1.
- Combien ça coûte
Combien ça coûte is a magazine show that deals with different ways to save money. The show is broadcast on TF1; presented by Jean-Pierre Penaut and Justine Fraioli and produced by Christophe Dechavanne.
- 19h live
19h live is a daily entertainment show broadcast in July 2016 on TF1. The show is presented by Nikos Aliagas and is produced by Emmanuel Chain and Thierry Bizot.
- Bureau politique
- Parole directe
Parole directe is a political magazine broadcast on TF1 between May 2011 and April 2012. Presented by Laurence Ferrari or Claire Chazal, the program succeeds *Face à la Une* and is replaced by *Vie politique*.
- Face à la une
Face à la Une is a magazine interview and political debate broadcast on TF1 between 1995 and 2007. The program is presented by Patrick Poivre d'Arvor or Claire Chazal and will be replaced by *Parole Directe*.
- Haute definition
- Vie politique
Vie politique is an occasional political program broadcast on TF1 since 2016. The show is presented by Gilles Bouleau.

Investigative journalism TV programs

- 50mn inside

50 minutes inside is a people magazine broadcast on TF1 since 2006. The show is presented by Sandrine Quétier and Nikos Aliagas and is produced by Eric Hannezo and Thomas Chagnaud.

- Le droit de savoir

Le droit de savoir is an investigative magazine broadcast on TF1 and produced by PIXIT then TAP Production. Presented by Patrick Poivre d'Arvor from 1990 then by Charles Villeneuve dès 1994, the program was replaced by *Enquête et révélations* in 2008.

- Enquêtes et révélations

Enquêtes et révélations is a news magazine broadcast on TF1 presented by Magali Lunel. The program is produced by Eric Hannezo and Jacques Aragones and broadcast between 2008 and 2012.

- Harry Roselmack en immersion

Harry Roselmack en immersion is a news magazine presented by Harry Roselmack inspired by *the BBC Louis Theroux's BBC two specials*. The program is broadcast on TF1 between 2009 and 2015 and is produced by Jacques Aragones and Jean Louis Blot.

C.3.7 TMC

Talk shows

- Quotidien

Quotidien is a talk show broadcast since September 2016 on the channel TMC. It is presented by Yann Barthès. Before, Yann Barthès was presenting *Le Petit Journal* on Canal+ (2004-2016); Barthès was replaced as presenter of *Le Petit Journal* by Cyrille Eldin. *Quotidien* is produced by Yann Barthès and Laurent Bon and the production company Bangumi.

- Tout nouveau tout show

Tout Nouveau Tout Show is a talk show about a guest presented by Christophe Ruault from 2003 to 2004 on TMC.

Political magazines

- 30' pour le dire

15 minutes pour le dire is a political program presented by Claude Bellei and broadcast on TMC between 2003 and 2004.

- courbet sans aucun doute

Investigative journalism TV programs

- 90' enquetes

90' enquêtes is a news magazine broadcast on TMC since 2007. The show is produced by TF1 Production and presented by Tatiana Silva after being presented by Carole Rousseau.

- Martin weill

Martin Weill is a magazine of reports broadcast on TMC since 2018 by the journalist of the same name. The show is produced the company Bangumi.

C.4 Public radio broadcasters

C.4.1 France Culture

- Les nouveaux chemins de la connaissance
- Les chemins de la philosophie

C.5 Private radio broadcasters

C.5.1 RMC

News

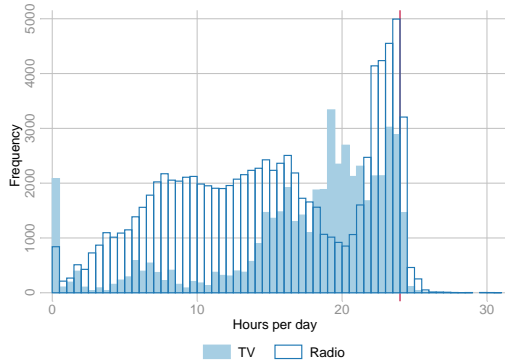
- l'invite de jean jacques bourdin
- rmc info matin 07h00 à 10h00
- rmc info et vous
- bourdin and co
- rmc premiere 5 heures
- bourdin direct

C.5.2 BFM Radio

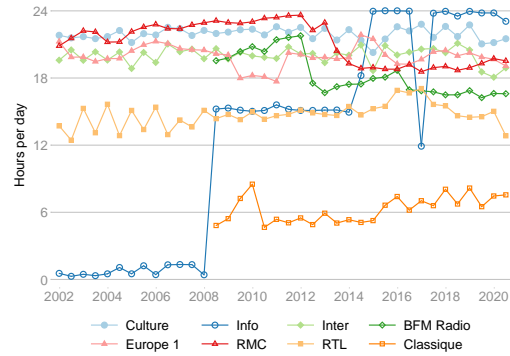
News

- good morning business

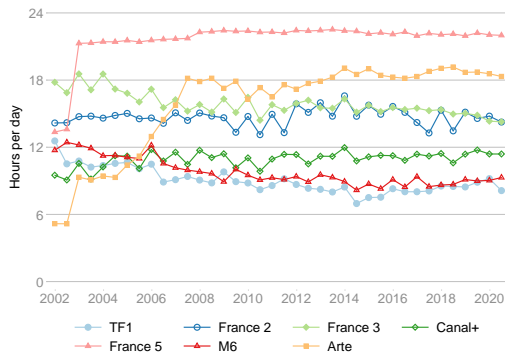
D Additional figures



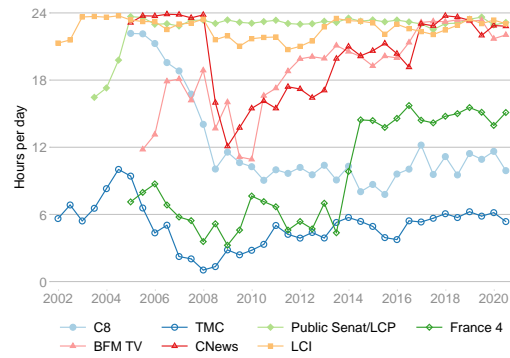
(a) Distribution of daily data coverage (hours)



(b) Average daily coverage - Radio stations



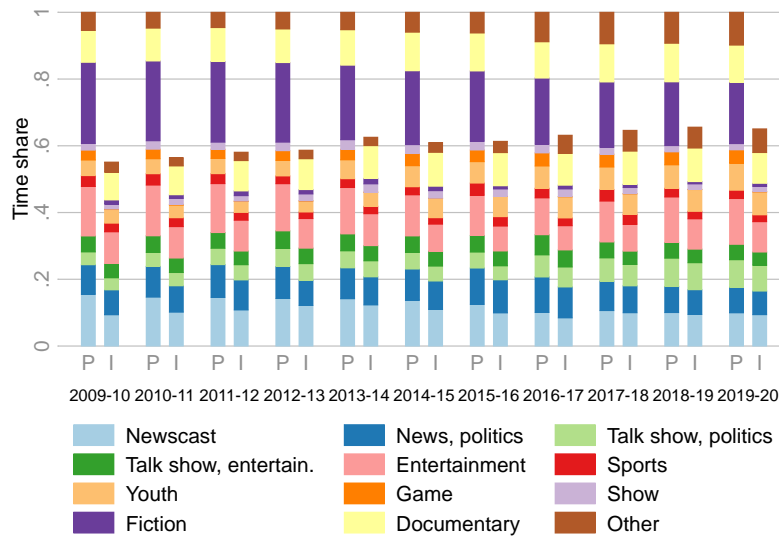
(c) Average daily coverage - Historical TV channels



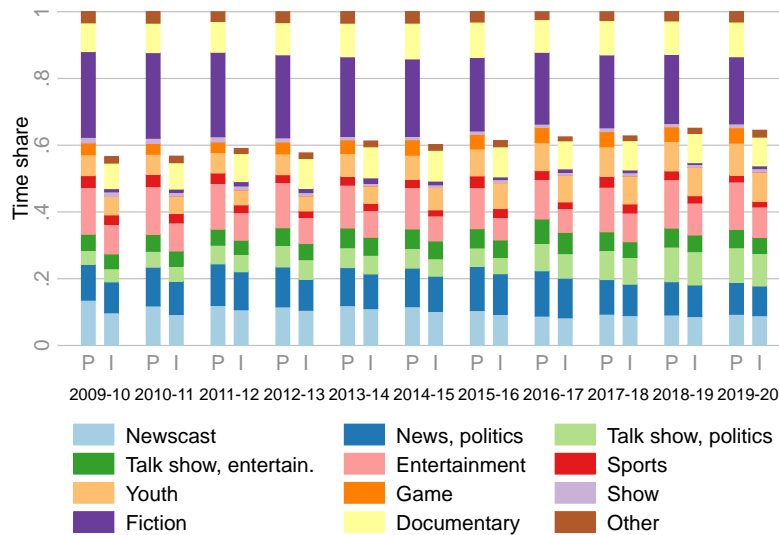
(d) Average daily coverage - Other TV channels

Notes: The descriptive statistics are produced using INA data for television channels and radio stations, from 2002 to 2020. Panel (a) shows the distribution of the daily coverage in hours. The number of hours sometimes exceeds 24 due to shows ending after midnight. Panel (b), (c) and (d) depict the yearly average of the data coverage in hours per day for each radio station (b) and television channel (c and d).

Figure 3: Data coverage of television and radio shows



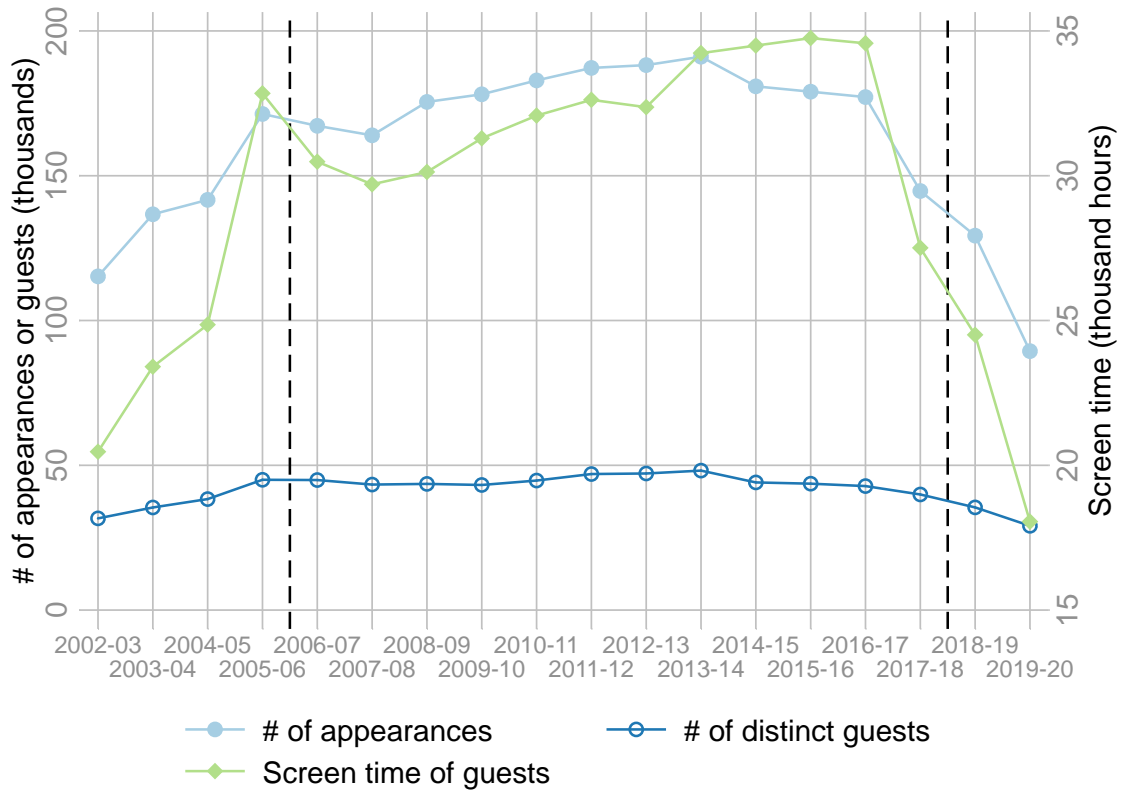
(a) All programs



(b) Excluding programs starting between 11pm and 5am

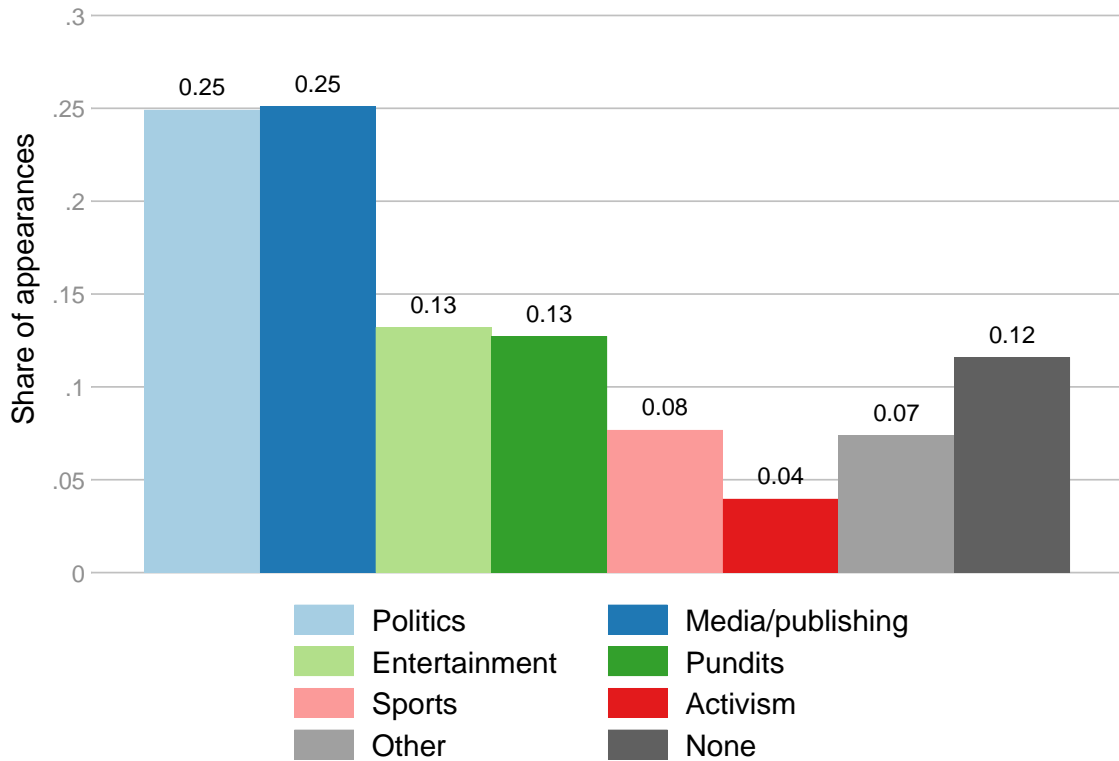
Notes: “P” refers to Plurimedia data, and “I” refers to INA data. The vertical bars show the breakdown of programs by type for the 14 channels in our sample. Bars denoted “P” depict the time dedicated to programs of each category, divided by the total screen time in the considered semesters as documented in Plurimedia data. Bars denoted “I” depict the time dedicated to programs of each category in INA data, divided by the total screen time in the corresponding categories in Plurimedia data. Shorter “I” bars reflect that some shows are not documented in INA data.

Figure 4: Data coverage comparison between Plurimedia data and INA data



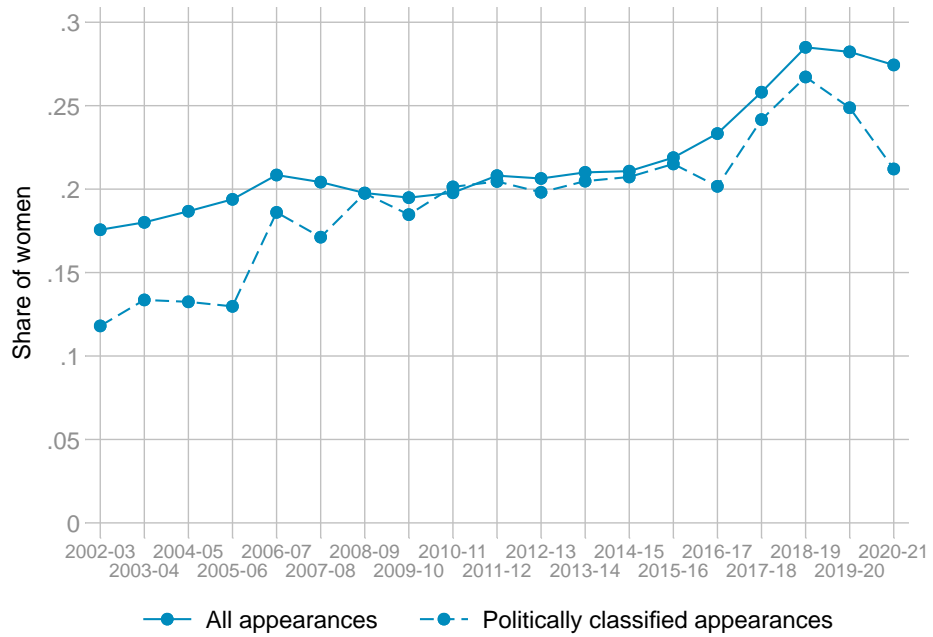
Notes: The figure depicts the number of appearances, the number of distinct guests (left axis), and the total screen time of guests by seasons (right axis). The sample include the 22 television and radio stations of our sample.

Figure 5: Number of appearances, number of guests, and screen time of guests, per season



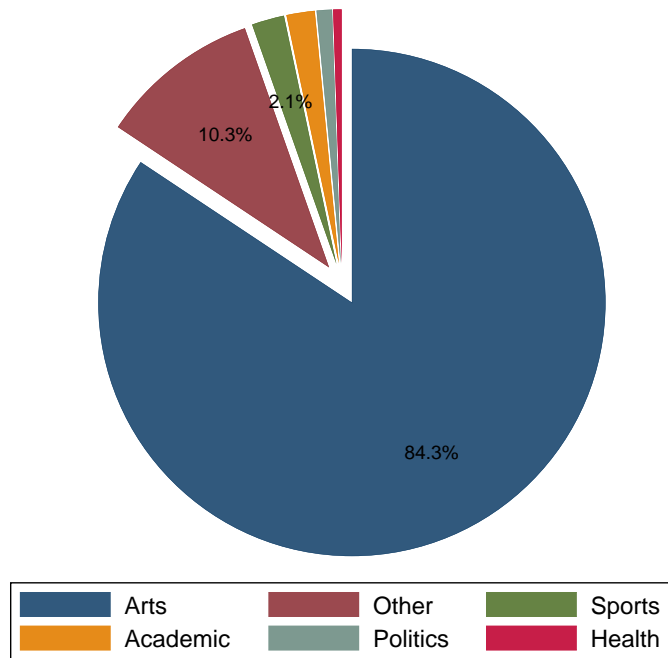
Notes: The figure plots the profession of the invited guests a a share of the appearances. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business.

Figure 6: Guests of the shows: Profession



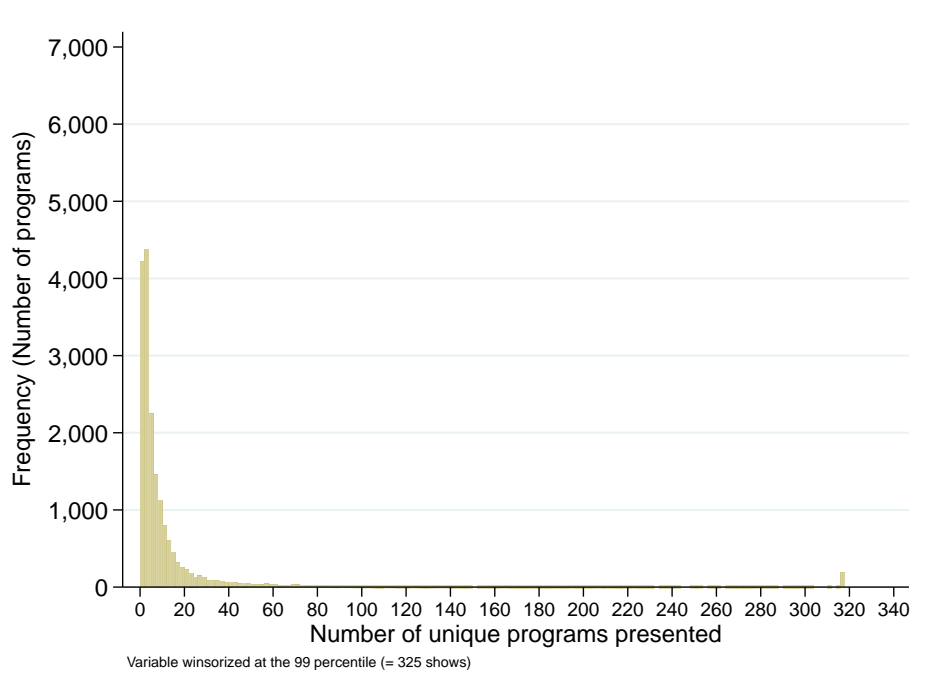
Notes: The figure plots share of guest appearances who are marked as women in INA data.

Figure 7: Profession of the non journalist hosting shows (2002-2020), as a share of the total number of appearances



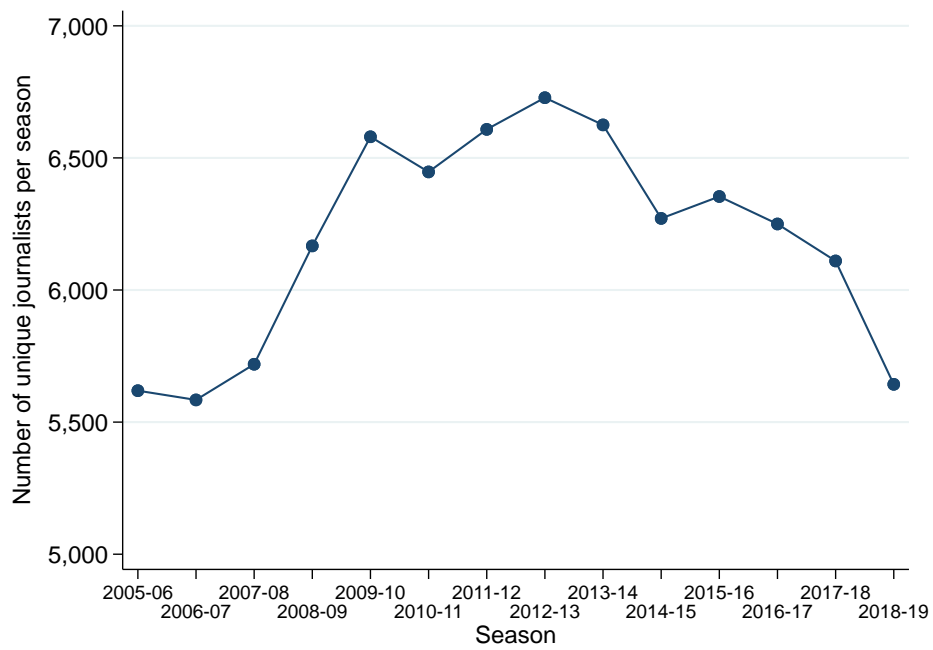
Notes: The Figure plots the distribution of the profession of the non journalist hosting shows, as a share of the total number of appearances. The time period is 2002-2020.

Figure 8: Profession of the non journalist hosting shows (2002-2020), as a share of the total number of appearances



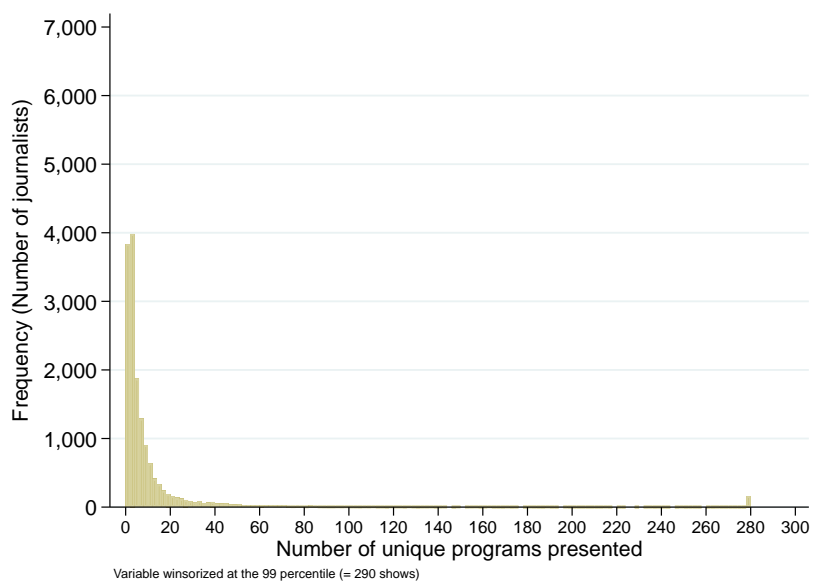
Notes: The Figure plots the number of unique shows each journalist/presenter hosts during our time period (2002-2020), with bins equal to 2. The number of programs variable is winsorized at the 99th percentile (325) programs.

Figure 9: Number of unique programs each journalist hosts (2002-2020)



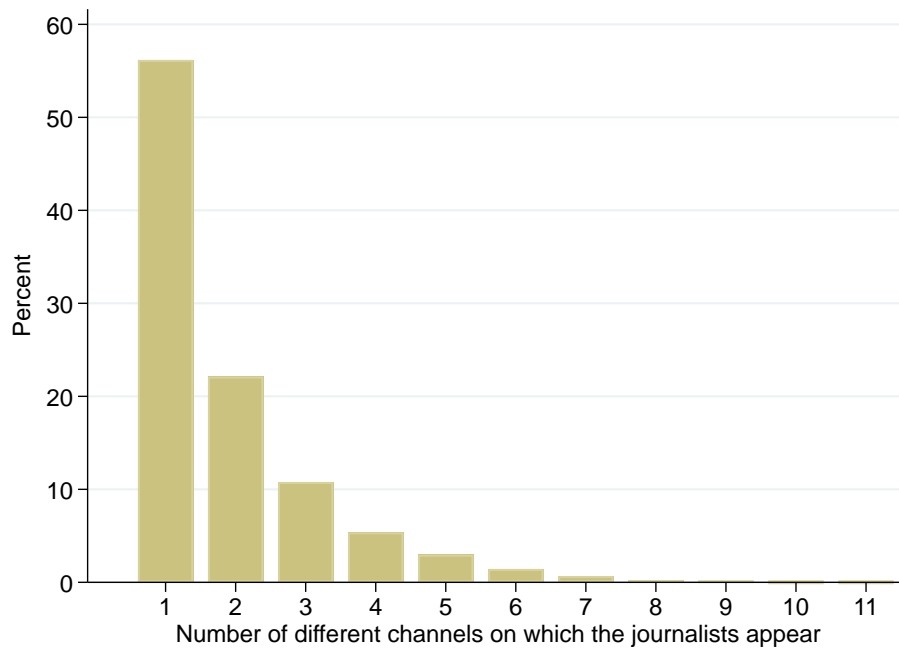
Notes: The Figure plots the number of unique journalists/presenters per season. Time period is September 2005 - August 2019.

Figure 10: Number of unique journalists per season



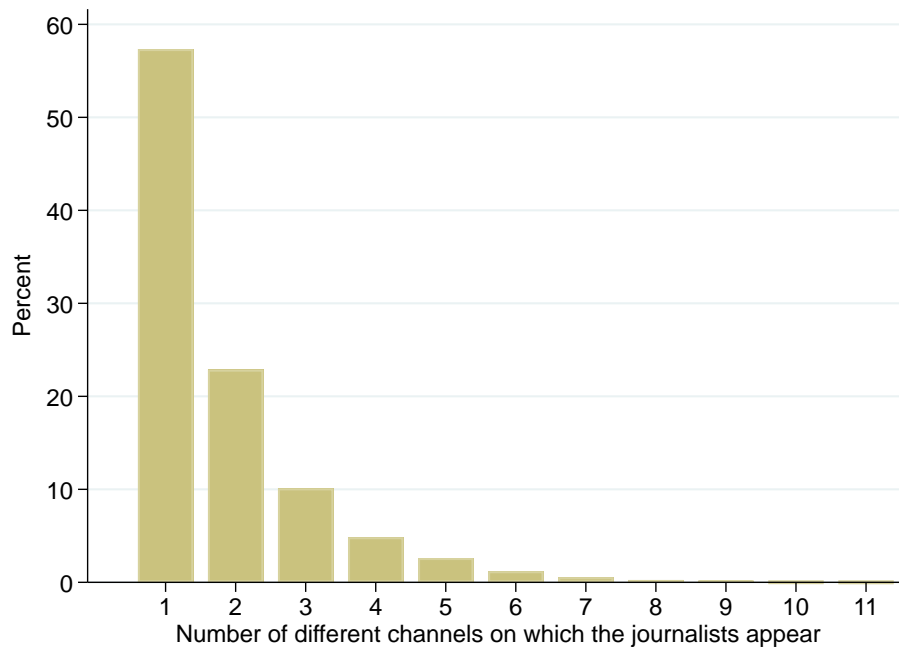
Notes: The Figure plots the number of unique shows each journalist/presenter hosts during the sub-period 2006-2018, with bins equal to 2. The number of programs variable is winsorized at the 99th percentile (325) programs.

Figure 11: Number of unique programs each journalist hosts (2006-2018)



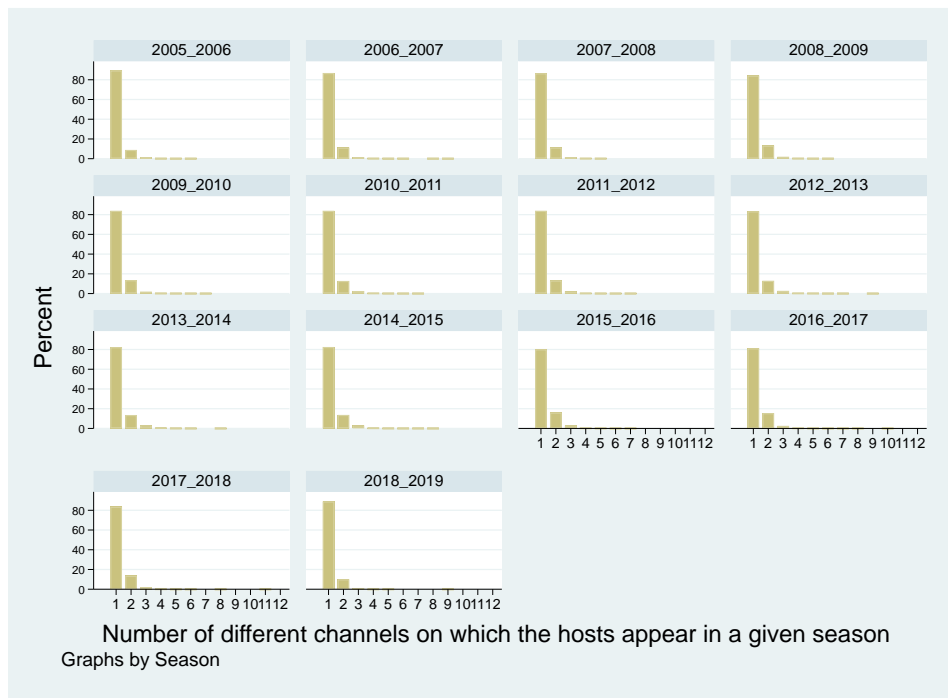
Notes: The Figure reports the distribution of the number of journalists depending on the number of different channels on which they appear between 2006 and 2018.

Figure 12: Number of different channels on which the hosts appear (2006-2018)



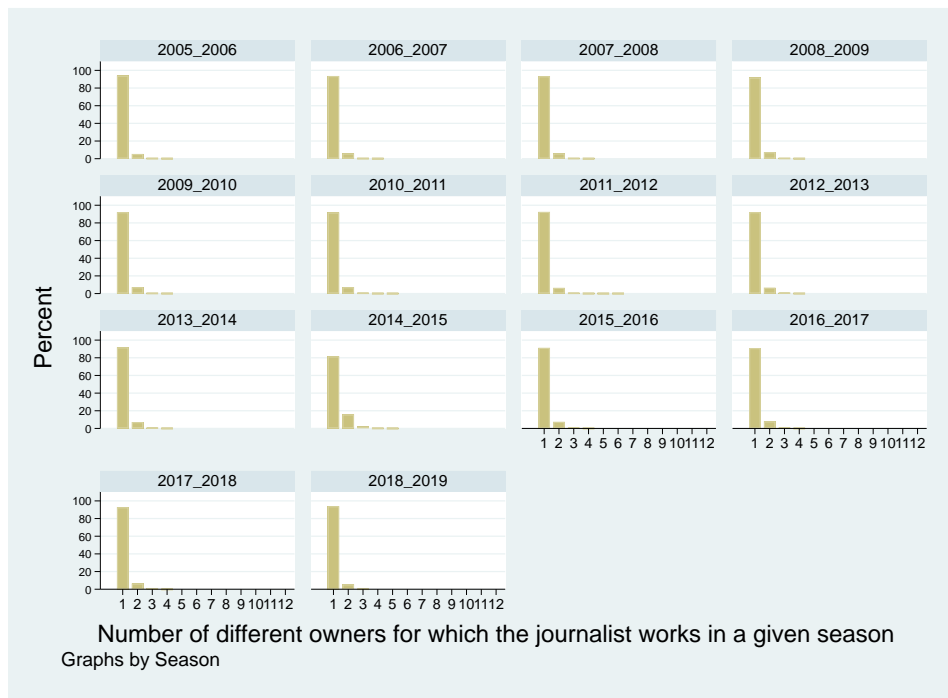
Notes: The Figure reports the distribution of the number of journalists depending on the number of different channels on which they appear between 2002 and 2020.

Figure 13: Number of different channels on which the journalists appear (2002-2020)



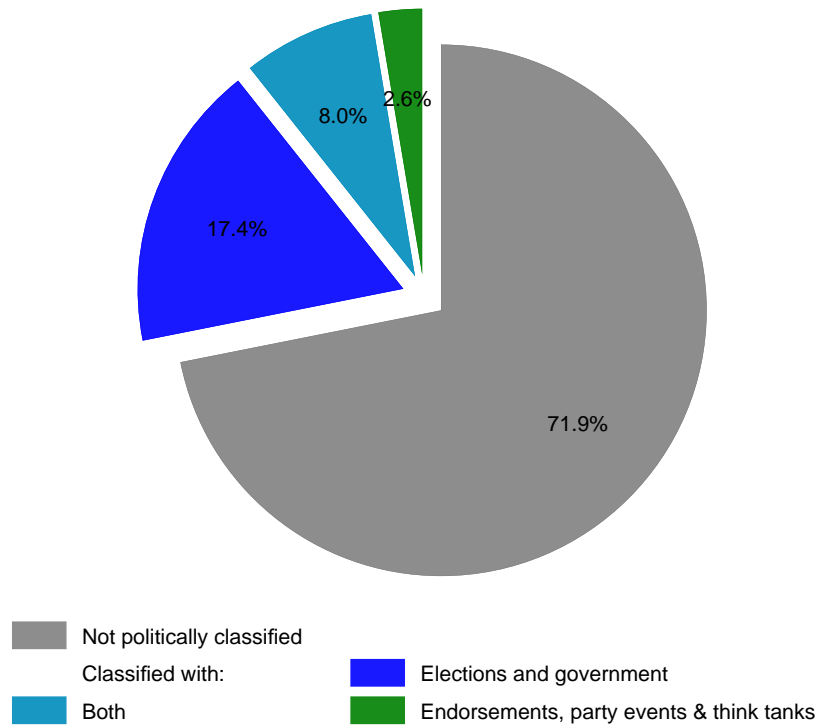
Notes: The Figure reports the distribution of the number of journalists depending on the number of different channels on which they appear in a given season. Time period is September 2005 - August 2019.

Figure 14: Number of different channels on which the journalists appear in a given season



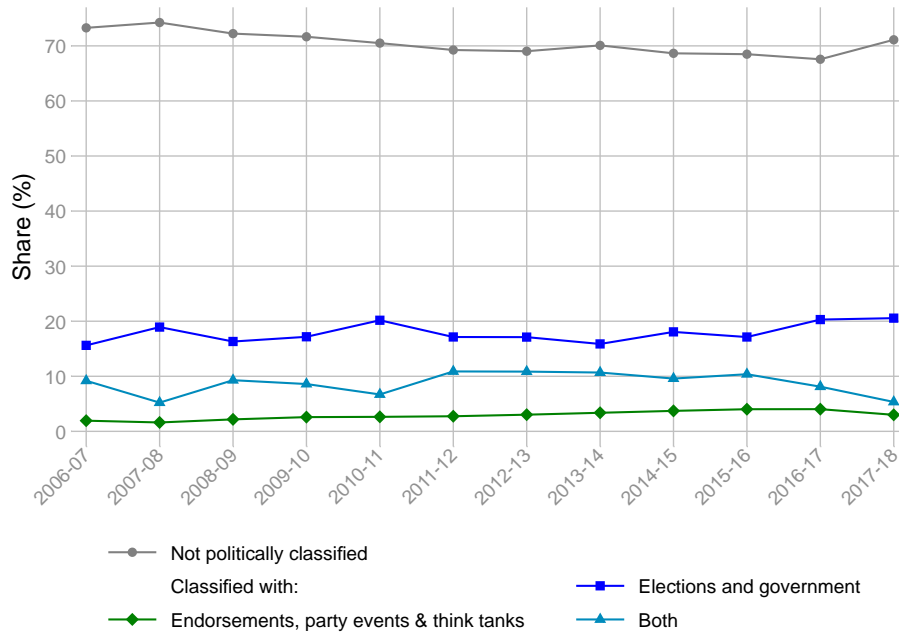
Notes: The Figure reports the distribution of the number of journalists depending on the number owners for which they work in a given season. Time period is September 2005 - August 2019.

Figure 15: Number of different owners for which the journalists work in a given season



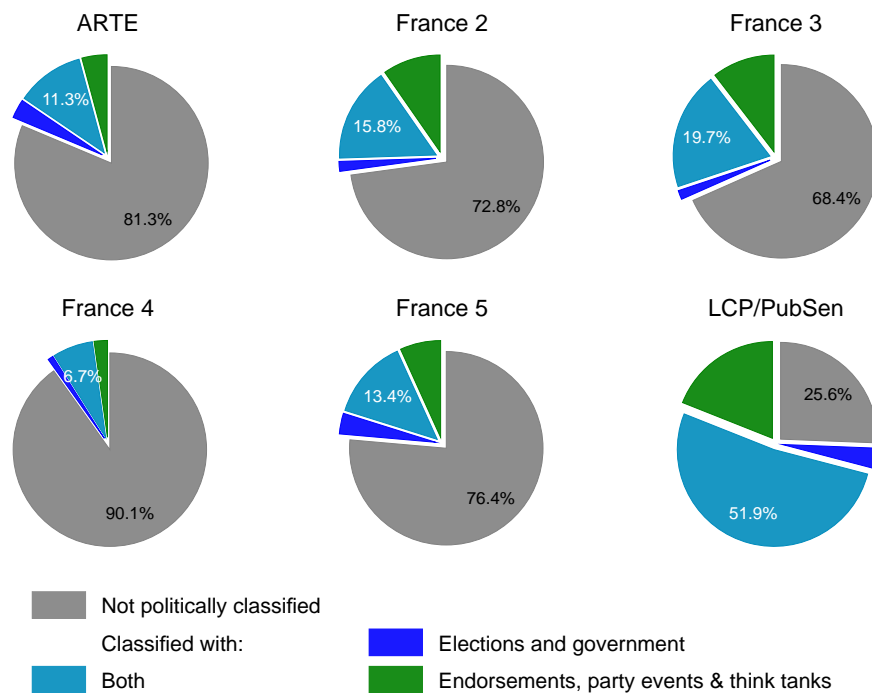
Notes: The Figure depicts the share of appearances of guests that fall in a political category. Among those who are classified, some are classified with direct evidence of political engagements: they were candidates in elections with a party label or were part of a government (dark blue). Others are classified using more indirect signs of political involvement: candidate endorsements in the first round of presidential elections, participation in party events, or contribution to think tanks (green). For some guests, we have both direct and indirect signs of political engagements (light blue), in which case we prioritize direct evidence of political involvement. See the text for more details.

Figure 16: Political classification of the guests, 2002-2020



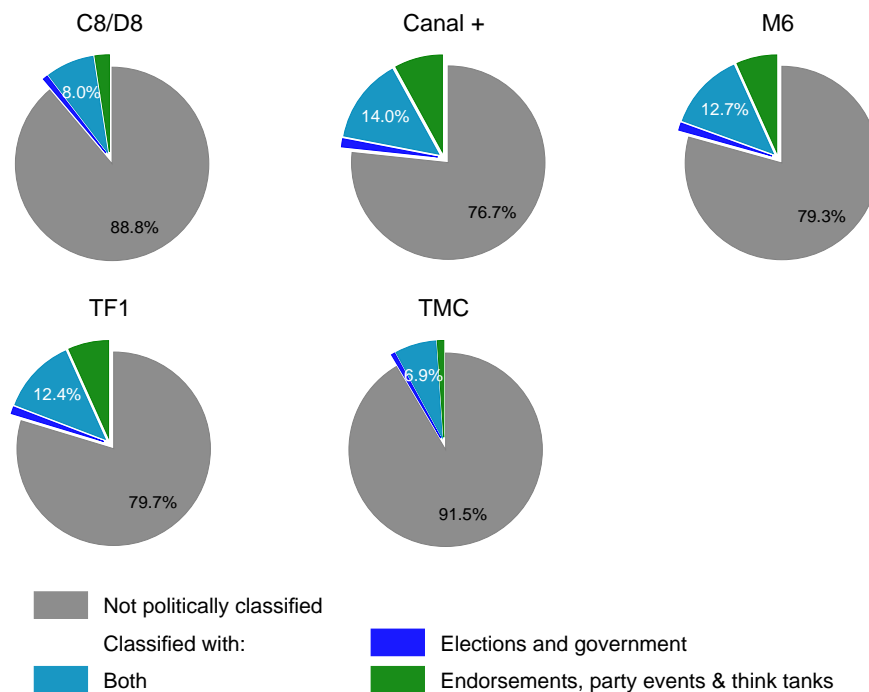
Notes: This figures plots the speaking time share of guests who are politically classified and not politically over time. Among those who are classified, some are classified with direct evidence of political engagements: they were candidates in elections with a party label, or were part of a government (dark blue). Others are classified using more indirect signs of political involvement: candidate endorsements in the first round of presidential elections, participation in party events, or contribution to think tanks (green). For some guests, we have both direct and indirect signs of political engagements (light blue), in which case we prioritize direct evidence of political involvement.

Figure 17: Appearances of guests: Evolution over time **Figure importante – a refaire proprement**



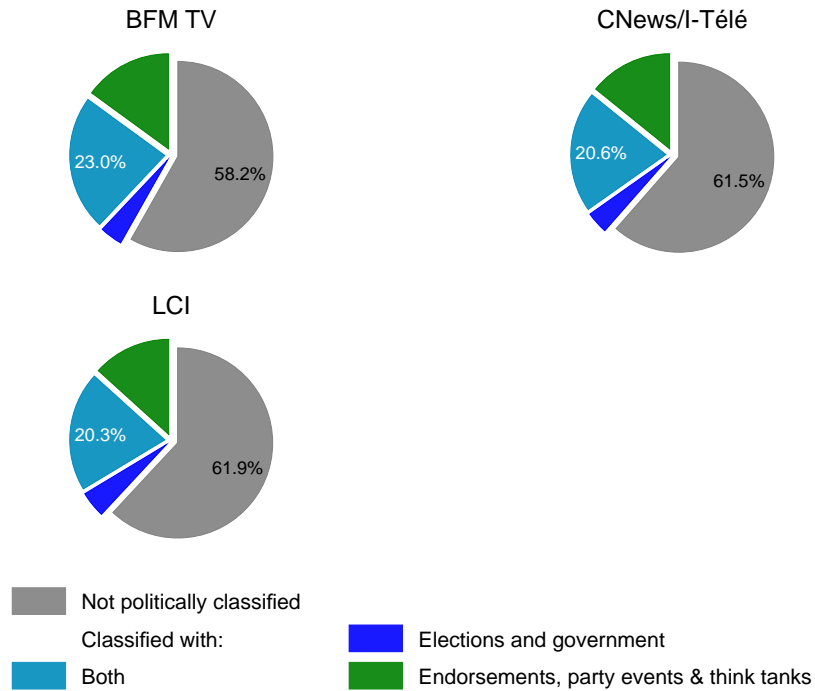
Notes: The Figure depicts the share of appearances of guests that fall in a political category. Among those who are classified, some are classified with direct evidence of political engagements: they were candidates in elections with a party label, or were part of a government (dark blue). Others are classified using more indirect signs of political involvement: candidate endorsements in the first round of presidential elections, participation in party events, or contribution to think tanks (green). For some guests, we have both direct and indirect signs of political engagements (light blue), in which case we prioritize direct evidence of political involvement.

Figure 18: Appearances of guests: Depending on the channels – Public TV channels, 2002-2020



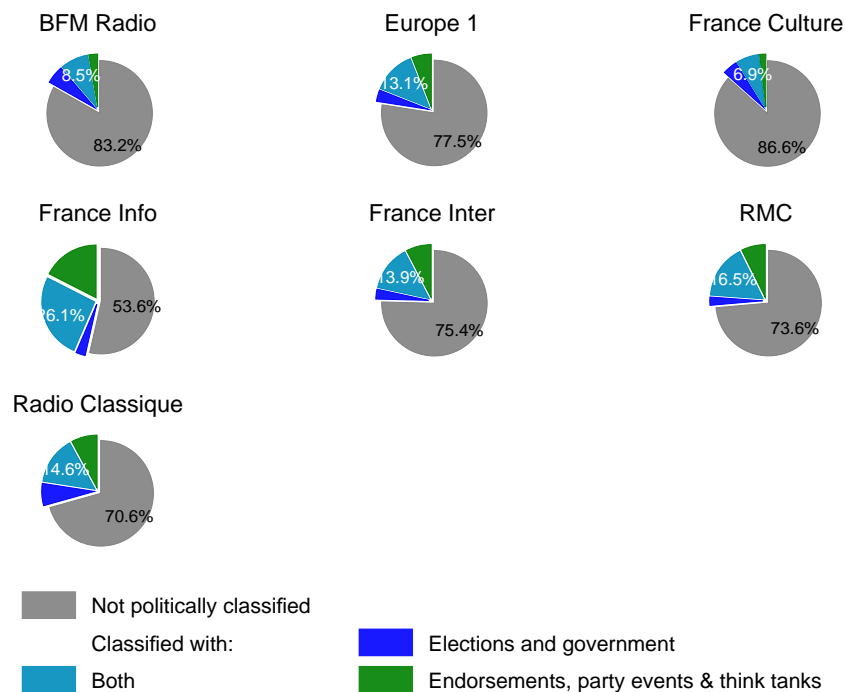
Notes: The Figure depicts the share of appearances of guests that fall in a political category. Among those who are classified, some are classified with direct evidence of political engagements: they were candidates in elections with a party label, or were part of a government (dark blue). Others are classified using more indirect signs of political involvement: candidate endorsements in the first round of presidential elections, participation in party events, or contribution to think tanks (green). For some guests, we have both direct and indirect signs of political engagements (light blue), in which case we prioritize direct evidence of political involvement.

Figure 19: Appearances of guests: Depending on the channels – Private TV generalist channels



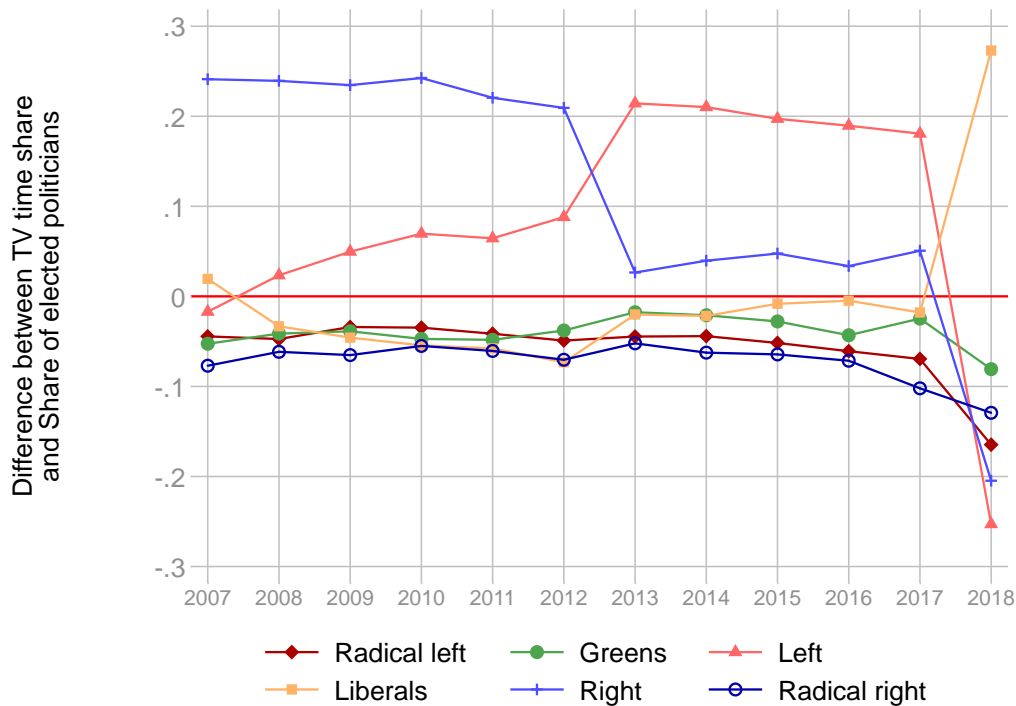
Notes: The Figure depicts the share of appearances of guests that fall in a political category. Among those who are classified, some are classified with direct evidence of political engagements: they were candidates in elections with a party label, or were part of a government (dark blue). Others are classified using more indirect signs of political involvement: candidate endorsements in the first round of presidential elections, participation in party events, or contribution to think tanks (green). For some guests, we have both direct and indirect signs of political engagements (light blue), in which case we prioritize direct evidence of political involvement.

Figure 20: Appearances of guests: Depending on the channels – Private TV news channels, 2002-2020



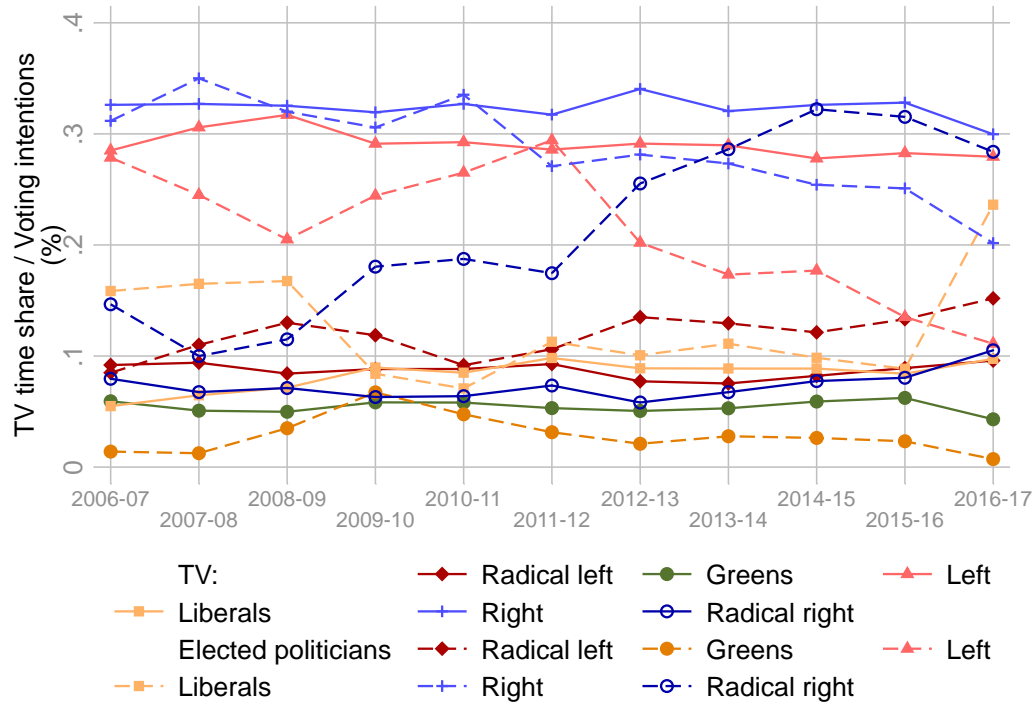
Notes: The Figure depicts the share of appearances of guests that fall in a political category. Among those who are classified, some are classified with direct evidence of political engagements: they were candidates in elections with a party label, or were part of a government (dark blue). Others are classified using more indirect signs of political involvement: candidate endorsements in the first round of presidential elections, participation in party events, or contribution to think tanks (green). For some guests, we have both direct and indirect signs of political engagements (light blue), in which case we prioritize direct evidence of political involvement.

Figure 21: Appearances of guests: Depending on the channels – Radio, 2002-2020



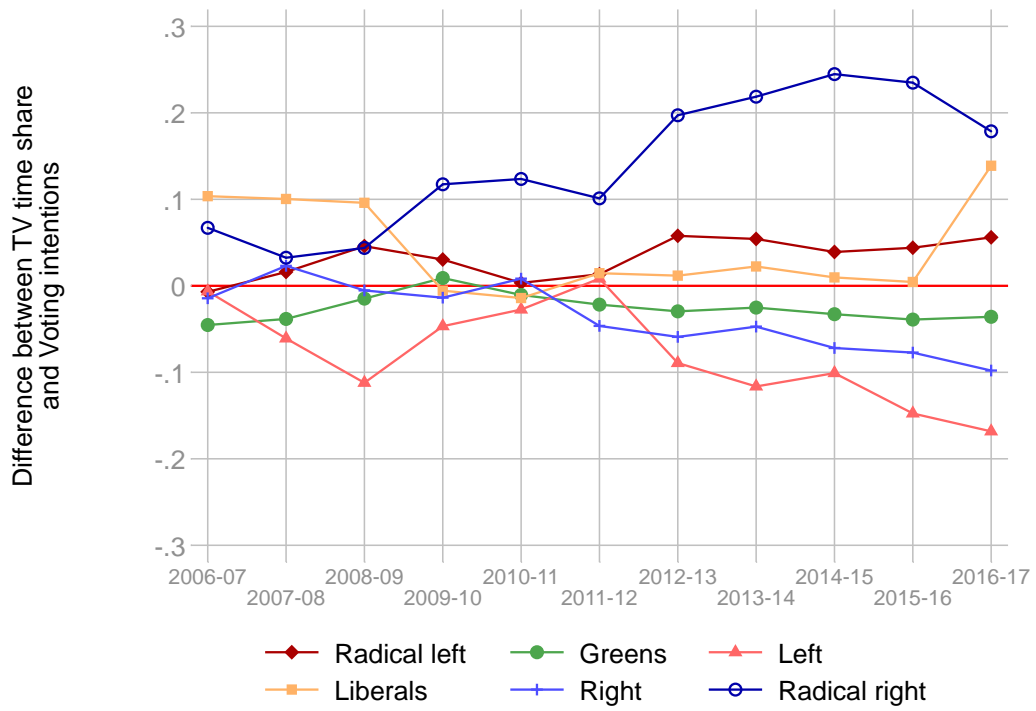
Notes: The figure plots the difference (in percentage points) between the speaking time share devoted to each political family (as reported in Figure 4d) and the share of elected politicians (MPs + senators) represented by each political family. When the difference is positive, it means that, in relative terms, the political family is overrepresented in the media compared to its political importance; when the difference is negative, it means that it is under-represented. The data covers the time period ranging from September 1st 2006 to August 31st 2018. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Tél é/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, RTL, RMC, Europe 1, Radio Classique, and BFM Business.

Figure 22: Difference between the media coverage and the share of elected politicians, depending on the years



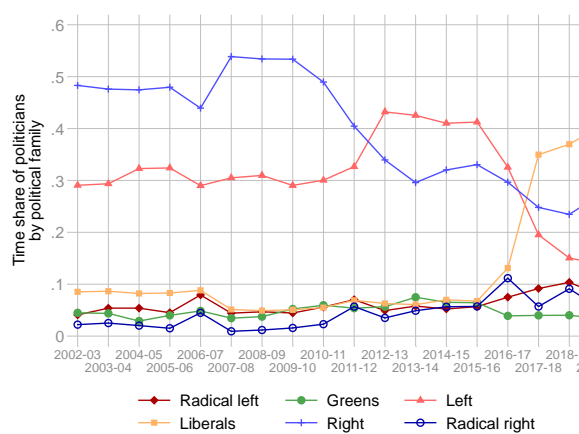
Notes: The figure plots the in percentage points the speaking time share devoted to each political family (as reported in Figure 4d) and the voting intentions from polls for each political family. The data covers the time period ranging from September 1st 2006 to August 31st 2018. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Tél é/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, RTL, RMC, Europe 1, Radio Classique, and BFM Business.

Figure 23: Television speaking time share by political family (solid lines) and voting intentions (dashed lines)

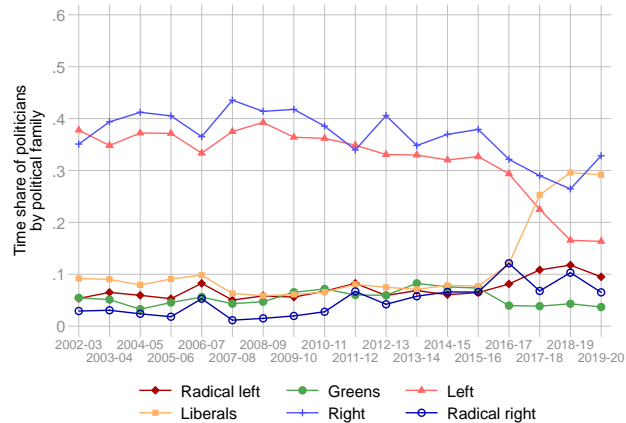


Notes: When the difference is positive, in relative terms, the political family is overrepresented; when the difference is negative, it is under-represented. Polls legislative elections

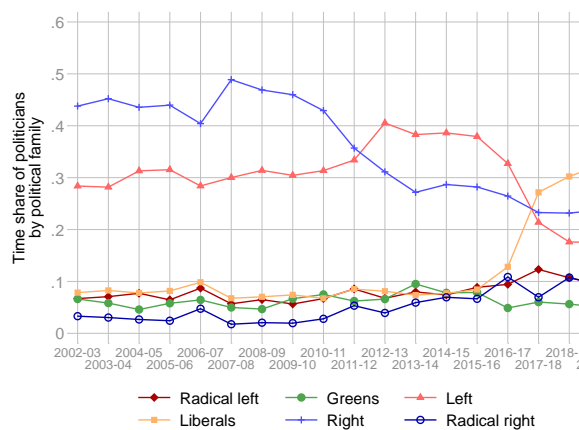
Figure 24: Difference between TV and polls, by season



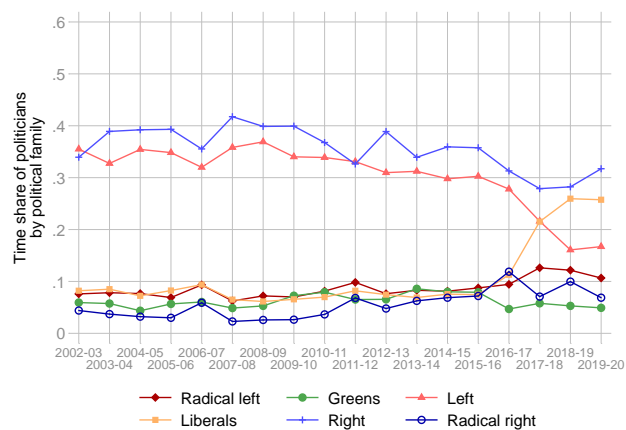
(a) Only politicians – All time periods



(b) Only politicians – Dropping mandatory speaking time for government



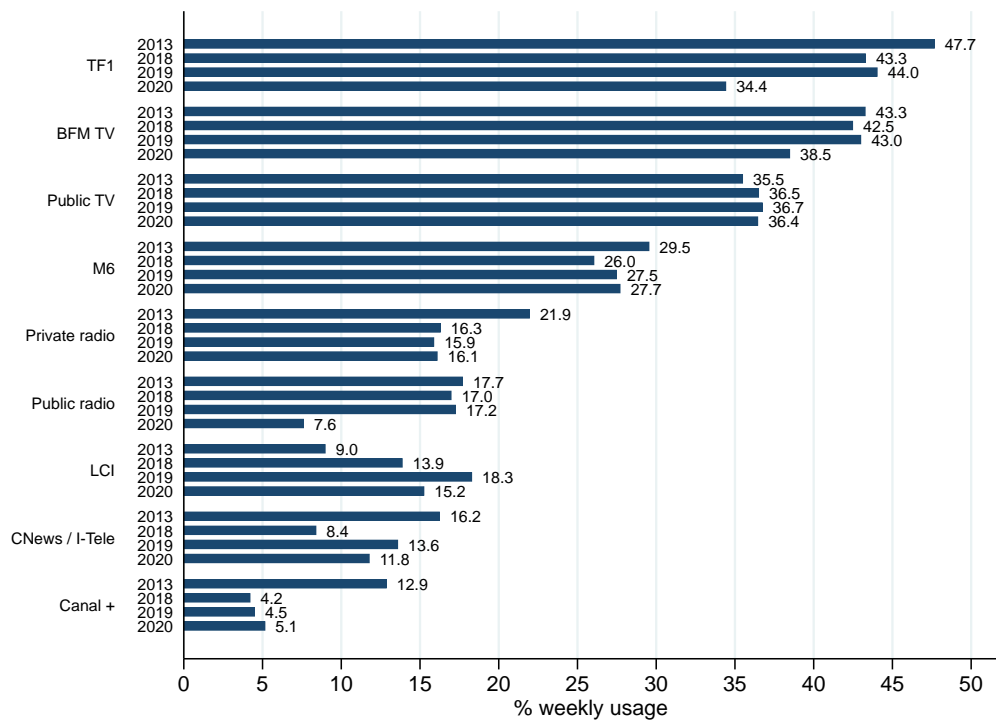
(c) All politically-classified guests – All time periods



(d) All politically-classified guests – Dropping mandatory speaking time for government

Notes: The data covers the time period ranging from September 1st 2006 to August 31st 2008. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Tél é/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, RTL, RMC, Europe 1, Radio Classique, and BFM Business. Speaking time is aggregated at the season level, that is from September 1st to June 30th.

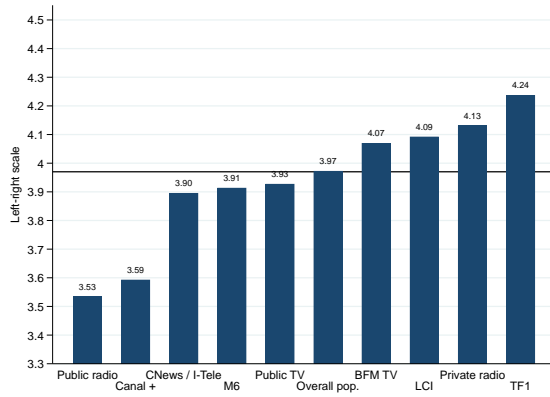
Figure 25: Evolution of the speaking time of the guests, depending on their political affiliation – Weighting the speaking time share by the average audience of the time slot



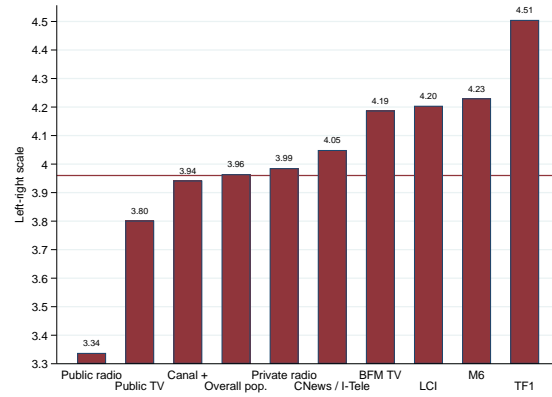
Notes: The Figure reports the share of surveyed individuals who report they have used the media to access news. The data come from the Reuters Institute's *Digital News Report* and is described in details in the text. The drop in 2020 for the public radio is linked to the strike that took place at Radio France (public radio) from November 2019 to February 2020, the longest strike in the radio history.

Figure 26: Share of surveyed individuals who report they have used the media to access news

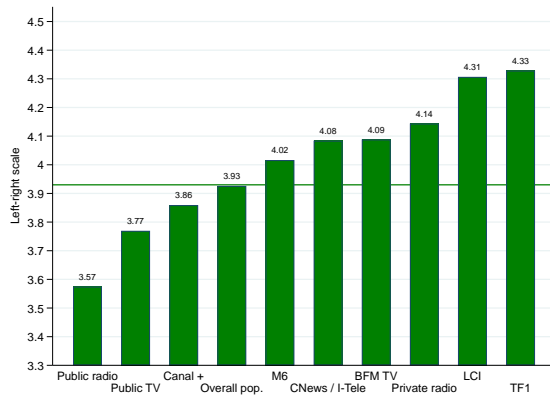
(a) 2013



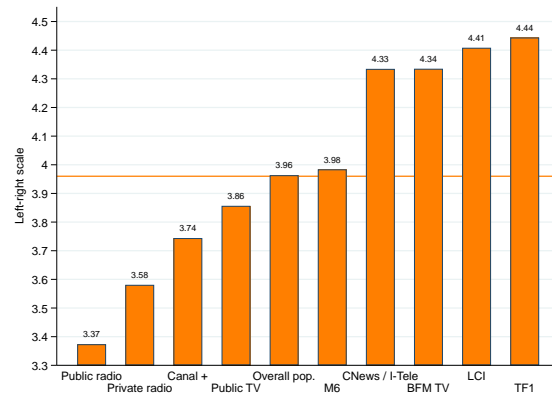
(b) 2018



(c) 2019

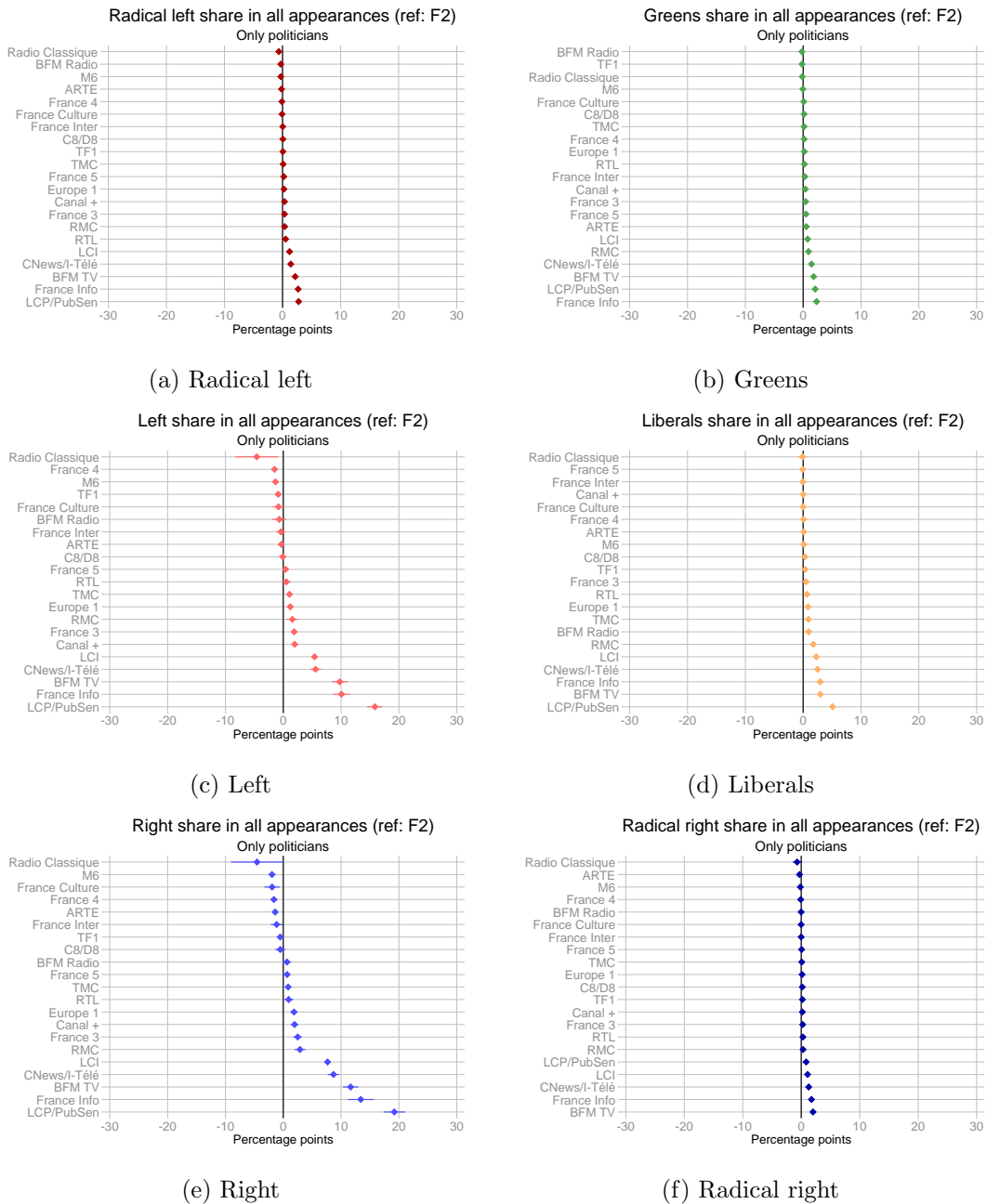


(d) 2020



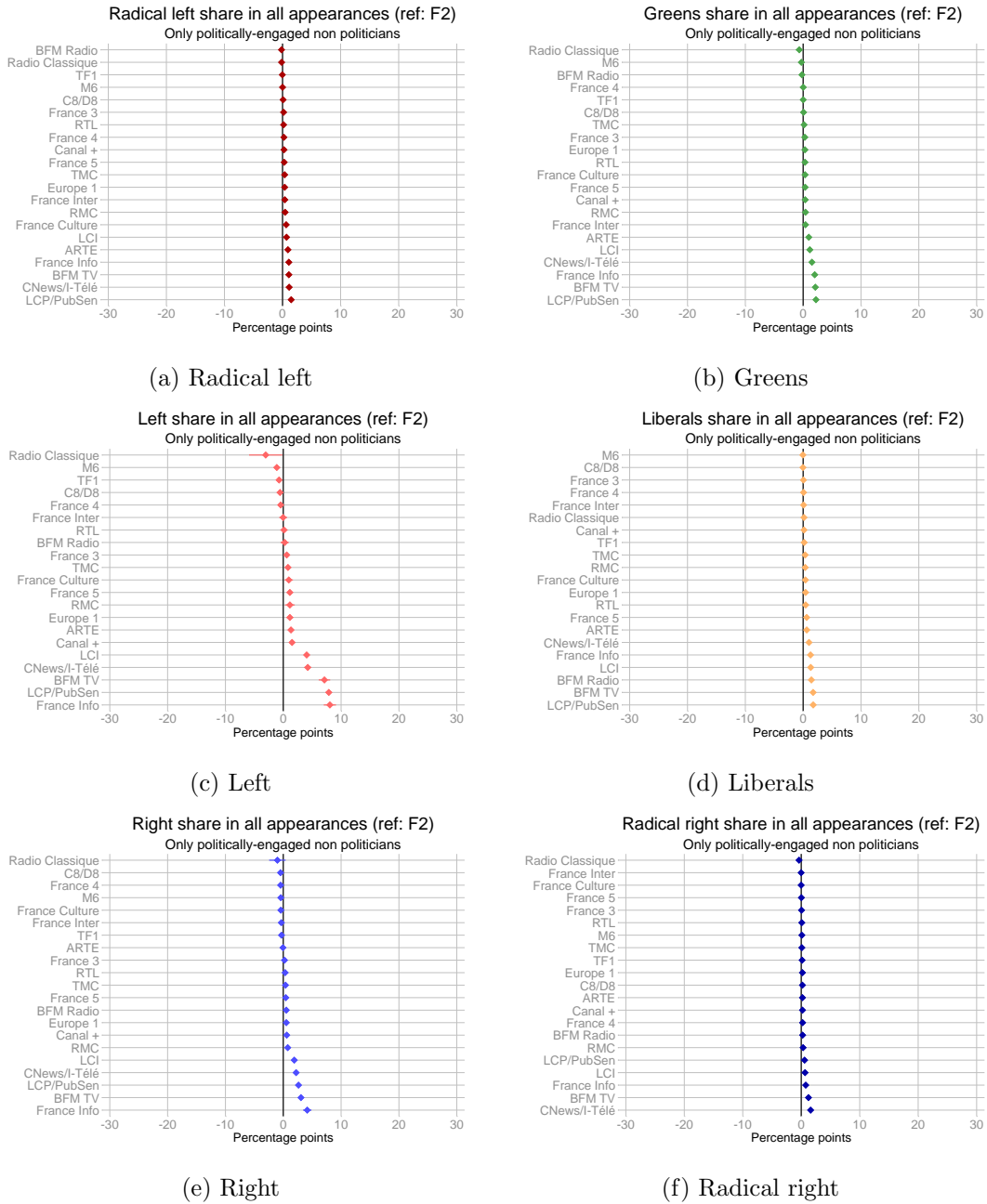
Notes: The Figure plots the average political preferences of the audience of the different television channels / radio stations in our data. The data come from the Reuters Institute's *Digital News Report* and is described in details in the text.

Figure 27: Political preferences of the audience



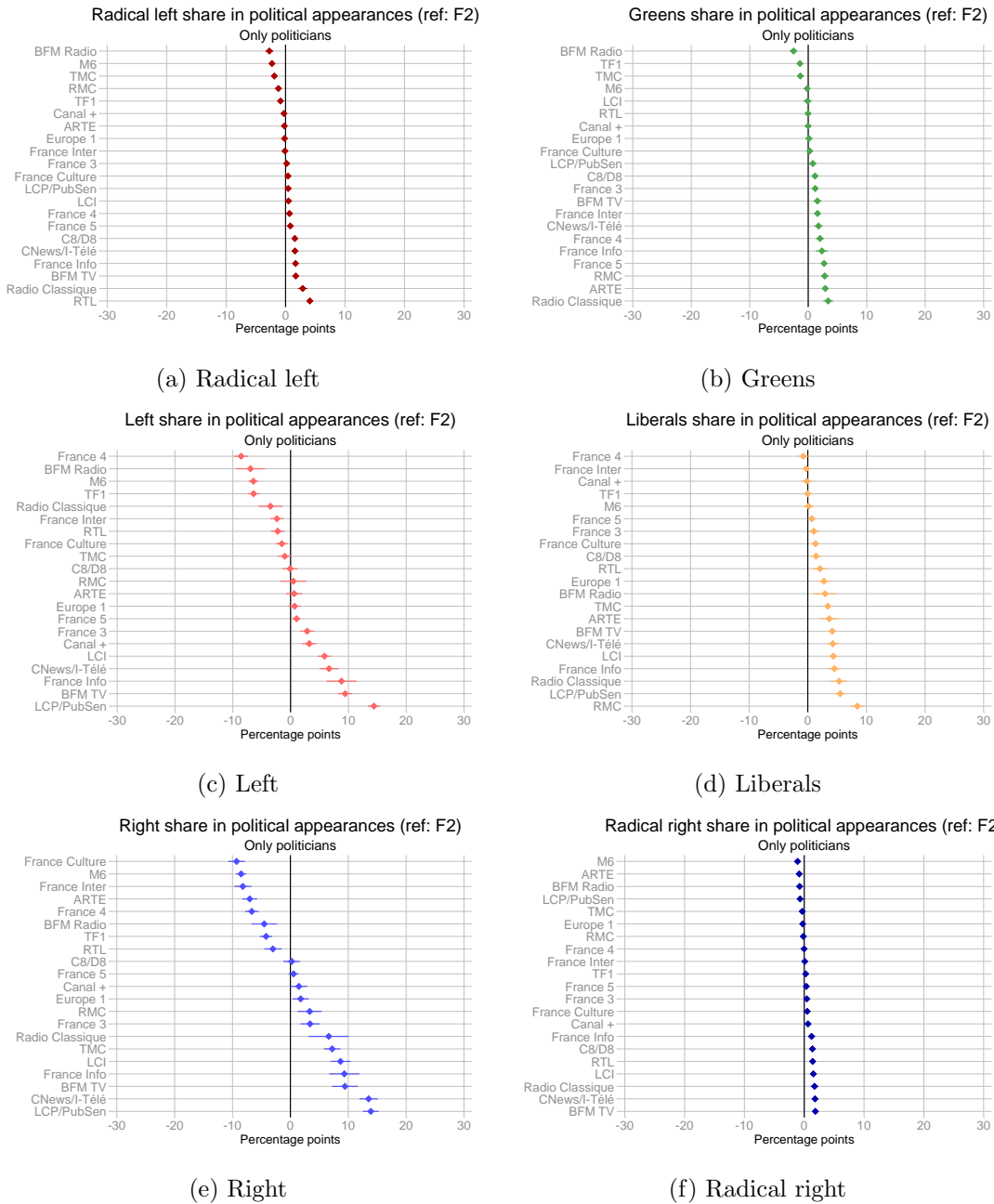
Notes: each sub-figure plots the channel fixed effects obtained when estimating the following model: political slant_{s,c,t} = X_sβ + γ_c + θ_t + ε_{s,c,t} (see the text for details). In Figure 28a, political slant_{s,c,t} is the speaking time share of the radical left, the one of the greens in Figure 28b, the left in Figure 28c, the liberals in Figure 28d, the right in Figure 28e, and the radical right in Figure 28f. Channels are sorted according to these estimates. Speaking time shares calculated in appearances of guests among all the guests, and only the politicians are classified as politically involved (the PENOPs are excluded). The omitted channel (reference point) is France 2. The data covers the time period ranging from January 1st 2002 to December 31st 2020.

Figure 28: Channel-level slant – Speaking time shares calculated in appearances of guests among all the guests (only politicians), 2002-2020



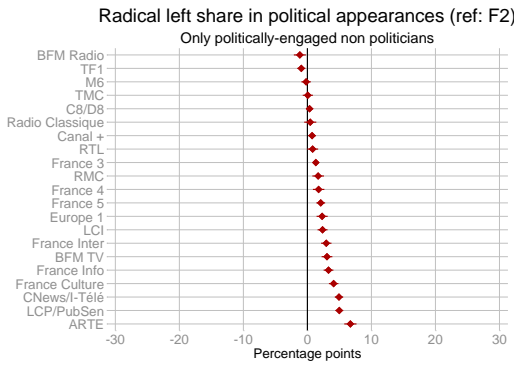
Notes: each sub-figure plots the channel fixed effects obtained when estimating the following model: political slant_{s,c,t} = X_sβ + γ_c + θ_t + ε_{s,c,t} (see the text for details). In Figure 29a, political slant_{s,c,t} is the speaking time share of the radical left, the one of the greens in Figure 29b, the left in Figure 29c, the liberals in Figure 29d, the right in Figure 29e, and the radical right in Figure 29f. Channels are sorted according to these estimates. Speaking time shares calculated in appearances of guests among all the guests, and only the PENOPs are classified as politically involved (the politicians are excluded). The omitted channel (reference point) is France 2. The data covers the time period ranging from January 1st 2002 to December 31st 2020.

Figure 29: Channel-level slant – Speaking time shares calculated in appearances of guests among all the guests (only PENOPs), 2002-2020

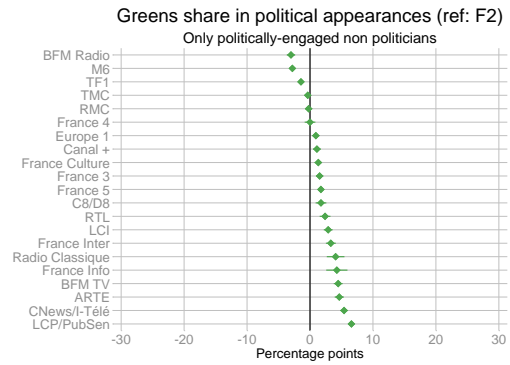


Notes: each sub-figure plots the channel fixed effects obtained when estimating the following model: political slant_{s,c,t} = X_sβ + γ_c + θ_t + ε_{s,c,t} (see the text for details). In Figure 30a, political slant_{s,c,t} is the speaking time share of the radical left, the one of the greens in Figure 30b, the left in Figure 30c, the liberals in Figure 30d, the right in Figure 30e and the radical right in Figure 30f. Channels are sorted according to these estimates. Speaking time shares calculated in appearances of politically-classified guests, and only the politicians are included. The omitted channel (reference point) is France 2. The data covers the time period ranging from January 1st 2002 to December 31st 2020.

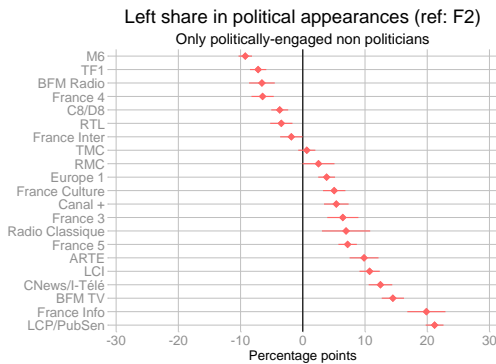
Figure 30: Channel-level slant – Speaking time shares calculated in appearances of politically-classified guests (including only the politicians), 2002-2020



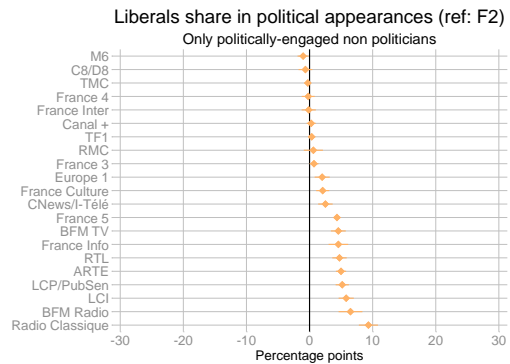
(a) Radical left



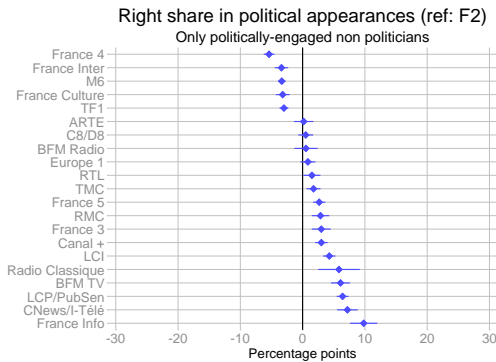
(b) Greens



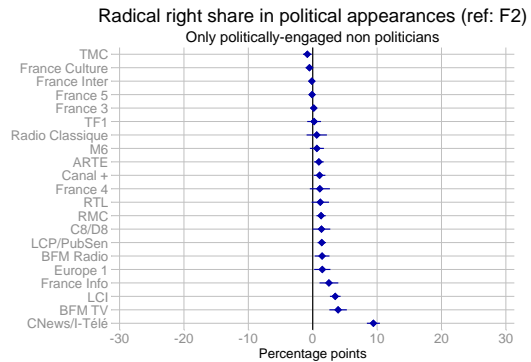
(c) Left



(d) Liberals



(e) Right



(f) Radical right

Notes: each sub-figure plots the channel fixed effects obtained when estimating the following model: political slant_{s,c,t} = X_sβ + γ_c + θ_t + ε_{s,c,t} (see the text for details). In Figure 31a, political slant_{s,c,t} is the speaking time share of the radical left, the one of the greens in Figure 31b, the left in Figure 31c, the liberals in Figure 31d, the right in Figure 31e and the radical right in Figure 31f. Channels are sorted according to these estimates. Speaking time shares calculated in appearances of politically-classified guests, and only the politicians are included. The omitted channel (reference point) is France 2. The data covers the time period ranging from January 1st 2002 to December 31st 2020.

Figure 31: Channel-level slant – Speaking time shares calculated in appearances of politically-classified guests (including only the PENOPs), 2002-2020

Figure 32: Changing slant over time, Private television channels

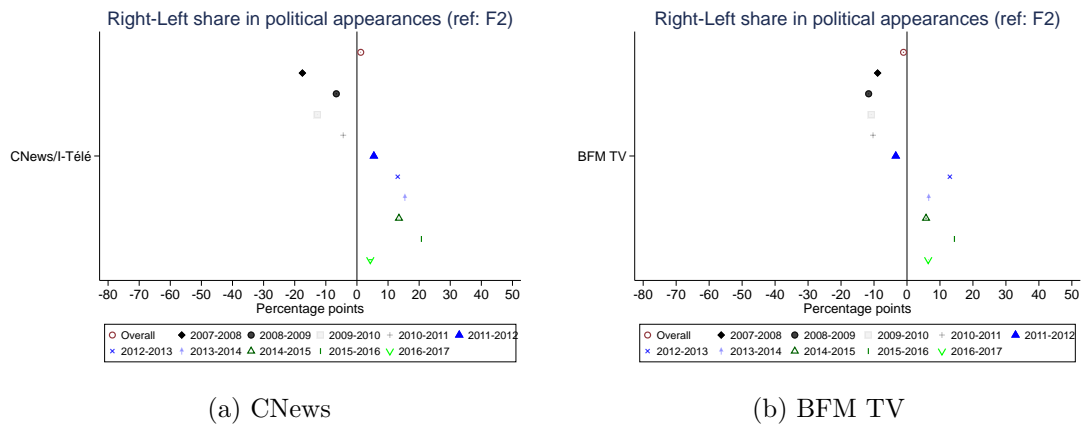
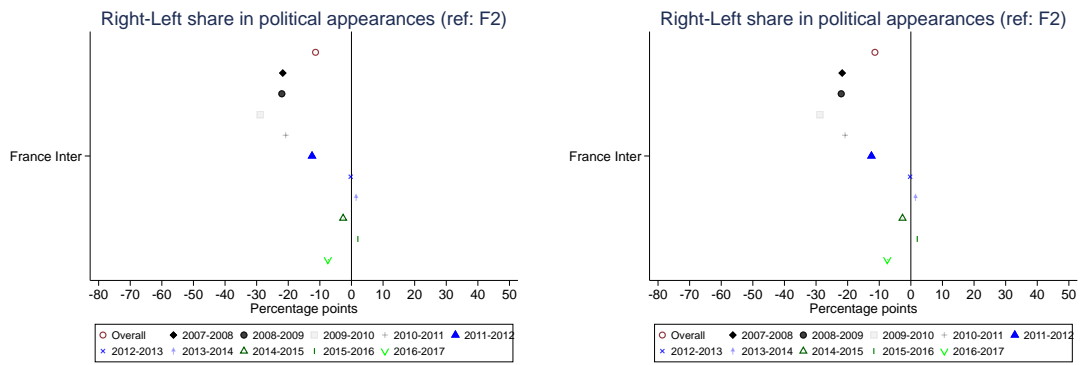
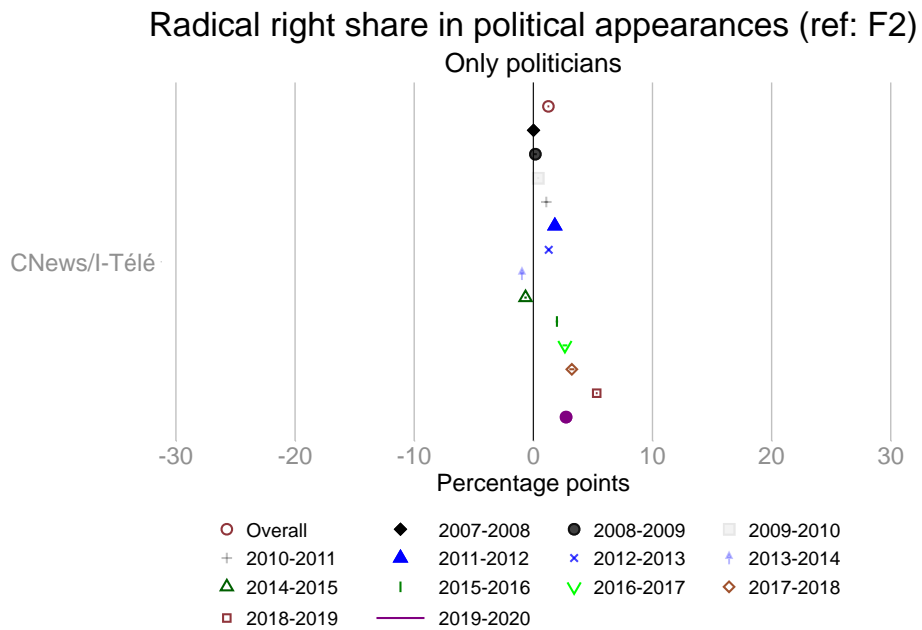


Figure 33: Changing slant over time, Public radio stations



(a) France Inter

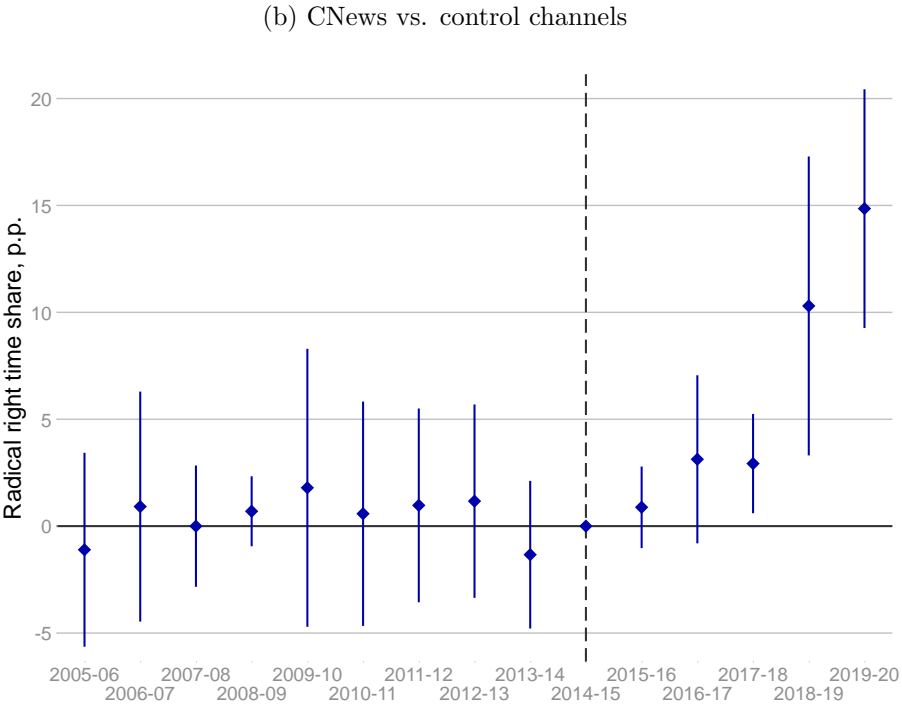
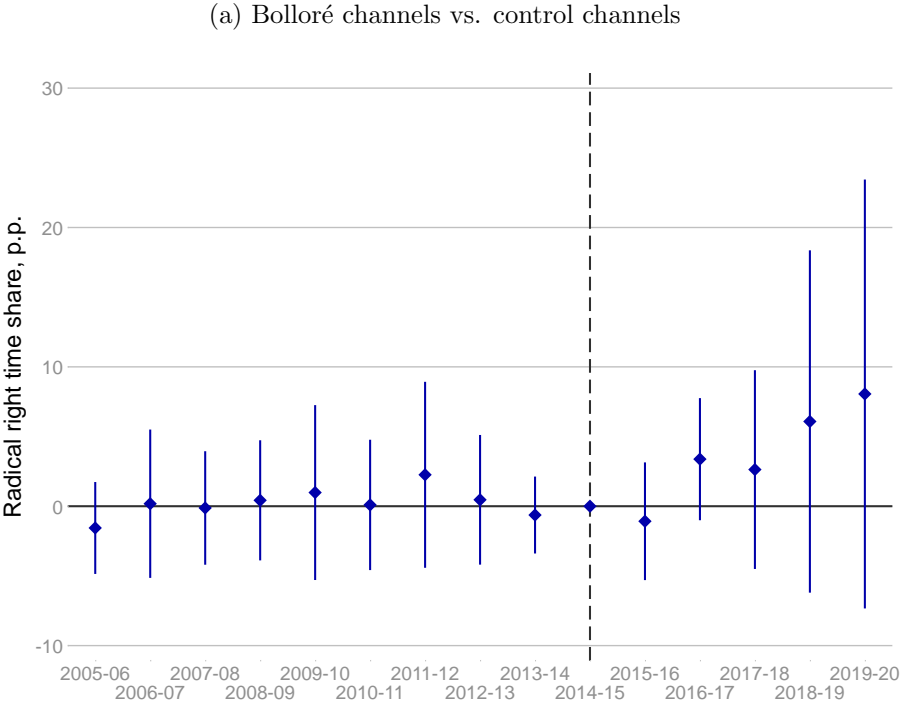
(b) France Inter



Notes: The figure plots the channel fixed effects obtained for CNews/I-télé when estimating the following model: $\text{political slant}_{s,c,t} = X_s\beta + \gamma_c + \theta_t + \epsilon_{s,c,t}$ independently for each season (see the text for details). Speaking time shares are calculated in appearances of politically-classified guests (only the politicians are included). The omitted channel (reference point) is France 2.

Figure 34: The changing slant of CNews/I-télé – Evolution of the relative speaking time share devoted to radical-right guests (including only the politicians) in appearances of politically-classified guests (compared to France 2)

Figure 35: Event study coefficients of the effect of the Bolloré takeover on far right time share



Notes: The figure reports event study estimates adapted from Equation 2. The outcome is the far right time share. The sample used include the 3 Bolloré television channels and the 3 radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

E Additional tables

Table 4: Summary statistics: Journalists

	Mean	St.Dev	P25	Median	P75	Max
Demographics						
=1 if journalist is female	0.33	0.47	0.00	0.00	1.00	1
Date of birth	1959	16	1949	1960	1970	2005
=1 if born in Paris	0.18	0.38	0.00	0.00	0.00	1
Education						
=1 if highest degree is bachelor	0.14	0.35	0.00	0.00	0.00	1
=1 if highest degree is master	0.75	0.43	0.00	1.00	1.00	1
=1 if highest degree is PhD	0.08	0.27	0.00	0.00	0.00	1
=1 if journalism school	0.08	0.27	0.00	0.00	0.00	1
=1 if Business school	0.01	0.07	0.00	0.00	0.00	1
=1 if Sciences Po	0.00	0.03	0.00	0.00	0.00	1
=1 if Engineering school	0.02	0.15	0.00	0.00	0.00	1
=1 if ENA	0.05	0.21	0.00	0.00	0.00	1
Observations	72,766					

Notes: The table represents summary statistics on all journalists for which we have information from at least one of the following sources: INA, Les Biographies or Wikidata.

Table 5: Think tanks staff and contributors: descriptive statistics

Name	Creation	Family	Number found		Once merged with INA data	
			Staff	Contributor	Staff	Contributor
Fondation Gabriel Peri	2004	Radical left	373	814	238	447
ATTAC	1998	Radical left	1,029	2,708	807	1,857
Fondation Copernic	1998	Radical left	1,898	–	1,292	–
Les Economistes Atterres	2011	Radical left	458	210	335	188
Fondation pour la nature et l’homme	1990	Greens	1,295	–	817	–
Fondation de l’ecologie politique	2012	Greens	412	53	348	36
Fondation Jean Jaures	1992	Left	878	3,904	634	2,728
Institut Jacques Delors	1996	Left	429	1,793	334	1,098
Republique des Idées	2002	Left	123	121	95	118
Fondation Res Publica	2005	Left	590	82	479	65
Terra Nova	2008	Left	1,488	1,392	1,117	861
The Shift Project	2010	Left	287	–	110	–
Fabrique de l’Ecologie	2013	Left	386	803	307	388
Fondation Robert Schuman	1991	Liberals	518	1,568	–	–
Institut Montaigne	2000	Liberals	632	3,678	501	2,327
Generation Libre	2013	Liberals	178	57	123	32
IFRAP	1985	Right	75	3,220	65	2,661
Fondapol	2004	Right	595	1,785	449	824
Groupement de recherches et d’études pour la civilisation européenne	1969	Radical right	58	2,140	27	1,007
Fondation Polemia pour l’identité la sécurité et les libertés européennes	2002	Radical right	–	3,723	–	1,111
Institut Thomas More	2004	Radical right	527	946	271	702
Institut des Libertés	2012	Radical right	76	1,069	50	946
Total			12,405	30,066	8,921	18,609

Notes: This table reports the number of staff and contributors. The figures refer to the number of occurrences in our data, not the unique number of staff members or contributors. An individual who contributes once each year between 2010 and 2019 will account for 9 occurrences of contributors. The number of occurrences after the merge with INA data is smaller because some contributors and staff members never appear in the media.

Table 6: Summary statistics: Journalists who work for multiple owners between 2002 and 2020 vs. journalists who do not

	Unique owner	Multiple owners	Diff/se
Demographics			
=1 if journalist is female	0.43	0.40	0.03*** (0.01)
Date of birth	1960	1965	-6*** (1)
=1 if born in Paris	0.22	0.22	0.00 (0.02)
Education			
=1 if highest degree is bachelor	0.17	0.14	0.03 (0.03)
=1 if highest degree is master	0.76	0.80	-0.04 (0.03)
=1 if highest degree is PhD	0.04	0.04	0.00 (0.01)
=1 if journalism school	0.14	0.15	-0.01 (0.02)
=1 if Business school	0.00	0.00	0.00 (0.00)
=1 if Sciences Po	0.00	0.00	0.00 (0.00)
=1 if Engineering school	0.01	0.00	0.01 (0.00)
=1 if ENA	0.00	0.01	-0.00 (0.00)
Observations	13,842		

Notes: The table presents summary statistics on journalists who work for multiple owners. An observation is a journalist.

Table 7: Explanatory power of the journalist fixed effects – Sample of journalists working for multiple owners between 2002 and 2020, Speaking time shares calculated in appearances of *all the guests*

(a) Right-Left difference				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	864,582	864,582	864,582	864,415
Clusters (journalists)	4,187	4,187	4,187	4,020
R-squared	0.012	0.015	0.015	0.025
Adjusted R-squared	0.011	0.014	0.014	0.019
(b) Far right				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	864,582	864,582	864,582	864,415
Clusters (journalists)	4,187	4,187	4,187	4,020
R-squared	0.019	0.025	0.026	0.041
Adjusted R-squared	0.018	0.024	0.025	0.035
(c) Far left				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	864,582	864,582	864,582	864,415
Clusters (journalists)	4,187	4,187	4,187	4,020
R-squared	0.017	0.023	0.023	0.036
Adjusted R-squared	0.016	0.022	0.022	0.030

Notes: The table reports the estimated R-squared when estimating equation (1) with show characteristics and week and dow-of-the-week fixed effects (Column (1)), and channel fixed effects (Column (2)), and owner fixed effects (Column (3)), and journalists fixed effects (Column (4)). An observation is a journalist-show. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 16 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 10 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business. The upper table (a) reports the results for the right-left difference in the speaking time shares, the middle table (b) for the radical right speaking time, and the bottom table (c) for the radical left speaking time. Speaking time shares are calculated in appearances of all the guests.

Table 8: Explanatory power of the journalist fixed effects – Sample of journalists working for multiple owners between 2002 and 2020, Speaking time shares calculated in appearances of guests with a political lean (only including the politicians)

(a) Right-Left difference				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	398,543	398,543	398,543	398,236
Clusters (journalists)	3,947	3,947	3,947	3,640
R-squared	0.027	0.029	0.030	0.047
Adjusted R-squared	0.024	0.027	0.027	0.035
(b) Far right				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	398,543	398,543	398,543	398,236
Clusters (journalists)	3,947	3,947	3,947	3,640
R-squared	0.029	0.031	0.032	0.047
Adjusted R-squared	0.027	0.029	0.029	0.036
(c) Far left				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	398,543	398,543	398,543	398,236
Clusters (journalists)	3,947	3,947	3,947	3,640
R-squared	0.022	0.024	0.024	0.042
Adjusted R-squared	0.020	0.022	0.022	0.031

Notes: The table reports the estimated R-squared when estimating equation (1) with show characteristics and week and dow-of-the-week fixed effects (Column (1)), and channel fixed effects (Column (2)), and owner fixed effects (Column (3)), and journalists fixed effects (Column (4)). An observation is a journalist-show. The data covers the time period ranging from January 1st 2002 to December 31st 2020. It includes the following 16 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé/CNews, LCI, LCP/Public Sénat, and 10 radio stations: France Inter, France Info, France Culture, and RTL, RMC, Europe 1, Radio Classique, and BFM Business. The upper table (a) reports the results for the right-left difference in the speaking time shares, the middle table (b) for the radical right speaking time, and the bottom table (c) for the radical left speaking time. Speaking time shares are calculated in appearances of guests with a political lean; only the politicians are included.

Table 9: Explanatory power of the journalist fixed effects, Using the inverse hyperbolic sine

(a) Right-Left difference				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	674,539	674,539	674,539	674,539
Clusters (journalists)	2,798	2,798	2,798	2,798
R-squared	0.041	0.046	0.046	0.064
Adjusted R-squared	0.040	0.045	0.045	0.059
(b) Far right				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	674,539	674,539	674,539	674,539
Clusters (journalists)	2,798	2,798	2,798	2,798
R-squared	0.055	0.061	0.061	0.079
Adjusted R-squared	0.054	0.060	0.060	0.075
(c) Far left				
	(1)	(2)	(3)	(4)
Show characteristics	✓	✓	✓	✓
Week FE	✓	✓	✓	✓
DoW FE	✓	✓	✓	✓
Channel FE		✓	✓	✓
Owner FE			✓	✓
Journalist FE				✓
Observations	674,539	674,539	674,539	674,539
Clusters (journalists)	2,798	2,798	2,798	2,798
R-squared	0.055	0.061	0.061	0.079
Adjusted R-squared	0.054	0.060	0.060	0.075

Notes: The Table reports the R-squared and Adjusted R-squared of the estimation of model (1). Observations are at the show-journalist level, and time period is September 2006-August 2018. Column (1) only control for the show characteristics, the week and the day-of-the-week fixed effects. In Column (2) we add the channel fixed effects, in Column (3) the owner fixed effects, and in Column (4) the journalist fixed effects. The upper Table 9a reports these estimates for the right-left difference, the middle Table ?? for the far right, and the bottom Table 9c for the far left.

Table 10: Effect of the Bolloré takeover on political families time shares

(a) Politicians and politically engaged non-politicians (PENOPs)				
	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Bolloré × After	-1.227	5.088*	-2.984	2.104
	(5.068)	(2.467)	(3.352)	(2.046)
R-sq	0.033	0.073	0.134	0.420
Within R-sq	0.032	0.091	0.100	0.000
N	90	90	90	90
# channels	6	6	6	6
\bar{y} Bolloré	20.87	-10.75	50.89	40.14
(b) Only politicians				
	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Bolloré × After	-3.520	3.755	-2.801	0.953
	(4.761)	(4.636)	(4.787)	(1.247)
R-sq	0.020	0.124	0.149	0.519
Within R-sq	0.447	0.075	0.164	0.234
N	90	90	90	90
# channels	6	6	6	6
\bar{y} Bolloré	16.07	-8.95	51.38	42.43
(c) Only politically engaged non-politicians (PENOPs)				
	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Bolloré × After	2.293	17.81	-9.197	8.613
	(1.860)	(10.09)	(5.608)	(5.122)
R-sq	0.337	0.223	0.215	0.192
Within R-sq	0.119	0.000	0.000	0.000
N	90	90	90	90
# channels	6	6	6	6
\bar{y} Bolloré	4.8	-17.82	51.86	34.04

Notes: The table reports difference in differences estimates from Equation 2. The sample used includes the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

Table 11: Effect of the Bolloré takeover on political families time shares, heterogeneity by channel

	(1)	(2)	(3)	(4)
	Classified	Rights-Lefts	Lefts	Rights
Canal+ \times After	-9.261** (2.852)	1.874 (2.056)	-1.206 (3.502)	0.668 (2.127)
C8 D8 \times After	3.057 (3.665)	5.777 (2.957)	-5.775 (4.621)	0.00218 (2.993)
CNews I-Télé \times After	4.124 (2.230)	7.706*** (1.777)	-3.313 (3.551)	4.393* (1.957)
R-sq	0.150	0.080	0.140	0.427
Within R-sq	0.030	0.069	0.120	0.002
N	90	90	90	90
# channels	6	6	6	6
\bar{y} Canal+	19.07	-21.96	57.01	35.05
\bar{y} C8	3.82	4.36	43.44	47.8
\bar{y} CNews	39.72	-14.64	52.22	37.58

Notes: The table reports difference in differences estimates from Equation 2. The sample used includes the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

Table 12: Effect of the Bolloré takeover on political families time shares, heterogeneity by channel and political families

	(1)	(2)	(3)	(4)	(5)	(6)
	Radical left	Greens	Left	Liberals	Right	Radical right
Canal+ \times After	-0.943 (1.064)	-1.190 (0.648)	0.927 (2.863)	-0.386 (5.393)	0.816 (2.644)	-0.149 (0.853)
C8 D8 \times After	2.891 (1.593)	-2.485** (0.708)	-6.181 (4.704)	5.592 (7.213)	-2.690 (3.493)	2.692** (1.045)
CNews I-Télé \times After	-0.115 (0.817)	-0.584 (0.669)	-2.614 (2.775)	-2.562 (5.464)	-1.738 (2.456)	6.130*** (0.688)
R-sq	0.545	0.255	0.286	0.433	0.557	0.555
Within R-sq	0.291	0.320	0.311	0.286	0.117	0.485
N	90	90	90	90	90	90
# channels	6	6	6	6	6	6
\bar{y} Canal+	7.3	6.28	43.43	5.25	26.72	8.33
\bar{y} C8	5.7	2.01	35.73	3.09	42.97	4.83
\bar{y} CNews	5.36	8.51	38.35	8.06	30.18	7.4

Notes: The table reports difference in differences estimates from Equation 2. The sample used includes the 15 television and radio stations for which we have good data coverage until 2020. Standard errors are clustered at the channel level. Time shares are weighted by the average audience of television and radio for the corresponding time slot. Political family time shares are computed as a proportion of the total time of politically classified guests. * 10%, ** 5%, *** 1%.

F Robustness checks

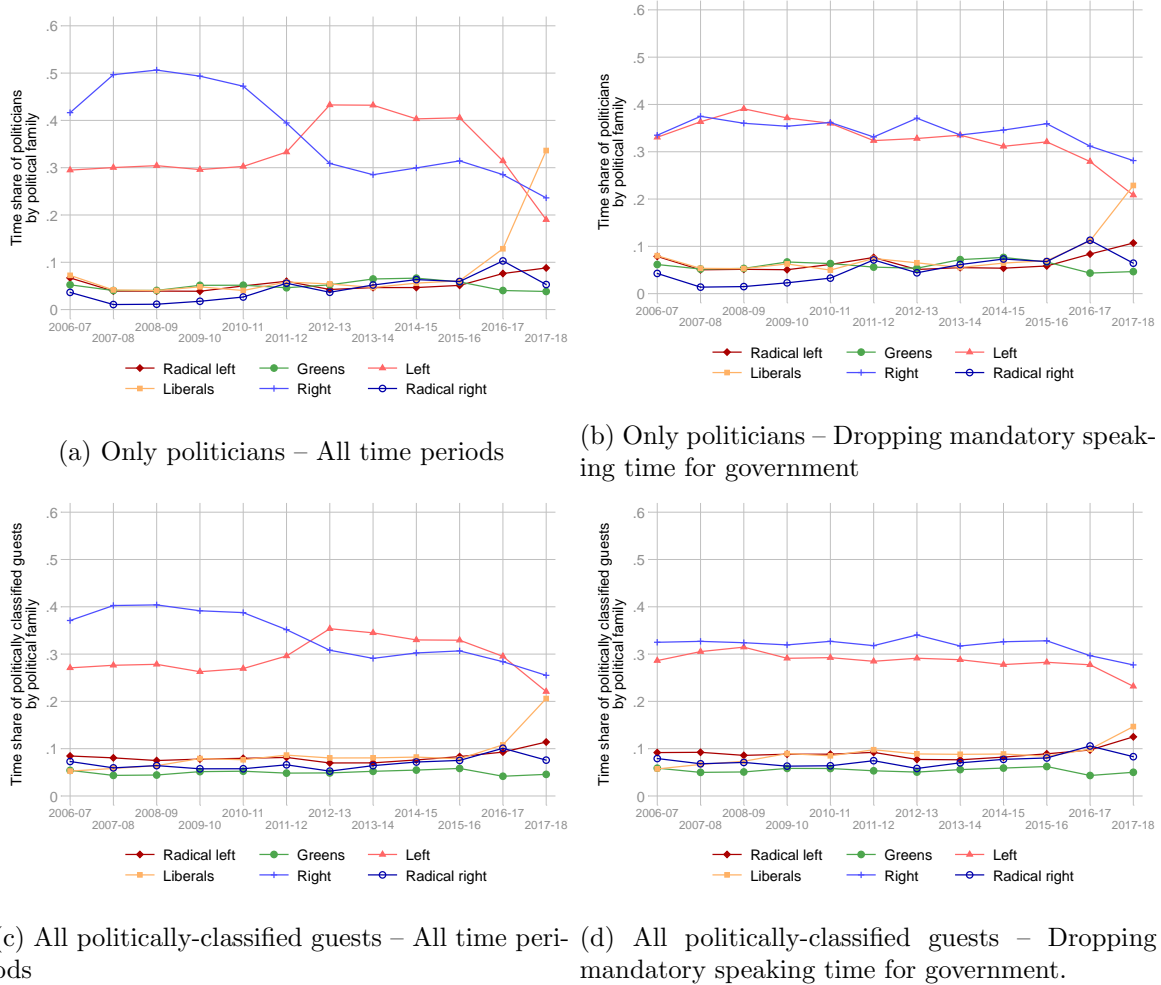
In this section, we present the results of a number of robustness checks that we perform in the core of the article.

F.1 Exhaustive data

In this section, we show that our main findings – and descriptive evidence – are robust to only considering the 15 television channels and radio stations that are fully documented (i.e. TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, I-Tél é/CNews, LCI, LCP/Public Sénat, France Inter, France Info and France Culture.) and focusing on the sub-period September 1st, 2006 to August 31st, 2018.

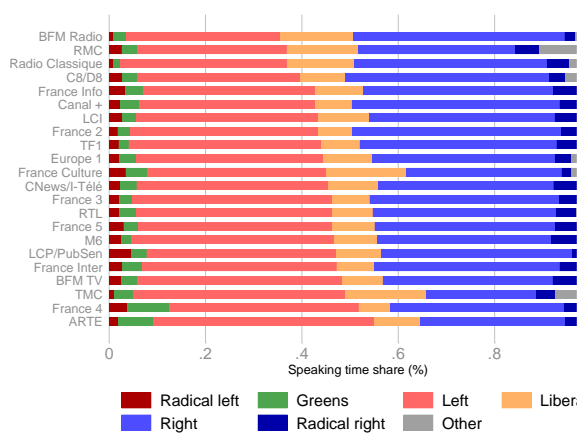
F.2 Including the Summer

In our preferred specification, we drop the summer months (July and August). In this appendix, we show that all our main results are robust to including it.

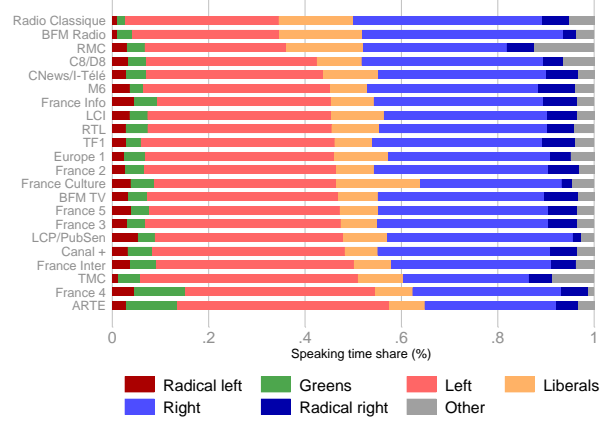


Notes: The data covers the time period ranging from September 1st 2006 to August 31st 2008. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Tél é/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, RTL, RMC, Europe 1, Radio Classique, and BFM Business. Speaking time is aggregated at the season level, that is from September 1st to August 31st.

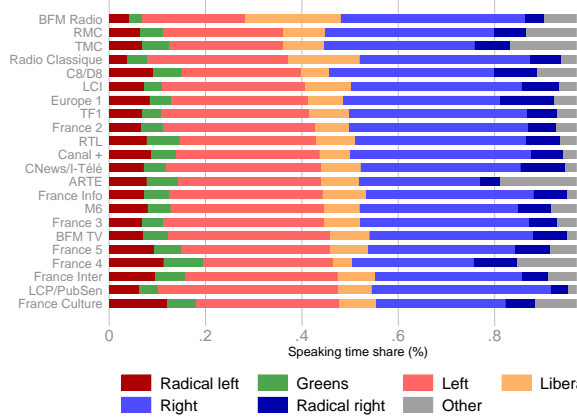
Figure 36: Evolution of the speaking time of the guests, depending on their political affiliation – Robustness check: Including the Summer



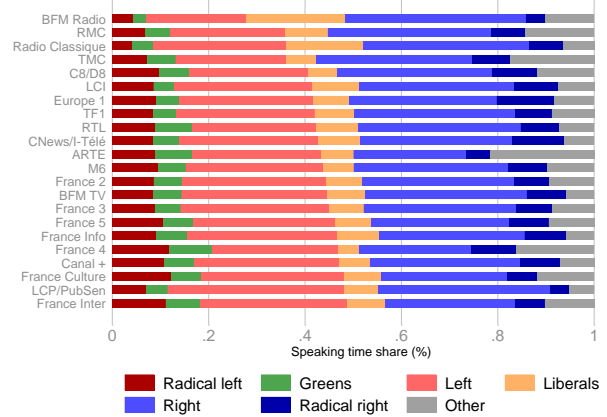
(a) Only politicians – All time periods



(b) Only politicians – Dropping mandatory speaking time for government



(c) All politically-classified guests – All time periods

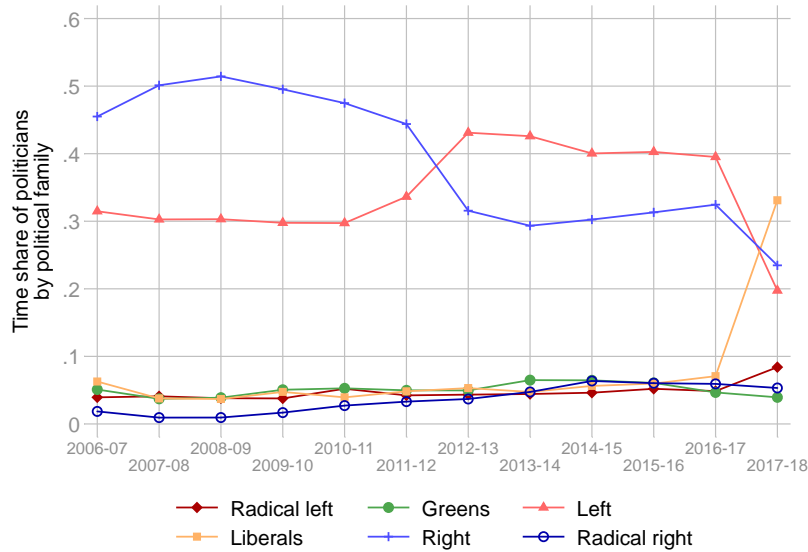


(d) All politically-classified guests – Dropping mandatory speaking time for government

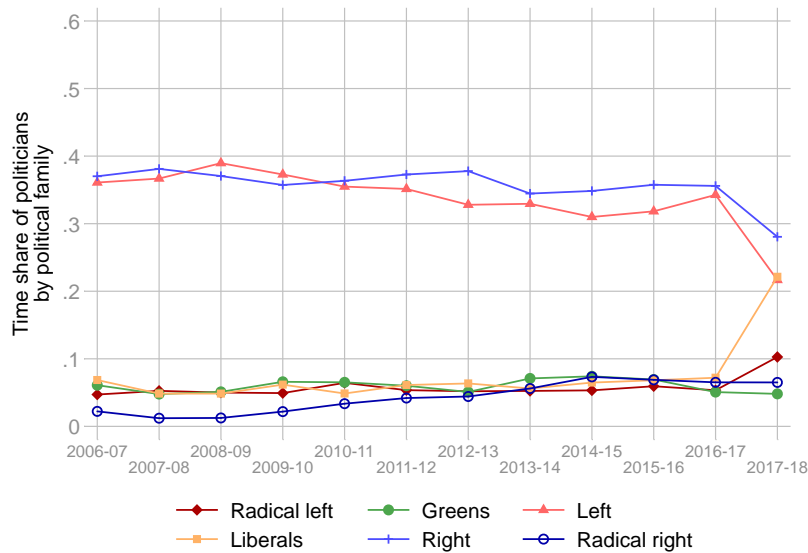
Notes: The data covers the time period ranging from September 1st 2006 to August 31st 2008. It includes the following 14 television channels: TF1, France 2, France 3, Canal+, France 5, M6, ARTE, C8/D8, TMC, France 4, BFM TV, I-Télé é/CNews, LCI, LCP/Public Sénat, and 8 radio stations: France Inter, France Info, France Culture, RTL, RMC, Europe 1, Radio Classique, and BFM Business. Speaking time is aggregated at the season level, that is from September 1st to August 31st.

Figure 37: Speaking time of the political families, depending on the channels – Robustness check: Including the Summer

F.3 Drop electoral periods when speaking time more strictly regulated by the CSA



(a) Party time share over time, using only politicians – All politicians included



(b) Party time share over time, using only politicians – Dropping mandatory speaking time for government

Notes: These descriptive statistics are based on our sample of television channels and radio stations from September 2006 to August 2018. Speaking time is aggregated at the season level, that is from September 1st to June 30th, we exclude summer months (see online Appendix Figure 36 for a similar figure including the Summer).

Figure 38: Guests' political affiliation with and without government