

INSTITUT D'ETUDES POLITIQUES DE PARIS

School of Research

STRUCTURING THE PUBLIC DEBATE

Party-press alignment and discursive polarization in the French immigration
and climate change debate

Giovanni Maggi

Thesis presented for the Research Track of the Master's in
Digital, New technologies, and Public Policy

Discipline: Political Science
Specialisation: Comparative Politics

Supervisor: Prof. Caterina Froio
Co-Supervisor: Prof. Pedro Ramaciotti Morales

Academic Year: 2023-2024

ABSTRACT

The rise of digital media and the emergence of new communication channels, which bypass traditional media gatekeepers, have coincided with a substantial restructuring of political information environments. Research in the United States has found that these changes are linked to a closer alignment between media content and the political communication strategies of political actors which ultimately resulted in the discursive polarization of the American media system. Drawing on computational methods including network and text analysis, this dissertation examines how these dynamics played out in the immigration and climate change debates in France, providing evidence beyond the US-context. To do so we analyse data from a sample of French Twitter users between 2017 and 2019, extracting the news articles they discussed on the two issues. We then employ web-crawling techniques to construct a network graph illustrating co-citation patterns among media outlets on the basis of these articles. Measuring alignment as the correlation between issue salience in media coverage with that of parties political communication on Twitter, our analysis reveals no significant association between party-press alignment and discursive polarization in France. Furthermore, we find minimal polarization of the media system in the country and little evidence of pronounced levels of party-press alignment on issue salience. Together with the observations that traditional mainstream media are cohesively central in the media landscape and extremist media outlets integrated within the system, these findings suggest that there are fundamental differences between France and the US on the observed dynamics. We attribute these discrepancies to the variations in the media and political systems between France and the US. Specifically, we argue that this is due to specific characteristics of France’s multi-party political system and its “polarized pluralist” media system – most notably, low levels of commercialisation of the media market, high levels of political parallelism, and the prevalence of opinion-based journalism. Future comparative research should explore these institutional and structural factors to further deepen our understanding of how political communication and alignment dynamics structure the public debate.

Contents

1	INTRODUCTION	1
2	THEORETICAL BACKGROUND	5
2.1	Defining the Polarization Process	7
2.2	A Public Sphere Perspective on Polarization	10
2.3	Media Polarization	11
2.4	Hypotheses	15
2.5	Case Selections	16
2.5.1	Beyond the US	17
2.5.2	Issue Focus and Issues Selection	18
2.5.3	Time Period	20
3	METHODOLOGY AND RESEARCH DESIGN	21
3.1	The Data	21
3.2	Issue Salience	24
3.3	Party-Press Alignment	26
3.4	Media Polarization	27
3.5	Regression models	30
4	RESULTS	33
4.1	Descriptive statistics	33
4.1.1	Salience analysis	33
4.1.2	Party-Press alignment	37
4.1.3	Media network analysis	39
4.2	Regression Analysis	49
4.2.1	Modularity Regressions	49
4.2.2	Distances Regressions	49
5	DISCUSSION, LIMITATIONS, AND CONCLUSION	55
5.1	Discussion	55
5.2	Limitations	57
5.3	Conclusion	60
A	APPENDIX	VII
A.1	Appendix A – Figures	VII
A.2	Appendix B – Methods	X
A.2.1	Ideal points estimation using network scaling methods	X
A.2.2	Google Trends Data	XII
A.2.3	ParlGov Data	XIII
A.2.4	Polling Data	XIII

A.3	Appendix C – Github Repository	XV
A.4	Appendix D – Data	XVI
A.5	Appendix E – Regression Tables	XXXI
	Bibliography	XXXVII

1 | INTRODUCTION

“The American people do not believe the corrupt fake news anymore, they have ruined their reputation. But it used to be that they’d fight with me [...] and we’d have an argument. Now what they do is they go silent, it’s called suppression. [...] We have a corrupt media. They’ve gone silent, [...] they have lost all credibility in this country.”
(Trump, 2021)

The citation above is an extract from the speech given by former US President Donald Trump during the *Save America March* on January 6th 2021. During the rally, Mr. Trump promoted the narrative that the 2020 US election was rigged attacking mainstream media for contributing to the supposed cover-up. Under that pretext, a mob of his supporters stormed the American Capitol briefly after aiming to disrupt the proceedings certifying the results of the Presidential election.

Among other things, these events were indicative of a long process of discursive polarization which had been developing in the American public sphere since the mid-2010s. First as candidate and then as president, Trump campaigned by employing a strong anti-establishment rhetoric which leveraged novel communication channels to undermine the legitimacy of traditional mainstream media outlets (Jungherr et al., 2019; Schroeder, 2019). He did so by picturing any critical or embarrassing coverage of his campaign and presidency as “fake-news”, a strategy which proved effective thanks to the unconditional backing he received by a good part of the US alternative and right-wing media (Benkler et al., 2018). In turn, the public debate on the right of the political spectrum started to distance itself from the institutionalised “truth-seeking” dynamics of journalistic production which characterised US mainstream media such as *The New York Times*. In its place, right-wing media started to develop a parallel journalistic standard that contributed to the creation of a “propaganda feedback loop” (*ibid*). Right-wing media, political actors, and citizens increasingly exchanged identity-reinforcing information, while rejecting critical points of view deriving from the “corrupt media”. Ultimately, increasing alignment between different actors in the public debate culminated in the polarization of the American public sphere (Benkler et al., 2018; González-Bailón et al., 2023).

These developments ought to be understood within a broader context. As political information environments undergo significant changes (Van Aelst et al., 2017) – most notably the weakening of the gatekeeping function of traditional journalism as a result of the rise of digital media (Bennett and Pfetsch, 2018; Shoemaker and Vos, 2009) – media systems become increasingly structured by the interconnection between the new and old media logics. This gives rise to a hybrid logic within media systems (cf Chadwick, 2017) where the mutual interaction between traditional and digital media fundamentally reshapes the dynamics of political competition of ideas. The wide availability of political information and the increasing choice granted to citizens concerning the sources of those information (Benkler, 2006; Van Aelst et al., 2017) has brought about an increasing tendency of media outlets to cater content to the (political) preferences of

their target groups, often explicitly feeding their confirmation bias (Brüggemann and Meyer, 2023; Van Aelst et al., 2017).

Together with the rise in the number and visibility of niche and extreme media (Cointet et al., 2021; Van Aelst et al., 2017)¹ and the development of new discursive opportunities for political actors (Bennett and Pfetsch, 2018; Schroeder, 2019), the changing structure of the media market in the US resulted in meaningfully linking media outlets to political actors. Faced with increasing market pressures and relevance of new competitors, media outlets were incentivised to tap into new markets for identity-based news production – leading to the growth of party-press alignment (Hallin and Mancini, 2004; Seymour-Ure, 1974)² and the mainstreaming of opinion “feedback loops” (Benkler et al., 2018).³ In turn, the combination of increasing differences in media diets with people’s selective exposure dynamics⁴ (cf Stroud, 2008, 2010) led audiences to steadily depart from each other’s reference points and epistemological premises⁵ (Hameleers and Yekta, 2023), impacting not only public debate but also the gap between individual attitudes towards specific issues. Accordingly, this thesis is built on the intuition that there is a structural discursive dimension to the polarization process (cf Brüggemann and Meyer, 2023), one which is influenced by the media’s alignment with the communication strategies of competing political actors.

While these dynamics have been well studied in the US, evidence from other countries is still relatively scarce.⁶ As we explained, increasing discursive polarization in the US is connected to rising party-press parallelism,⁷ and the identity-based dynamics linked to it in the form of opinion feedback loops – especially on the right. Nevertheless, the US media and political system differ from those of other countries in ways that can meaningfully alter the phenomenon under study. First, the US presents historically low levels of political parallelism meaning that increases in this regard represents a significant change to the media system (Hallin and Mancini, 2004;

¹This is also turbocharged by the influence of social media content recommendation algorithms which tend to promote extreme content over more moderate posts (Bail, 2021) – an aspect which is especially relevant in light of younger demographics’ increasing reliance on social media as a source of (political) information (Liedke and Gottfried, 2024).

²By party-press alignment we mean the extent to which the media and political parties converge in their understanding of what constitutes a legitimate political controversy or topic of discussion. See section 2.3 and 2.2.

³Opinion feedback loop is a term we derive from Benkler et al. (2018)’s concept of “propaganda feedback loop”. It describes a situation in which the relations between politics, media, and the public rely on identity-reinforcing dynamics rather than truth-seeking ones. For more information see section 2.3 and Benkler et al. (2018), pp. 75-99.

⁴Selective exposure to information refers to the fact that people have a preference to consume content that is aligned to their ideological preferences.

⁵By epistemological premises we hereby refer to the ways in which people construct truth and knowledge statements. Specifically, the opposition is between an institutionalised journalistic epistemology and an identity-reinforcing anti-establishment partisan one.

⁶Some research is present but come mostly from Western and Northern Europe (e.g. Boulianne et al., 2020; Humprecht, 2019) and Brazil (e.g., Abidin, 2019; Recuero et al., 2020; Resende et al., 2019). Both contexts are however characterised by structural characteristics somewhat similar to those of the US media system (Hallin and Mancini, 2004; Brüggemann et al., 2014).

⁷Please note that throughout this whole thesis we will use party-press alignment and party-press parallelism interchangeably.

Brüggemann et al., 2014; Humprecht et al., 2022). However, in countries where it is historically high, party-press parallelism might have less of an impact on discursive polarization because of the system’s internalisation of this aspect. Second, partisan identity in the US is built around the bipartisan dichotomous opposition between Republicans and Democrats. However, in a multi-party system, the ways in which people construct their partisan identities fundamentally differ, and is characterised by the possibility of multiple party associations (Garry, 2007; Wagner, 2021). Being party-press parallelism and partisan identities central to opinion feedback loops and the discursive polarization process, there is the need to study these dynamics in contexts other than the US. We hereby aim to study these dynamics in France, a country which differs from the US on both these central characteristics.

What is more, most research looking at the relation between the media and politics often looks at the influence of the first on the second.⁸ Political polarization is no exception, with most studies focusing on the impact of media (intended both as traditional and digital) in the polarization of people’s attitudes and affections (Kubin and von Sikorski, 2021; Prior, 2013; Tucker et al., 2018; Barberá, 2020).⁹ On the contrary, while we know that media and politics are interconnected in such a way that variations in politics lead to variations in the media and vice versa (cf Wolfsfeld et al., 2022), research on the politics to media direction is still relatively scarce. In this regard, the literature is generally limited to studying media ownership and partisan control of the media (e.g., Durante and Knight, 2012) or to the role of political attitudes in shaping media consumption (e.g., Stier et al., 2020; Stroud, 2008, 2010). Little has been written on the ways in which the media responds to political communication or on how rhetorical strategies of parties influence editorial choices. Drawing from the explanation of the US case provided above, we hereby recognise the role of political actors in shaping media standards. In doing so, we aim to contribute to this literature by studying media alignment to politics as associated to media polarization.

The present dissertation aims to investigate how the alignment between the content produced by digital media outlets and the political communication of political parties influences the discursive structure of the public debate in France. In doing so, we understand “discursive structure” as the web of interactions between digital media outlets¹⁰ in the form of hyperlinks.¹¹ The underlying intuition is that the unconditional alignment of media outlets to the political communication of one party or political actor turns the public debate away from the discussion of ideas and towards

⁸Notable examples are studies on agenda-setting (cf McCombs, 2008), priming in relation to issue ownership (cf Iyengar and Kinder, 1987; Roskos-Ewoldsen et al., 2007), and framing (e.g., Baumgartner et al., 2009).

⁹This overfocus on the role of the media on political dynamics might be linked back to the influential metaphor of the media as those responsible for the images in our heads (Lippmann, 1922).

¹⁰For definition of digital media outlets see the introduction to section 2.

¹¹The web of interactions between media outlets has been identified to be significantly linked to structure of the public discourse online (Heiberger et al., 2022). The choice to focus on the media is also linked to the fact that (i) given that ideological alignment of media sources is a strong predictor of both news consumption (González-Bailón et al., 2023; Guess et al., 2018; Shehata et al., 2022; Stier et al., 2020) and media trust (Gentzkow et al., 2023) we can assume media polarization to be structural of the polarization in the public debate because of differences in media consumption; and (ii) the media has an effect on the way politics is discussed and plays out (e.g., Baumgartner et al., 2009; Cohen, 1963; Iyengar and Kinder, 1987; McCombs, 2008; Roskos-Ewoldsen et al., 2007; Scheufele, 1999).

a conflict of identities. In turn, if the theoretical intuitions derived from the US were to hold in a different context such as the French one, we would expect that when parties and media talk about the same things then we would see a change in the ways in which digital media outlets interact.

As such, our guiding research question is the following:

***RQ:** Does an increase in party-press alignment lead to changes in the discursive interactions between media outlets?*

In order to answer this question we employ a computational approach that combines network and text analysis to study how this dynamic plays out in the French immigration and climate change debate. To accomplish this, we leverage data from a sample of French Twitter users between 2017 and 2019, and extract the news articles they discussed on the two issues during that time period. We then rely on web-crawling techniques to construct a network graph depicting co-citation patterns of different media outlets, which we use to estimate the polarization of two debates. Simultaneously, we measure party-press alignment by looking at the correlation between the salience an issue gets in media coverage¹² and in parties political communication.¹³ To accomplish this, we derive the salience of the two issues using a combination of topic modelling and more traditional dictionary-based approaches and use a correlation function to establish the alignment between the two. Finally, we combine the parallelism and polarization analyses using standard OLS regression models to assess the impact of the first on the second.

Overall, our analysis finds no significant association between party-press alignment and the polarization of the media system, suggesting that the influence of the dynamic explained by Benkler et al. (2018) in the US is not prevalent in France. We also find little evidence of media polarization in the French media networks which remains centred around the main traditional mainstream media from the centre and centre-left. Contrarily from the US, right-wing media are well embedded with the rest of the media ecosystem and do not constitute any significant secondary pole. Finally, party-press alignment on issue salience is not prevalent in the country, suggesting that the feedback loop dynamics identified in the US do not play a significant role in France in the analysed time period. We link these findings back to the fact that structural characteristics of the multi-party system and the “polarized pluralist” model of the French media system fundamentally differ from those of the US (cf Hallin and Mancini, 2004). We argue that low commercialisation levels and limited dominance of the media market on outlets editorial decision, together with traditionally high levels of political parallelism, the prevalence of opinion-based journalism, and the possibility of multiple partisan identifications play a crucial role in mitigating the dynamics observed in the US. Future research should explore these aspects using a comparative approach so as to better understand the role of institutional and structural characteristics on the architecture of the public debate and party-press parallelism.

¹²Identified through the headlines of media articles.

¹³Identified through the posts published by a party’s official X (Twitter) account.

2 | THEORETICAL BACKGROUND

This thesis investigates the association between party-press alignment and the polarization of the architecture of the media system. The first refers to the congruence between the salience an issue gains in parties political communication and media coverage – i.e., the extent to which the media and political parties talk about the same things. The second leverages the concept of media system architecture (cf Benkler et al., 2018) to indicate the web of interactions between digital media outlets in terms of hyperlinks. Thereupon, we define digital media as "the set of institutions and infrastructures allowing the production, distribution, and searching of information online" (Jungherr et al., 2019, p. 2) – thus including both traditional media outlets, as well as digitally-born outlets, and political blogs. The main idea we set out to test is that media polarization – i.e., the level of segregation in the network of interactions between different outlets – increases with the alignment of media coverage with parties political communication. In other words, the more parties and media from the same side will talk about the same things, the more outlets will interact with media from the same side and the less with media from the opposite side. Therefore, we here take media polarization as a function of party-press alignment on issue salience.

Inquiring into this dynamic makes two theory-driven contributions to the literature. First, it contributes to the development of a public sphere perspective of the polarization process (cf Brüggemann and Meyer, 2023) based on the intuition that the structure of the public debate¹ is central to both ideological and affective polarization (see section 2.1). Specifically, communication dynamics are related to differences in people's media diets and the development of political misperceptions both of which are important factors in how citizens develop political opinion and affections. In turn, inquiring the structural dynamics of the public debate in the form of interaction patterns between media outlets meaningfully informs the study of a discursive dimension of the polarization process (see sections 2.1 and 2.2).

Second, the present inquiry builds on previous research developed in the US to test whether similar dynamics are at play in countries characterised by different political and media contexts. In their study of the 2016 US election, Benkler et al. (2018) found that the architecture of the American media architecture is characterised by asymmetric polarization, a situation where the right-wing media is detached from the rest of the media system. They attribute this to an increasing (and self-reinforcing) alignment between right-wing media and the political communication of Republican politicians – especially Donald Trump. However, as they point out, their findings are not context free but rather embedded in the country's institutional conditions and the level of stability of its media environment (*ibid*, p. 21).

In fact, the findings of the Benkler et al. (2018) study can also be connected to structural changes in the public sphere linked to the rise of the internet and digital media which made

¹Together with the interactional dynamics which characterise it.

political communication strategies increasingly important in structuring the public debate (Bennett and Pfetsch, 2018; Schroeder, 2019). The rise of niche parties and radical politicians in recent decades have been linked to their leverage of direct communication channels – as well as the backing they received from digitally-born alternative media outlets² – to bring new issues on the political agenda without the mediation of professional journalists (Aruguete et al., 2021; Benkler et al., 2018; Schroeder, 2019). Politicians and political parties are increasingly becoming key producers of information alongside traditional and new media (Van Aelst et al., 2017), opening up novel ways in which the political and media spheres increasingly interact and become mutually interwoven. However, the structural effects of these changes to the public debate have been understudied outside the US, thus leaving us with a relatively poor understanding of how these dynamics play out in media systems different from the American – or English – “liberal model” (cf Hallin and Mancini, 2004; Brüggemann et al., 2014). In this regard, we here set out to understand whether the dynamics identified by (Benkler et al., 2018) would apply to a country characterised by a “polarized pluralist” media system (cf Hallin and Mancini, 2004; Brüggemann et al., 2014) and multi-party political system (see section 2.5).

Accordingly, this dissertation aims to measure the association between party-press alignment and media polarization on the issues of immigration and climate change in France during the 2017-2019 period. In doing so, it mobilises literature from the traditions in media studies and political communication to make a theory-driven contribution and look into how the increasing relevance of political communication in information environments affects the architecture of the media system. Specifically, it aims to look at one specific aspect of this relation, namely whether party-press alignment along political lines is a driver of media polarization in a country characterised by a “polarized pluralist” media system and a multi-party political system.

The present chapter develops the motivations and theoretical underpinnings of the idea we set out to test. It starts by reviewing the literature on polarization, emphasizing why there is the need to investigate its discursive dimension by discussing the communicative elements which play into both ideological and affective polarization (section 2.1). Second, it moves on to outline the public sphere perspective on the polarization process to which this study contributes (Brüggemann and Meyer, 2023), arguing that people’s perception of what constitutes legitimate public debate shapes what they discuss and who they discuss it with (section 2.2). In doing so, it explains how digital media relate to this discursive perspective of polarization. Third, the chapter moves on to review the literature surrounding the US case which motivates this study (section 2.3). It sketches out the mechanisms which brought to the increasing political parallelism and asymmetric polarization of the American media system, and relates it to the wider discursive polarization theoretical framework. Finally, it outlines the motivations for exploring these relation in Europe, and specifically in France, analysing the main structural differences between France and the US, and how they affect the dynamics discussed in the previous sections (section 2.5). Thereupon, it motivates the choice of immigration and climate change as the issues chosen for the analysis, focusing on their relevance in changing political conflict.

²This has also been documented in some European countries (Holt, 2020).

2.1 Defining the Polarization Process

Traditionally, the literature distinguishes between two main types of polarization: ideological and affective. The first is linked to the traditional spatial understanding of politics, where political behaviour is understood as movement along many issue or policy dimensions (cf Downs, 1957). As such, it looks at polarization in terms of the divergence of opinions, beliefs, and more generally stances that people and parties hold on issues³ (Dalton, 1987; DiMaggio et al., 1996). The second, affective polarization, is linked to the application of social identity theory⁴ (Tajfel and Turner, 1979) to the understanding of political conflict. As such, it focuses on people's perception of political in- and out-groups, and the increasing association of "positive traits [...] to members of the in-party, [and] negative traits [...] to opponents" (Iyengar and Westwood, 2015; Iyengar et al., 2012, p. 421). Both ideological and affective polarization have been linked to negative outcomes such as policy stalemates or radical changes in policy direction (e.g., Poole and Rosenthal, 1984), as well as increasing dissatisfaction (Wagner, 2021) and distrust among citizens (Reiljan, 2020), politicians and parties (Iyengar et al., 2019), and institutions (Fiorina and Abrams, 2008). What is more, affective polarization in particular has been shown to be linked to the dehumanisation of political adversaries, increases in political conflict and decreases in the openness to cooperate and compromise with the opposite side (Ahler and Sood, 2018; Iyengar and Westwood, 2015; Mason, 2018; Reiljan, 2020). Some argued this to be linked to a process of ideological sorting where increasing alignment of political and social identities leads to growing divisions in people's habits, activities and consumption choices along political lines (Hetherington and Weiler, 2018; Mason, 2016, 2018). In fact, as the physical opportunities for familiarization with people from the other side decrease, so does the likelihood one would empathise and communicate with the political out-group (Törnberg, 2022). In this regard, the literature identifies some of the origins of polarization to lie in the very "nature of ideological conflicts and social distance" (Schedler, 2023, p. 337), and the "power of partisanship as a social identity" (Iyengar et al., 2019, p.130), leading people to hold substantive and procedural fears concerning changes in policies and democratic processes at the hands of the out-group (Schedler, 2023).

However, this thesis argues that there is an underlying discursive dimension shaping people's perception of the nature of ideological conflict, the power of partisanship, and the ways through which people develop fears surrounding the potential actions of the political out-group. The structural dynamics of the public debate linked to how people access and engage with political information are central to both ideological and affective polarization. This idea is related to a series of highly inter-related factors.

First, the transformation of information environments linked to the rise of digital media con-

³It often does so by measuring dispersion and modality in the distribution of people's opinions (DiMaggio et al., 1996).

⁴Social Identity theory is based on the intuition that people derive part of their self-conception from group membership such as their social class, family, national community, religious groups etc. (see Tajfel and Turner, 1979).

tributes to the creation of political misperception, and differences in individual's media diets. This, in turn, stems from two main aspects: the increased visibility of extreme voices online, and selective exposure dynamics.

The former refers to fact that the increase in the number of available sources of information has made partisan and biased content more available to the public, leading to a structural over-representation of extreme voices in the digital domain (Van Aelst et al., 2017). In this regard, a vast literature has identified the mainstreaming and increased visibility of populist (Boulianne et al., 2020; Bracciale and Martella, 2017; Bracciale et al., 2021; Hamelaers and Vliegthart, 2020; Schroeder, 2019), hyperpartisan (Recuero et al., 2020; Weeks et al., 2021), and other (Kozlowski, 2022; Ricard and Medeiros, 2020; Tripodi, 2018; Wojcieszak, 2010) alternative discourses often promoting a Manichean division of society which echoes and is echoed in the rhetoric of emerging political actors (De Vries and Hobolt, 2020b; Holt, 2020; Schroeder, 2019; Aruguete et al., 2021).

The prevalence of these discourses in the public sphere is then turbocharged by the so-called “social media prism” – namely the fact that socio-technical dynamics of online communication further increase the visibility of extreme voices and decrease that of moderates (Bail, 2021). In turn, a distorted image of the political reality is created, contributing to misperception regarding political divisions and stereotypical conception of in- and out-group (e.g., Levendusky and Malhotra, 2016; Petersen et al., 2023; Settle, 2018).

Such political misperceptions also derive from selective exposure, namely the fact that people selectively consume news aligned with their ideological beliefs (cf Stroud, 2008, 2010), creating differences in people's information consumption both online and offline (Arceneaux et al., 2012; Bakshy et al., 2015; González-Bailón et al., 2023; Guess et al., 2018; Shehata et al., 2022; Stier et al., 2020). Specifically, selective exposure contributes the over or underestimation of the positions held by the out-group, or even its size and composition (Dorison et al., 2019; Tsifti et al., 2014). Such distortions of the political sphere are linked to the creation of perceived consensus on one's own side, the normalisation of the extremism of in-group, and the increase in perceived extremism of the out-group (Ahler and Sood, 2018; Bail, 2021; Merton, 1976; Robinson et al., 1995; Settle, 2018). In this sense, informationally-derived misjudgements contribute to the dehumanisation of political adversaries, seen as irrational and extreme, and thus creating false perceptions of polarization which end up reinforcing actual polarization (Fernbach and Van Boven, 2022).

What is more, selective exposure and the increased visibility of extreme discourses also impact ideological polarization in a more direct way. In fact, differences in people's media diets have been shown to be related to individual attitudes and trust in information sources (e.g., Allington et al., 2021; Chu et al., 2023; Gentzkow et al., 2023; Guess et al., 2022; Pennycook et al., 2022), and the consumption of partisan and politicised content⁵ has been identified as an important

⁵That is, the content that is increasingly available and visible online.

contributor to the polarization of individual attitudes (Gvirsman, 2014; Tewksbury and Riles, 2015; Van Aelst et al., 2017).

Second, changes in the structural dynamics of communication linked to the development of digital media impact ideological sorting and affective polarization. As worries surrounding echo chambers (cf Sunstein, 2017) have been fading in light of recent empirical evidence (González-Bailón et al., 2023; Nyhan et al., 2023; Törnberg, 2022), it is becoming increasingly clear that interactions with people and information from the opposite side is more common online than previously believed (Barberá, 2020; Barberá et al., 2015; Fletcher and Nielsen, 2018). However, rather than having a mitigating effect on the polarization of individual attitudes, exposure to cross-cutting content online contributes to reinforcing and extremizing people’s points of view (Bail, 2021; Bail et al., 2018). This effect is partly linked to the above mentioned dynamics, specifically to the creation of political misperceptions and people’s increased awareness of their political identity as a result to such discursive interactions (Settle, 2018). In this sense, increased exposure to information online in a non-local way fundamentally erase the “counter-balancing effect of local heterogeneity”⁶ and makes ideological sorting easier (Törnberg, 2022, p. 1).

Finally, the mainstreaming of radical parties – especially on the right – is linked to the leverage and politicization of novel issues in political communication and campaign strategies. Many see this mainstreaming as the result of a changing structure of the party system due to the development of new societal cleavages (Hooghe and Marks, 2018; Kriesi et al., 2008; Mair, 2006) but there is increasing evidence that the rise of new parties is linked to the discursive mobilisation of new issues – such as immigration and climate change – and anti-establishment rhetoric strategies (De Vries and Hobolt, 2020a; Hobolt and de Vries, 2015; Meguid, 2008). In addition, some suggest that there is reason to believe that political actors – especially at the more extreme ends of the political spectrum – are exploiting novel discursive opportunities (Schroeder, 2019) to actively seek the polarization (Hagen et al., 2022; Mau et al., 2023) and the politicisation of public issues (Hutter and Kriesi, 2022). Not only does this lead to reactions in the positioning of mainstream parties (Abou-Chadi, 2016), but also result in an increasing radicalisation of the public debate (Benkler et al., 2018; Soares et al., 2019).

Although the directionality of the relation is still unclear, it seems explicit that a discursive aspect to the polarization process is indeed linked to both ideological and affective polarization. Discursive dynamics – such as selective exposure, partisan media availability and visibility, and political communication strategies – are meaningfully linked both to opinion formation as well as the perceptions and affections towards political in- and out-groups. As such, we should understand polarization as a “*multi-dimensional meta-process* of social divergence” (Brüggemann and Meyer, 2023, p.132, *emphasis added*) in which the discursive dimension is a key piece of the puzzle. The next section explores this idea in more details.

⁶Local heterogeneity refers to the familiarity with points of view from the other side resulting from proximity (Törnberg, 2022, p. 1)

2.2 A Public Sphere Perspective on Polarization

We term discursive polarization the process towards increasing differences in what people perceive to constitute legitimate public debate and legitimate public debaters. This definition derives from the idea that the public sphere – i.e., the space where the political competition of ideas takes place (Habermas, 1998) – can be divided into different sub-spheres: (i) a *sphere of consensus* where ideas are not fundamentally questioned a shared sense of agreement exists; (ii) a *sphere of legitimate controversy* where public political discussions takes place; and (iii) a *sphere of deviancy* for all of those topics which are not considered worthy of general consideration (Hallin, 1986, p.116-117).

If all individuals had shared perceptions of what falls within each category, then public debate would be centred around the topics which lie in the sphere of legitimate controversy. In this situation, issues belonging to the sphere of consensus would be covered but not discussed because they are based on shared values and assumptions,⁷ while those belonging to the sphere of deviancy would be treated as “marginal, laughable, [or] dangerous” (*ibid.*, p. 117) and thus excluded from the political debate. In this sense, an *integrated* public sphere would see the competition for prevalence of conflicting opinions on a *shared* set of issues and facts deriving from the alignment of different social groups’ conception of what constitutes legitimate controversy (Brüggemann and Meyer, 2023, p. 133). For instance, people might discuss phasing out of fossil fuels (sphere of consensus), highlighting different ways in which it might be done (sphere of controversy), but not question the fact that this measure is necessary to combat climate change (sphere of deviance). On the contrary, a *segregated*, public sphere would be one where no shared understanding of legitimate controversy is present. In this situation, what one group might consider worthy of discussion (e.g., the existence of man-made climate change, or the result of an election), another one might discard as laughable and dangerous – i.e., part of the sphere of deviance. In such a situation, divergence of the spheres of legitimate controversy – and especially the alignment of one groups’ sphere of deviance with another’s sphere of consensus – leads different social groups to regard themselves as “lunatics” rather than political adversaries, thus impeding effective political discussion (*ibid.*, p.133).

Taking integrated and segregated public spheres as ideal types at the two ends of a spectrum, this thesis understands the level of discursive polarization in terms of the degree to which conceptions of legitimate controversy differ. In this sense, we can see how an increasingly segregated public sphere plays into the misperceptions and stereotypes discussed in section 2.1 (Ahler and Sood, 2018; Bail, 2021; Fernbach and Van Boven, 2022). The interaction with more extreme content – which is structural in the digital environment – reinforces the impression of the out-groups’ departure from what is perceived to be the consensual legitimate controversy (e.g., Brüggemann, 2020), and selective exposure decreases opportunities for misperceptions to be challenged (Gvirsman, 2014). In turn, this creates a perceived misalignment of the spheres of different social groups.

⁷Hallin (1986) defines it as the sphere of “motherhood and apple pie” (p. 116).

In this regard, two aspects become central to discursive polarization: content – what different people are talking about – and interactions – how people consume which content (Brüggemann and Meyer, 2023). The first is determinant of which political ideas and perceptions of the political reality are represented in the public sphere.⁸ The second is linked to how visible they are, how they are perceived and evaluated against each other by different social groups.⁹ Discursive polarization derives from the combination of differences along the content and interaction dimensions, creating a rhizomatic¹⁰ structure underlying different groups’ perception of their and the out-groups’ spheres of consensus, deviance, and legitimate controversy. In this regard, there is evidence that differences in epistemic assumptions and discursive strategies (content dimension) are arising between clusters of the public discourse (Benkler et al., 2018; Brüggemann and Meyer, 2023; Brüggemann, 2020; Hameleers and Yekta, 2023; Li et al., 2017; Tripodi, 2018; Williams et al., 2015), and that information sources are increasingly segregated in the ways they interact with one another (interaction dimension, Adamic and Glance, 2005; Benkler et al., 2018; Brüggemann, 2020).¹¹

2.3 Media Polarization

As we pointed out above, the focus of this thesis is on understanding how party-press alignment²³ on issue salience relates to the interactions between the media outlets. In doing so, we mobilise the conception of discursive polarization just explained to contextualise the literature on media polarization originated in the US.

We refer to media polarization as the extent to which the web of interaction between media outlets in the same media system is partitioned into ideologically consistent subgroups. Interactions are a common way of measuring how interconnected different parts of online discussions are, and have been used in the study of social media (e.g., Azzimonti and Fernandes, 2023), political blogs (e.g., Adamic and Glance, 2005; Brüggemann, 2020), as well as media systems (e.g., Benkler et al., 2018; Cointet et al., 2021).¹² Inspired by the latter, and given that they have been referred to as “the glue of [...] online communities” (Schulman, 2008, p.147, see also section 3.4), we here take interactions to be hyperlinking practices of online media producers. The reason for this is bifold. First, hyperlinking practices result from the editorial decisions different outlets make (cf Benkler

⁸More specifically, the content dimension of discursive polarization is concerned with everything from what is at issue and how to solve it to which evaluation parameters and epistemic assumptions are taken into account by different social groups.

⁹The interaction dimension concerns how people are exposed and interact with different pieces of information.

¹⁰“Rhizomatic” refers to a decentralized, non-hierarchical way of organising knowledge or systems, which emphasizes the multiplicity of viewpoints existing in a complex network rather than a single, centralised truth (Deleuze and Guattari, 2017). In our case, we leverage the concept to refer to the networked interaction between different human and non-human actors within information systems.

¹¹Other important evidence in this regard concern the fact that people themselves interact more with ideologically consistent content (Bakshy et al., 2015; Barberá et al., 2015) and are increasingly exposed to extreme points of views (Bail, 2021).

¹²Analyses of interaction patterns have also been used in the study of political actors (e.g., Froio and Ganesh, 2019; Völker and Saldivia Gonzatti, 2024)

et al., 2018, pp.38, 45-47), with journalists making use of hyperlinks to cite sources of information they consider legitimate (Tsui, 2008). Second, a citation from outlet A to outlet B is indicative of the fact that A recognises B's point of view to be relevant and worth discussing. In this sense, media citation patterns are indicative both of the relevance of a piece of information, and of the association of ideas between two information sources (cf Garfield, 1955, 1972).¹³ Accordingly, we argue that interaction patterns are a relevant indicator of the shared conception of the sphere of legitimate controversy between two media outlets, and refer to hyperlinking practices to estimate the architecture of the media system.

Looking at the US case, there is evidence that discursive partitioning along ideological lines has been present between online political blogs since the mid-2000s. In a study of the 2004 US election, Adamic and Glance (2005) found a high degree of clustering within the interaction networks of American blogs based on partisan leanings – Republican blogs interacted with other republican blogs and democratic ones with their fellow partisans. However, a review of the literature covering that same period found no evidence that the media was becoming more polarized overall (Prior, 2013). Rather, the US media system was based around a series of centrist mainstream media such as *The New York Times* or *The Washington Post* which dominated the public debate. “Ideologically extreme packages of news and opinions” (*ibid*, p. 104) remained niche, confined to the periphery of the media system where they exhibited the interactive patterns highlighted by Adamic and Glance (2005). More recent evidence however seems to suggest that extreme packages of news, especially from the right, have made it into the mainstream. In fact, an analysis of the 2016 US election has shown that the interaction patterns in terms of hyperlinking practices between media outlets display a significant level of asymmetric polarization of the US media system – one where the right-wing media has departed from the rest of the media ecosystem (Benkler et al., 2018).

Benkler et al. (2018) find this to be the result of two interrelated dynamics which contrasted the traditional characteristics of the US media system: (i) the increasing alignment of right-wing media with right-wing politicians, and (ii) the increasing interaction of right-wing mainstream media with niche and alternative media from the same side. The American media system had long been based on a tendency of the media to aim for centrist perspectives and “institutionalised” truth norms with the goal of delivering fact-based reporting to politicians and citizens (Benkler et al., 2018; Prior, 2013). US journalists had in fact been recognised to have a high level of professionalism¹⁴ which materialised in the autonomy they enjoyed from political interests and their commitment to “serve the public interest” (Hallin and Mancini, 2004). In fact, even though media bias and opinion journalism was still present (D'Alessio and Allen, 2000; Gentzkow and Shapiro, 2006), this system still privileged independent journalism and the media's role to deliver critical coverage to keep politicians “in check” rather than their instrumentalization by political or interest groups.

¹³Online media producers make use of hyperlinks to foster relations of reciprocity (Tsui, 2008), see also section 3.4.

¹⁴Within the comparative framework provided by Hallin and Mancini (2004), journalistic professionalism is defined as fact-based descriptive reporting and is opposed to opinion journalism.

However, the rise of the internet and new media fundamentally changed the structures within which mainstream media had learnt to operate in (Van Aelst et al., 2017). The increasing choice consumers had when it came to access to information changed the structure of the market for political news, creating increasing business pressures on mainstream media (*ibid*, Hamilton, 2004). Traditional outlets were compelled to adapt in order to remain competitive in an environment of declining audiences, increased marketization of news, and heightened competition for attention (Bennett and Pfetsch, 2018; Hamilton, 2004; Nisenholtz, 2008). In such a situation, Bennett and Pfetsch (2018) noticed that:

[A]udiences for quality news are shrinking, [...] trends that mirror declining voter loyalty for center parties that generate most of the traditional news. Meanwhile, populist and radical right parties are growing in many countries, supported by alternative media and attacks on traditional media as elitist (p. 244).

In fact, on the backdrop of already declining media trust (Liedke and Gottfried, 2024), alternative digital media outlets rose to prominence using partisan-conforming and anti-establishment narratives, aimed at undermining the position of mainstream media. In many cases, alternative and partisan media sources did so by popularising the idea that those producing discomfiting news – i.e., information which challenges an individual’s understanding of consensus – were being dishonest in doing so (Benkler et al., 2018; Jungherr et al., 2019; Schroeder, 2019). At the same time, populist political actors also actively undermined the legitimacy of mainstream media institutions by increasingly leveraging direct communication channels – the best example being a tweet by Donal Trump in which he claimed that using social media was the “only way to fight a VERY dishonest and unfair press” (Trump, 2017). As Benkler et al. (2018) explain, this created an opinion feedback loop whereas the iterative discursive exchanges between right-wing media and political actors – along with their exclusion of mainstream perspectives – resulted in a cycle of identity-confirming exchanges between the two. This changed the dynamics of political communication and media competition which became centred on identity-confirming grounds leading to high levels of party-press parallelism. Thereupon, the narratives of political actors and media outlets become intrinsically linked and built off of each other.

Furthermore, the perspectives and narratives of alternative media were making it into the mainstream also through mainstream media’s reporting on them (Schroeder, 2019; Tsfaty et al., 2020; Van Aelst et al., 2017). In fact, faced with restructuring in light of changes in the media market, some mainstream media increased interactions with alternative media, aiming to tap into the latter’s audiences to remain competitive (Benkler et al., 2018; Nisenholtz, 2008).¹⁵ Right-wing mainstream media – most notably *Fox News* – increasingly embedded the identity-reinforcing, partisan-confirming standard proper of alternative media into their journalistic practices, thus

¹⁵It is interesting to notice how in the same way in which the strategic behaviour of mainstream parties contributed to the success of niche parties (Meguid, 2008), similar dynamics played into to the mainstreaming of alternative media. In the political sphere, parties’ failure to “adapt” to new cleavages and to absorb them in their political offer led to the rise of parties campaigning on new issues (Kriesi et al., 2008, p. 18).

simultaneously detaching themselves from the rest of the mainstream media and legitimising the feedback loop dynamics.

In this regard, one of the main ways in which the alignment of right-wing media and parties materialised was through the congruence in the evolution of issue salience in their discourses.¹⁶ The assumption here is that what different groups perceive to be the composition of the sphere of legitimate controversy manifests most explicitly in what they talk about. When people deem an issue as important or worthy of discussion – i.e., as being part of the sphere of legitimate controversy¹⁷ – they will engage in the debate around it, and its salience will increase. On the contrary, if salience of an issue is low, then people either do not consider it important¹⁸ or they see it as belonging to the spheres of consensus or deviancy.

Indeed, substantial variations in the salience of an issue often come from exogenous shocks such as crises, scandals, or societal trends (Dalmus et al., 2017; Dennison and Kriesi, 2023; Schäfer et al., 2014; Völker, 2023). However, within these constraints, the salience an issue gets in the discourses of specific actors is dependent on the political communication strategies of parties (Budge, 2015; Hobolt and de Vries, 2015; Meguid, 2008; Petrocik, 1996; Riker, 1986), as well as the editorial decisions of media outlets on what they decide to cover (Edgerly and Vraga, 2020; Harcup and O'Neill, 2017). In this sense, while exogenous factors do influence the evolution of salience, this ultimately depends on the discursive decisions parties and outlets make in response to them. With respect to this, the study the 2016 US election to which we have referred so far shows substantial similarities in how much right-wing media and the republican party emphasised issues at different points in time (Benkler et al., 2018).¹⁹ This is especially clear in the case of disinformation stories such as those concerning the “deep state”,²⁰ or the Uranium One and Clinton Foundation scandal²¹ – which were discussed significantly more both in Trump’s political communication and right-wing media outlets such as *Breitbart* and *Fox News*²² – but was also present to a lesser extent in the case of immigration.

In this sense, the alignment of salience between right-wing media and the Republican party represented one of the materialisations of the development of opinion feedback loops, thus playing

¹⁶Salience is defined as the political attention and importance attached or devoted to a particular issue (cf Behr and Iyengar, 1985). Please note that to avoid repetition this section uses salience alignment and congruence in the same fashion.

¹⁷Recall section 2.2

¹⁸Salience is tightly linked to the audience compositions of specific public discourse. In cases where salience is low, the audience composition will be limited to interest groups which, in turn, influence policy on that issue. As salience increases, the wider public will become part of the audience and join the debate (Busemeyer et al., 2020; Culpepper, 2010; Janusch, 2021).

¹⁹See pages 108, 154, 186, and 198.

²⁰This entailed Fox News attacking the National Security Establishment on claims that Obama was operating a shadow government while Trump was president.

²¹The narrative pushed by conservative media – and originating from the book *Clinton Crash: the untold story of how and why foreign governments and businesses helped make Bill and Hilary rich* from the far-right outlet Breitbart – involved a \$145 million bribery scandal involving Hillary Clinton and the Clinton Foundation allegedly donated to them after the sale of the Uranium One company to a Russian state-owned company.

²²While these were present both on the left and on the right of the political spectrum, they gained significantly more traction on both right-wing media and parties.

a central role in the process of discursive polarization and the right-wing's departure from the rest of the media system (*ibid.*). Accordingly, congruence on issue salience²³ is indicative of the convergence of the media and parties' spheres of legitimate controversy. In turn, we refer to party-press alignment²⁴ in terms issue salience.²⁵

2.4 Hypotheses

This dissertation's main goal is to test whether increasing party-press alignment on issue salience is positively related to media polarization in the French context – i.e., one which presents a series of significant differences from the US when it comes to both its media and political system (see section 2.5). In this regard, if the theory developed in the American setting is applicable to different media and political environments, then we should find that:

***H 1:** An increase in party-press alignment on issue salience is positively related to an increase in the polarization of the architecture of the media system.*

More specifically, we can break down the above expectation into more precise hypotheses tackling different aspects of polarization. Recall that in section 2.3 we defined media polarization as a situation where the “web of interaction between media outlets belonging to the same media system is partitioned into ideologically consistent subgroups”. This means that, by definition, discursive partitioning is a necessary – although not sufficient – condition for media polarization. Given a network of citations patterns between different media outlets, polarization in the way defined here cannot be present unless the network presents some kind of segregation between different subgroups. The expectation here is that the more party and media will be aligned, the more distant media outlets will be within the network and the more segregated the debate will be. As such, we hypothesise that:

***H 1a:** An increase in party-press alignment is positively related to an increase in the discursive partitioning²⁶ of media networks regarding the immigration and climate change debates in France.*

²³Please note that to avoid repetition this section has used salience alignment and congruence in the same fashion.

²⁴This concept draws from that of party-press parallelism, namely the extent to which the architecture of the media system resembles that of the party system (Seymour-Ure, 1974). Party-press parallelism has four main dimensions: ownership of media outlets, political affiliations of journalists, the political leaning of the outlet's audiences, and, crucially, the extent to which it disseminates and reflects the positions of a given party. Along similar lines, Hallin and Mancini (2004) developed the concept of political parallelism to refer to the wider conception of alignment between media and politics in a way that goes beyond the one-to-one kind of connection between Seymour-Ure (1974) theorised. In our case, we draw from both concepts focusing on the dimension we deem central to evaluating the alignment of media and politics: the content dimension. In fact, while the ownership, political affiliations of journalists, and even more generally partisan control of the media (cf Durante and Knight, 2012) are important factors in shaping the editorial decisions of a news outlets, we are here interested in the strictly discursive aspect of party-press alignment. In fact, our aim is to look at content rather than detailing what influences it, aiming to identify the extent to which media and parties talk about the same things. We thus speak of alignment rather than parallelism to emphasize the measure's less encompassing and less active nuance we grant the term.

²⁵For more details concerning the operationalisation see section 3.2.

²⁶We measure discursive partitioning based on the modularity of the media networks (see section 3.4)

H 1b: *An increase in party-press alignment is positively related to an increase in the distances²⁷ between media outlets discussing immigration and climate change in France.*

Second, we focus on the ideological composition of the different subgroups (the second part of our definition) aiming to understand how party-press alignment from different leaning of the political spectrum affects the distances between media outlets. The idea is that ideologically consistent subgroups will be more defined when outlets interact with parties from their side of the political spectrum. For instance, similarly to what has happened in the US, if the right-wing media is strongly aligned with right-wing parties, then right-wing outlets will be cohesively more distant from the rest of the media system. Specifically, if the media is aligned with parties from their same side then this will increase media polarization by increasing the distances between media from opposite sides and decreasing those to media from the same side. On the contrary, if the media is aligned with parties from the opposite side, then this is likely to have a mitigating effect and decrease polarization. As such, if this reasoning is correct, opposite side alignment should lead to a decrease in the distances between media from opposite sides while same side alignment should lead to an increase in the distances between media from opposite sides. Along these lines we hypothesise that:

H 1c: *An increase in the alignment of media and parties from the same side of the political spectrum is positively related to an increase in the distances between media outlets from opposite sides.*

H 1d: *An increase in the alignment of media and parties from the same side of the political spectrum is negatively related to an increase in the distances between media outlets from the same side.*

H 1e: *An increase in the alignment of media and parties from opposite sides of the political spectrum is negatively related to an increase in the distances between media outlets from opposite sides.*

H 1f: *An increase in the alignment of media and parties from opposite sides of the political spectrum is positively related to an increase in the distances between media outlets from the same side.*

2.5 Case Selections

To study the above-mentioned dynamic, we focus on the debates on immigration and climate change in France during the 2017-2019 period. This section is devoted to outlining the motivations and reasonings behind these choices.

²⁷We measure distance as the euclidean distance between two outlets in a multi-dimensional network embedding (see section 3.4). It is hereby taken to represent the association of ideas between different outlets. The bigger the distance between two outlets, the less their spheres of legitimate controversy will align.

2.5.1 Beyond the US

As we already pointed out, one of the main goals of this thesis is to empirically test some of the implications of the Benkler et al. (2018) study in a context different from the US. In this regard, the choice of France was based on the characteristics of its political and media system which differ on key points from that of the US.

The American media system falls into what Hallin and Mancini (2004) call the “liberal model”. This is characterised by historically high levels of commercialisation of the press and a strong market domination,²⁸ as well as high levels of journalistic autonomy and professionalism and low levels of political parallelism. Accordingly, it is a model in which the media is significantly independent from political interests, and is rather governed by market forces. Historically, the market remunerated information-oriented, “truth-seeking” journalism which thus became the standard across the US media system.²⁹ On the contrary, the French media system falls into what the authors call the “polarized pluralist model”, that is, one characterised by low levels of commercialisation and the presence of a weak media market, as well as high levels of political parallelism and instrumentalisation of journalists.³⁰ Media outlets in France often received subsidies from the state, and the press has been historically linked to political parties or interest groups – e.g., *L’Humanité* had strong connection to the PCF or *La Croix*’s to Catholic groups. As such, the French system has been historically centred around political analyses, interpretations, and opinion-based journalism.³¹ These factors led to a system in which the power of market forces was rather limited and the connection with the political sphere strong. The characteristics of the French and US media system have also been confirmed by more recent quantitative analyses (Brüggemann et al., 2014; Humprecht et al., 2022).³²

These differences between the two models can significantly affect the media system’s reaction to the rise of the internet and new media, and, consequently, the association between party-press alignment and media interactions. First, differences in the commercialisation and market dependence of media outlets can have an effect on the role of market pressures brought about by increased consumer choice (Hamilton, 2004).³³ There is reason to believe that the changing

²⁸By market domination we hereby mean the fact that editorial choices heavily depend on market pressures.

²⁹However, as we outlined in section 2.3, this has recently started to change because of the increasing market pressures resulting from the rise of the internet and alternative media (Hamilton, 2004). In turn, in recent years we have seen the development of a right-wing alternative identity-based information sphere in the US media environment which deviate from the historical truth-seeking standard (Benkler et al., 2018).

³⁰By instrumentalisation we mean the strategic use of the media for political gains by owners and political parties alike.

³¹This is something that also links back to the fact that French newspapers low penetration rates together with low literacy rates in the 1800s led to the French press developing more as an instrument of influence to supply the elites with analyses and points of view (Hallin and Mancini, 2004).

³²It is important to point out that Brüggemann et al. (2014) and Humprecht et al. (2022) did not reach the same conclusions as Hallin and Mancini (2004) with respect to the categorisation of media system. However, on the key characteristics we have discussed here – namely, the commercialisation and importance of the media market, journalistic professionalism, and the political parallelism levels – the two studies do reach the same conclusion.

³³By increased consumer choice we hereby refer to the fact that the rise of the internet brought about an increasing number of competing markets and market players in the form of an higher numbers of digital outlets available.

structure of the media market will have less of an impact in France compared to the US. In turn, traditional media outlets might be less inclined to drastically shift their editorial practices as a response to the rise of new and alternative media. Recent empirical evidence from France has in fact shown that the French media system is still centred around traditional mainstream media, leaving alternative media bound to its periphery (Cointet et al., 2021). Accordingly, it is plausible that party-press parallelism might not have a predominant impact in the the French system.

Second, the traditionally high levels of political parallelism in terms of tight relations between media and politics are not drastically new in the French system (Hallin and Mancini, 2004). Together with the prevalence of opinion-based and interpretative journalism, this suggests that alternative media’s rhetoric might have less space to operate in. In fact, whereas the extreme opinion-based reporting that characterised the rise of American alternative media was outside the traditional paradigm of professional journalism in the country, the French one presents a historical internalisation of opinion-based journalism and media’s connections to politics. In turn, this restricts the ability of new and alternative media to craft counter-narratives and integrate substantially novel opinion-based perspectives into mainstream discourse.

Another key difference between France and the US comes down to the political systems the two countries have. In fact, the US is based on a bi-party system, centred around the left-wing Democratic party and the right-wing Republican party. This is a system in which the identification of the political in and out-group is straightforward and aided by an individual’s association to either one or the other party (Iyengar et al., 2019). Differently, a multi-party system – such as the French one – is one in which multiple party associations are possible (Garry, 2007) thus making partisan social identity labels harder to form. The absence of a clearcut binary distinction would make the alignment between media outlets and political parties less direct in a multi-party than in a bi-party system. As a result, the effects of partisan identity-reinforcing feedback loops and identity-based party-press alignment may be less prevalent in structuring the public discourse.

Because of the mitigating effects that historically high levels of political parallelism and the possibility of multi-party associations might have on party-press alignment, we can expect that:

***H 2:** Party-press alignment on immigration and climate change will not be prevalent in the French media system.*

2.5.2 Issue Focus and Issues Selection

To investigate the association between party-press alignment and media interactions, we focus on the public debate around two issues: immigration and climate change. The choice to focus on issues is bifold. First, it is widely recognised that political parties compete on the salience of different issues in the public sphere, trying to emphasize those where they hold a competitive advantage to win votes over their rivals (Budge, 2015; Budge and Farlie, 1983). In fact, in a

political environment in which voters cast their ballot based on issues (cf Dalton, 2002), parties compete to ensure that the issues to which they are linked³⁴ – i.e., the issues they “own” – will be high on the political agenda during a given election. This, in turn, will lead citizens to vote for those parties having a curriculum of dealing with the issue they perceive to be urgent, and parties to politicise those issues which grant them electoral gains.³⁵ What is more, the rise of new parties in recent decades was partly due to their ability to capitalise on the mobilisation of novel cleavages by politicising new issues (De Vries and Hobolt, 2020b; Hobolt and de Vries, 2015),³⁶ and competing with traditional mainstream parties on their salience (Meguid, 2008). This politicisation of issues, together with the higher communicative action of political parties to increase their salience, makes an issue specific analysis more relevant than a system level one. In fact, it would allow us to target instances where political parties are most active and their political communication more influential in the dynamics under study. Additionally, whereas analysing the wider media system might lead us to include discussions concerning less relevant topics,³⁷ focusing on issues also allows to clearly target political information environment (cf Van Aelst et al., 2017).

The specific focus on immigration and climate change is due to the fact that the two issues are those which have been reconfiguring political conflict in recent decades. Originally brought to relevance by the rise of niche parties (Meguid, 2008),³⁸ immigration and climate change have been increasingly adopted by mainstream parties which recognised their importance in mobilising voters during election campaigns. In fact, in light of niche parties electoral success, mainstream parties started to adapt and absorb new issues into their political communication to compete with the former (Abou-Chadi, 2016; Kriesi et al., 2008; Hobolt and de Vries, 2015; Meguid, 2008). In this regard, the literature has identified an increasing politicisation of both immigration (Hutter and Kriesi, 2022; Gessler and Hunger, 2022) and climate change (Fisher et al., 2022; Chinn et al., 2020), indicating that political parties are particularly active in their communicative efforts around the two.

³⁴For example, while the issue of redistribution is highly tight to socialist parties, that the civil order is proper of right-wing ones (Budge, 2015).

³⁵Petrocik (1996) provides a landmark case for this conception showing how electoral outcomes are tightly linked to what voters perceive to be a country’s main concerns and how political actors compete on issue salience to alter those perceptions.

³⁶This has been referred to as issue entrepreneurship, namely the “party strategy of active mobilization of a previously ignored and not divisive issue by adopting a policy position on that issue that is substantially different from the status quo position of the mainstream” (Hobolt and de Vries, 2015, p.6).

³⁷For instance, it allows us to filter out discussions on sports or even popular culture. While these can be important indicators in shaping habits and affective polarization (cf Mason, 2018) they lie outside the discursive scope of this master thesis.

³⁸The left-wing Green parties mobilized their support on climate change and environmental matters while the radical right focused on immigration and cultural issues.

2.5.3 Time Period

One final consideration must be put forward concerning the time period chosen for the analysis. In fact, the main pieces of literature from which this thesis takes inspiration were based on studies of media interactions during election periods (Adamic and Glance, 2005; Benkler et al., 2018). While it not being a central part of our theory nor hypothesis, it is important to notice that the choice of their time period might be a factor in shaping their results. As such, we chose a time period which contains two elections – the 2017 French presidential election and the 2019 EU parliamentary election – so as to check for potential election effects on the dynamics under study.

We now turn to the next chapter where we outline the research design and methodology employed to investigate the theoretical mechanisms surrounding the relation between party-press parallelism and discursive polarization in the French immigration and climate debate.

3 | METHODOLOGY AND RESEARCH DESIGN

To answer the research question and test the hypotheses outlined above, this thesis relies on a computational approach combining text and network analysis (see figure 3.1). Starting from the news articles posted by a sample of French Twitter users during the 2017-2019 period (see section 3.1), we analyse citation patterns between media outlets in the form of in- and out-links appearing on the articles' web-pages. Depicted in the form of a network graph, we leverage this data to estimate the polarization of the French media system using network metrics (modularity), as well as by calculating the distances between media outlets in a multi-dimensional space produced by embedding the network using correspondence analysis (see section 3.4). We then turn to text analysis to estimate the salience of immigration and climate change in media outlets and parties political communication and employ a correlation function to estimate party-press alignment (see section 3.3). To do so, we first employ a combination of traditional dictionary approaches and topic modelling using BERTopic to identify the two issues in news articles' headlines (derived from the above sample), and posts from French parties' official Twitter accounts (see section 3.2). Second, we estimate issues salience by taking the share of overall items that have been identified as belonging to either immigration or climate change related as a percentage of total number of items by a party or media outlet at any given point in time. In turn, we compare the saliences the two issues get in the media and parties political communication to derive a measure of party-media parallelism in terms of salience alignment, measured as the correlation between the salience each topic gets in parties and media from different ideological leanings. Finally, we combine the polarization and parallelism analyses using standard OLS regression models (see section 3.5).

The following sections go into further details concerning data collection methods, the operationalization of key variables, and the data analysis procedures summarized in figure 3.1 below. The code used for can be found in the online appendix (see appendix A.3)

3.1 The Data

To investigate how party-media parallelism influences the architecture of the media system, we leverage data from two main source. First, to identify the media discussion on immigration and climate change, we use a dataset of media articles URLs posted on Twitter between 2017 and 2019 by a random sample of 23,889 French users. This data will be used to identify issue salience in the media, and as the seed for the construction of the media networks (see sections 3.4 and 3.2). In total, it contains 2,144,415 tweets sharing 182,712 unique articles from 403 media outlets. The reason why we rely on media articles posted on Twitter as opposed to using other databases such as MediaCloud or Factiva, is bifold. First, it allows us to pick up on niche media outlets which can meaningfully alter the structure of the media system (cf Benkler et al., 2018). Second, Twitter derived URLs give us a better idea of what have not only been published but

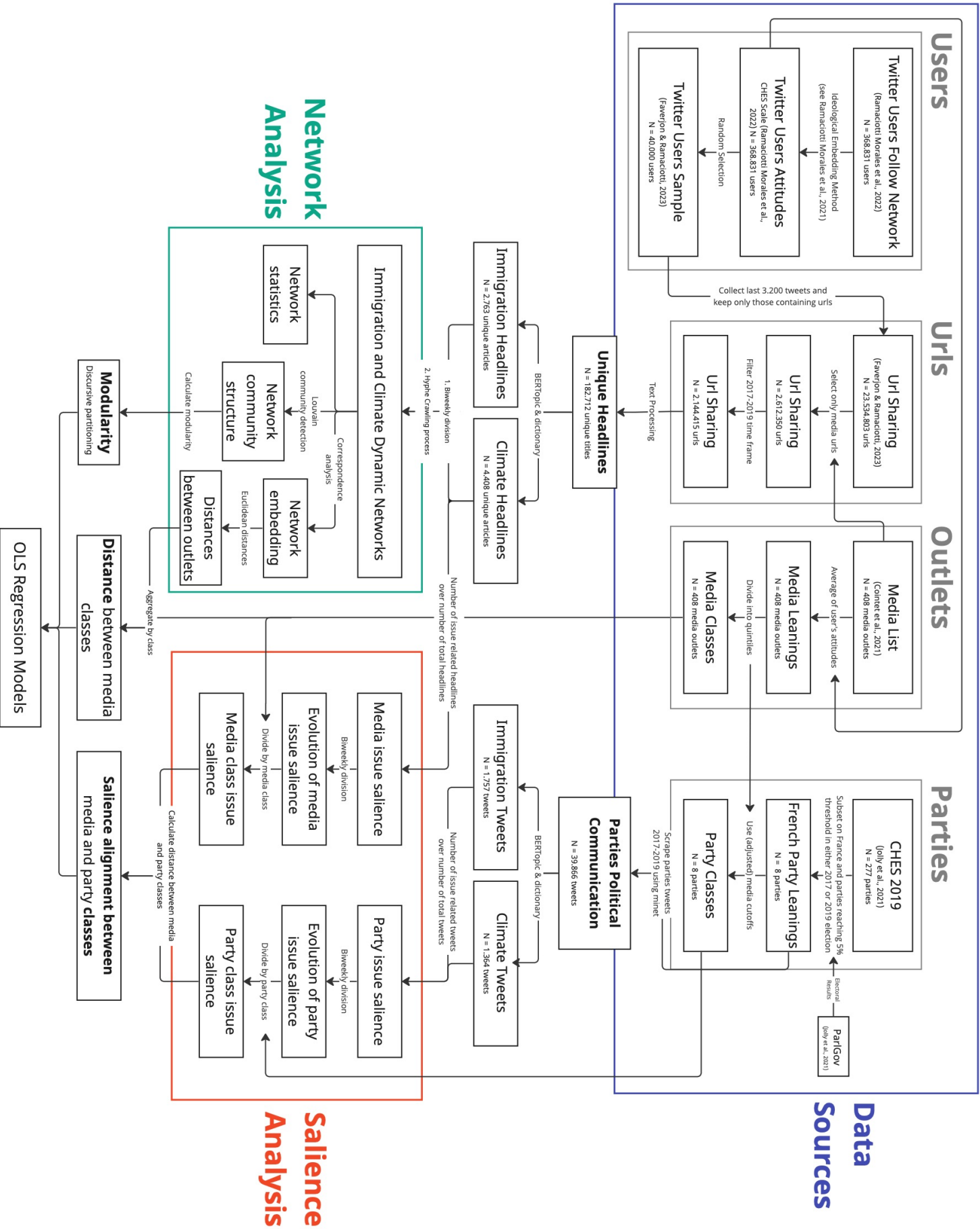


Figure 3.1: Summary of the methodology

Table 3.1: French media articles – Data overview

	Faverjon & Ramaciotti (2023)	Thesis Subset
Time period	2010-2019	2017-2019
Number of Tweets containing URLs	3,277,738	2,144,415
Number of unique URLs	651,367	182,712
Number of unique domains	32,639	403 ³
Number of users	29,373	23,889

also discussed by the public. In turn, these would give us an estimate of discursive polarisation that goes one step beyond the pure mainstream media debate.

The dataset is a subset of the data collected in previous work by Faverjon and Ramaciotti (2023). The authors gathered the tweets posted by a sample of 40,000 French users which they derived through random selection from a dataset of 368,831 Twitter users produced in Ramaciotti Morales et al. (2021). For each user, Faverjon and Ramaciotti (2023) gathered the last 3,200 tweets posted up to the time of data collection – i.e. August 2019. They then filtered out all tweets not containing any URLs and furthered excluded URLs that had been shared less than 10 times. In turn, this resulted in a dataset contained 3,277,738 tweets shared by 29,373 users between 2011 and 2019, with URLs from 32,639 unique domains from which this thesis derives its subset. Furthermore, because we are interested in analysing the media system, we further filtered out all URLs not belonging to media outlets based on the list developed in Cointet et al. (2021).¹

Due to the way it was collected, this data presented a heavy skew towards more recent years. In fact, the number of tweets collected in years closer to the data collection – especially between 2017 and 2019 – is significantly higher compared to previous years.² This is due to the fact that twitter users differ both in the dates of creation of their accounts as well as in their usage rates – some post multiple times a day, others rarely do so. Therefore, while low usage users do not constitute an issue per se, collecting the last 3,200 tweets of a user with a high usage rate captures only the most recent share of its posts. To mitigate this, we only consider data for the 2017-2019 period. This choice is threefold. First, it allows us to focus on years containing 82,1% of all tweets in the Faverjon and Ramaciotti (2023) dataset. Second, it enables us to analyse years where the number of URLs from media outlets is either above or slightly below 500,000, thus ensuring a large N across the time period. Third, it allows us to focus on a period containing two elections – the 2017 French presidential election and the 2019 European parliamentary election – thus contain periods of electoral campaigns and intense party competition (see also section 2.5.3). Table 3.1 summarizes the dataset.

The second dataset we leverage is used to estimate the salience of immigration and climate

¹The list can be found in table A.4 in the appendix.

²A detailed description of the original Faverjon & Ramaciotti (2023) dataset can be found in the appendix, table A.5 and figure A.5.

Table 3.2: French Parties political communication 2017-2019 – Data overview

Party Name	EELV	FI	LR	MoDem	PS	PCF	LREM	RN
Number of tweets	1,086	10,332	2,489	1,014	4,447	4,480	3,602	12,416
Total	39,866							

change in the political communication of French political parties on the basis of their Twitter posts between 2017 and 2019. While traditional studies of salience tend to rely on the analysis of party manifestos (cf Budge, 2015), these are generally only produced in light of election campaign. This would therefore limit our study to only a few data points and not allow for fine-grained analysis of the evolution of salience across time. More recent approaches propose to focus on parties’ press releases (e.g., Erfort et al., 2023) which, however, present significant challenges related to their data collection. In this thesis we therefore rely on the political communication of political parties on Twitter – a platform which is key to the communication strategies of parties, especially during electoral campaigns (Álvarez-Peralta et al., 2023; Einspänner-Pflock and Anastasiadis, 2018; Readshaw, 2018), and is tightly linked to the party priorities outlined in manifestos (Berger and Jäger, 2023).

We chose to focus on parties who received at least 5% of the popular vote in either the 2017 or the 2019 election.⁴ As such, the parties included in the analysis are Europe Écologie les Verts (EELV), La France Insoumise (FI), Les Républicaines (LR), Mouvement Démocratie (MoDem), Parti Socialiste (PS), Parti Communiste Français (PCF), La République En Marche! (LREM, later Renaissance), and the Rassemblement National (RN). For each party we collected Twitter data by scraping the official account of each parties⁵ using the Minet python library (Plique et al., 2019). As part of a wider data collection project, we scraped the tweets posted by each party from 2009 up to March 2024, and then subset it to match the time-period of the media dataset. In total the subset used in this study contains of 39,866 tweets posted by 8 parties between 2017 and 2019 (see table 3.2 for party-specific breakdown).

3.2 Issue Salience

The standard way to measure it is to calculate the share of items (such as words, sentences, articles, captions) that is related to specific pre-identified categories. Long linked to the development of political content analysis, measures of salience aim to estimate the amount of space given to specific topics in a given context (Budge, 2015). Early analyses focused mainly on studying salience on newspapers – often aiming to analyse propaganda – and operationalised it as the share of captions containing words related to selected categories (Lasswell, 1941). This tradi-

⁴These were identified using data from ParlGov (Döring and Manow, 2020).

⁵The list of French parties’ official Twitter accounts that are taken into consideration can be found in the appendix.

tional way of measuring salience has remained somewhat consistent over the years – with some variations in the methodologies used to identify items related to the categories of interest (issues) and in the definition of the items (units of analysis) themselves. More recent operationalisations of salience both in studies of media (Schäfer et al., 2014) and party competition (Berger and Jäger, 2023; Dennison and Kriesi, 2023; Petrocik, 1996; Robertson, 1976), all measure it as the share of items related to pre-identified categories of interest.

We thus hereby adopt this definition of salience, and take climate change and immigration to be our two categories of interest. In the case of the media, we calculate issue salience as the share of articles that relate to the issue as a percentage of the total number of articles published by an outlet in any given two weeks period. The identification of an article as part of the immigration or climate debate is based on the text analysis of its headline.⁶ For political parties' communication, we do so by looking at the share of tweets belonging to an issue as a share of all tweets published by the party in any given two weeks period. We identify a tweet as belonging to an issue based on the text of the message.

The identification of and headline or tweet as belonging to immigration or climate change was conducted using a combination of topic modelling and a dictionary-based approach. While a pure dictionary-based is often used to detect issues in a text corpus (e.g., Hameleers and Vliegthart, 2020; Gessler and Hunger, 2022) its main limitation is that it picks up on items which include specific words but are not related to the issue at stake. A pure topic modelling approach, on the other hand, is able to avoid such an issue by including more information about the context in which a specific word is mentioned. However, it often misses out on detecting specific aspects of a topic (e.g., stories related to a specific NGO working in the immigration or climate change context). Combining the two allows us to both include contextual elements in the selection of the items while also leaving room for a dictionary to pick up on specific elements which topic modelling fails to detect. In practice, this was done in four steps. We first ran two separate topic models on the corpus of media headlines and parties' tweets using BERTopic (Grootendorst, 2022).⁷ Secondly, we ran a quantitative exploration of the topic modelling output to identify topics semantically similar to a list of words related to immigration and climate change.⁸ From this, we selected the top 20 topics in terms of similarity to each individual word and qualitatively analysed them to determine whether they were in fact related to the two issues.⁹ This was done by looking at each topic's representative words, representative documents, and – if necessary – further sampling items which were categorised as belonging to that topic. Finally, to capture specific aspects of the two debates, we complemented the topic modelling using a dictionary-based

⁶We derive the articles headlines by individually opening each URL and scraping the article's title.

⁷The GPU necessary for the computation of the topic model was provided by SSP Cloud and Onyxia, a French platform which provides access to cloud computing services for French public servants. Access to the platform was provided by Sciences Po.

⁸The list of word and function used for calculating the semantic similarity of topics with specific words is available in the methods appendix.

⁹For example, in the case of climate change and specifically topics related to coal or natural gas, one would keep topics related to the ecological transition while exclude those which discussed energy prices in terms of inflation.

Table 3.3: Summary of immigration and climate change identification process.

	Parties	Tweets
Total number of unique documents	182,712	39,866
Total number of topics	1,800	422
Unique topics quantitatively selected	167	181
Unique topics qualitatively selected	51	28
Immigration		
Total number of items	2,763	1,664
Number of topics	23	12
Items identified through topic modelling	1,785	1,492
Items identified through dictionary	656	172
Climate		
Total number of items	4,408	1,182
Number of topics	28	16
Items identified through topic modelling	2,739	1,069
Items identified through dictionary	695	113

approach. In the case of immigration, the focus was on capturing headlines and tweets related to specific NGOs (e.g., SOS Mediterranee) or migration hotspots (e.g., Lampedusa), while for climate change, we looked for specific international conferences and high-level events (e.g., COP 21), activists (e.g., Greta Thunberg), and NGOs (e.g., Greenpeace).¹⁰ Table 3.3 below provides an overview of the process.

3.3 Party-Press Alignment

We operationalise party-press alignment building on the analysis of the salience that immigration and climate change get in parties’ tweets and media articles. In doing so, we aim to identify the extent to which the evolution of salience in one is mirrored by the other. Inspired by the approach used in Benkler et al. (2018), we first divide media and parties into five classes based on their ideological leaning – left, centre-left, centre, centre-right, and right. We then estimate party-press alignment between different classes measuring the correlation between issue-salience in any given pair of media and party class at a point in time.

Thus, our measure of alignment is built on the classification of different outlets and parties based on their leaning. This was done in two ways. First, to measure ideological leaning of parties we rely on the 2019 version of the Chapel Hill Expert Survey (CHES), a dataset of party positions derived from the responses of 421 political scientists asked to place political parties on 51 different issues (Bakker et al., 2019). The reason behind this choice is that expert surveys are widely used

¹⁰The full list of words is available in the methods appendix.

in political science to identify party positions and study their evolution (e.g., Bakker et al., 2015; Jolly et al., 2022). While not without caveats, they produce a precise estimate when compared to other approaches such as elite studies, secondary readings, or a priori judgements (Mair, 2001) and have the advantage of combining an evaluation of both party actions and communication practices (Bakker et al., 2015).¹¹

Second, in the case of the media, we derive ideological leanings using an audience-based approach. This choice is mainly based on the assumption that, because selective exposure (cf Stroud, 2008, 2010) leads citizens to read newspapers with a coverage similar their ideological attitudes, the audience of a media outlet is indicative of its leaning. Specifically, we identify audiences' leanings by leveraging the ideal points estimates on the CHES scale of French Twitter users developed in previous work by Ramaciotti Morales et al. (2021)¹² – from which the sample in this thesis is derived (see section 3.1). We then take a media outlet's leaning to be the average of the attitudes of users who posted at least one articles by that outlet's on Twitter.

Finally, to measure party-press parallelism, we first partition media outlets into left, centre-left, centre, centre-right, and right, leveraging the quintiles of the distribution of inferred media leanings as cut points between the classes. Given that both parties and media leanings are defined on the CHES left-right scale (lrgen), we can then use the identified cut points classify parties into leanings that are consistent with those of the media.¹³ Based on these, we then measure salience alignment between two classes as the correlation between the salience an issue gets within a given media class and the one it gets in a given party class at any point in time. Figure 4.3 shows the measure's averages at key points between 2017 and 2019.

3.4 Media Polarization

Measuring polarization is a challenging endeavour, which changes depending on the context of one's study and focus one has in doing so. Studies of public opinion often measure it using survey-based approaches. A classic example of ideological polarization is DiMaggio et al. (1996) who measure it starting from the distribution of public attitudes on different issues based on survey data. In doing so, they measure the curves' dispersion (variance) and bimodality (kurtosis) –

¹¹In doing so, expert survey also remain comparable to the results yielded by other approaches such as manifesto analyses or mass surveys (Netjes and Binnema, 2007).

¹²Postulating that the probability of two users being connected is based on homophily – i.e., on the fact that “a contact between similar people occurs at a higher rate than among dissimilar people” (McPherson et al., 2001) – Ramaciotti Morales et al. (2021) use the known ideological positions of key nodes in a network embedding to estimate the ideological meaning of the embedding's dimensions. To do so, they match the embedding resulting from the Twitter following network of a sample of French users with external reference points derived from CHES party positions. In turn, this yields an ideological space within which each Twitter user is positioned. Evaluating this by cross-referencing ideal point estimates of Twitter users' with their campaign contribution and voter registration records, previous work shows these position to be correlated to people's political preferences (Barberá, 2015, p. 85-86). For a full description and discussion of the method used in Ramaciotti Morales et al. (2021) see the methodological appendix.

¹³The affiliation of different media outlets and political parties to one or the other class is available in appendix table A.3 and A.4.

as well as consolidation of opinion in terms of the two’s consistency across a number of different issue dimensions. Other approaches focused on distribution of parliamentary seats, especially looking at the relative strength of extreme parties across different ideological dimensions (e.g., Warwick, 1994). In the case of affective polarization, surveying people also seems to be the standard approach – with some relying on direct questions around stereotypes or attitudes towards marrying people from the political out-group (Iyengar et al., 2012), others on indirect measures based on trust games and attitude tests (Iyengar et al., 2019; Iyengar and Westwood, 2015). Our case, however, calls for a different approach. In fact, because of its structural characteristic, the discursive aspect of polarization we are trying to measure is likely to go undetected if we were to use traditional survey or public opinion data.

To estimate the polarization of the architecture of the media system in France, we create a map of influences and distances between a plurality of ideas, discourses, and narratives. In doing so, we focus on media interactions. Inspired by the approach in Adamic and Glance (2005) and Benkler et al. (2018), we take hyperlink citations to be indicative of the legitimacy one entity recognises to another, and thus of how divided a given sphere of the public debate is as explained in section 2.3. This is based on the idea that citation patterns meaningfully reflect the structural characteristics of the influences between different pieces of knowledge, and are thus indicative of ‘associations of ideas’ (Garfield, 1955). As such, citation patterns have been leveraged to measure the influence and importance of information sources in different contexts, and have had a significant impact both in the evaluation of scientific research (Garfield, 1972; Pinski and Narin, 1976) and in the very structuring of the world wide web (Brin and Page, 1998; Rieder, 2012). In this sense, we take hyperlink citations between media outlets to represent both associations of ideas and recognition of importance of an information source. In other words, if outlet A cites outlet B, that will be indicative of A’s recognition that, although not necessarily right, B’s ideas, discourse, and narratives are of relevance and worth discussing.

To uncover this structure, we construct a dynamic network – i.e., evolving through time – of media interactions in the immigration and climate change debate. Specifically, using the lists of URLs identified as belonging to the two issues (see section 3.2), we use the online tool hyphe (Ooghe-Tabanou et al., 2018) to crawl each single article (depth 1) and derive the connections between the different media outlets. Crawling is a process which refers to visiting each individual webpage, opening the hyperlinks thereby found, registering a – directed – connection between the source page and the target page, and finally grouping all connections to the domain level. As such, it is a tool which identifies co-reference networks between different web domains starting from a given list of URLs. In our case, the networks were limited to the domains that we had previously identified as media outlets using the list of Cointet et al. (2021). This means that no domain discovered through the crawling process is considered in the analysis unless it is a media entity. To track changes through time, we further divide networks on a biweekly basis and combine them in two dynamic edge lists of media interactions between 2017 and 2019. Table 3.4 summarises the size and main characteristics of the two networks.

In turn, we estimate the polarization of the media system in two ways. First, we use modularity

Table 3.4: Overview of main statistics of the media networks – 2017-2019

	Starting articles	Nodes	Edges	Avg Degree	Diameter	Avg Path length
Immigration	2,763	103	831	8,05	6	2,25
Climate Change	4,408	103	1,025	9,95	6	2,22

as a measure of how discursive partitioning – namely how connected different subgroups are within the network. Modularity is a metric which compares the number of internal links in a subgroup of nodes to the number that would have been present had the network connections been placed at random. A high modularity indicates dense connections between nodes of the same group and sparse ones with nodes in different subgroups. As such, it is indicative of how segregated different groups of outlets are within the media networks. To measure modularity at different points in time, we first identify clusters (or communities) – i.e., groups of nodes which are closer to each other than to other nodes in the graph (Borgatti et al., 2018) – using the Louvain community detection method (Blondel et al., 2008).¹⁴ In turn, we use the identified groups to calculate the network’s modularity. Importantly, this is not a direct measure of discursive polarization as it does not take into account the composition of each subgroup. Rather, it is a measure of discursive partitioning, namely how segregated different part of the media networks are from one another.¹⁵

Second, we provide insights into the polarization of the system by measuring how distant media outlets from different political leanings are within a multi-dimensional space. To do this, for each time period, we first represent the network graph in the form of an adjacency matrix whose rows and columns represent nodes in our graph and whose values report the normalized weights of the connections between each pair of nodes. Then, similarly to previous work (Ramaciotti Morales et al., 2021; Ramaciotti et al., 2024), we embed the network graph in a multi-dimensional space using Correspondence Analysis (CA), and use the coordinates of the media outlets on the principal components of the CA to produce a reduced dimensionality representation of the graph. Finally, we measure the euclidean distance between each pair of media outlets and take the average distance between outlets from each pair of political leanings. This, in turn, yields us a measure of how far media from different political leanings are at different points in time, allowing us a look into how classes of media interact with one another.

¹⁴The Louvain method for community detection is a clustering algorithm which operates by optimizing the modularity of a network. It does so by initially placing each node within its own community – i.e., the number of community in the network is equal to the number of nodes – and calculates modularity in this situation. Then, it merges each node into a community close to it and calculates modularity as it does so for each change in community structure. In doing so, the node is either placed in the community that most increases the modularity of the network or left in its current community if no increase is to be found. This process is iteratively conducted until modularity is maximised. Then a novel network is created where the communities found in the first stage become the nodes and the edges are the sum of the weights between the nodes belonging to a community, and the same process is conducted on the novel network. The algorithm stops when no further increase in modularity can be found.

¹⁵See also section 2.3.

3.5 Regression models

Following from the two separate operationalisations of media polarization outlined in section 3.4, we run two types of regression models to test H_1 in all its forms. The first takes modularity as its dependent variable. As such, it aims to understand the association between the structure of the network – specifically, how interconnected different clusters are – and the alignment of media coverage and parties political communication in terms of issue salience. As such, it is a measure of discursive partitioning in media interactions that does not account for the composition of the different clusters in terms of the political leanings of the outlets which compose them. Following from our hypothesis and theoretical framework, our dependent variable in this case is discursive partitioning measured through modularity and the independent variable is party-press alignment between different media classes (see section 3.3). As such, we estimate the following model:

$$M = \beta_0 + \beta_1 A_{ssl} + \beta_2 A_{ssr} + \beta_3 A_{os} + \beta_4 A_c + \varepsilon$$

where M is the modularity, ε represent the error term, and A party-press alignment. The latter is in turn subdivided into (i) A_{ssl} indicating *same left alignment* – i.e., the alignment between media from the left and centre-left to parties from those same political leanings – (ii) A_{ssr} indicating *same right alignment* – i.e., the alignment between parties and media from the right and centre-right – (iii) A_{os} indicating *opposite alignment* – i.e., the alignment between media and parties from opposite sides¹⁶ – and (iv) A_c indicating *centre alignment* – i.e., the average alignment of media outlets with centrist parties. In turn, this first model estimates the association between party-press alignment and discursive partitioning as measured by modularity (H_{1a}).

The second regression we run leverages the second operationalisation of media polarization. We take the euclidean distance (aggregated by political leanings) between outlets in the CA space as our dependent variable. Recalling our theoretical framework, we have argued that citation patterns are indicative of associations of ideas between two information sources. As such, with this second regression we set out to understand how different media outlets are in the position they occupy within the network and thus how ideas are associated across different political leanings. In doing so, we take this measure to indicate how the link between the points of view of different classes of media outlets varies as a function of their alignment to political parties. To estimate this, we construct the following model:

$$D = \beta_0 + \beta_1 A_{ss} + \beta_2 A_{os} + \beta_3 A_c + \varepsilon$$

where the dependent variable D represents the general distance between media classes. This model takes the following independent variables: (i) A_{ss} which measures the average of party-

¹⁶e.g., left/right; centre-left/centre-right; right/left; centre-right/centre-left; left/centre-right and so on.

press alignment between media and parties from the same side of the political spectrum¹⁷, (ii) A_{os} which refers to the average of party-press alignment between media and parties from opposite sides of the political spectrum.¹⁸ and (iii) A_c which measures the average party-press alignment between media from the left, right, centre left, and centre-right with parties from the centre. As such, the model estimates the general relation between the party-press alignment and the general distances between media classes in the embedding space. It treats all media classes as equals, and is therefore used to test how much the distance between any pair of media classes changes given a change in party-press alignment (H_{1b}). However, given the fact that in the US it was the increasing interaction between outlets on the right that led to a situation of asymmetric polarization, we also aim to estimate changes in distances between specific media classes. In this regard, we construct the following leaning-specific models:

$$D_{ss} = \beta_0 + \beta_1 A_{ss} + \beta_2 A_{os} + \beta_3 A_c + \varepsilon$$

$$D_{os} = \beta_0 + \beta_1 A_{ss} + \beta_2 A_{os} + \beta_3 A_c + \varepsilon$$

$$D_c = \beta_0 + \beta_1 A_{ss} + \beta_2 A_{os} + \beta_3 A_c + \varepsilon$$

where each model is specific to the distances between media outlets from specified classes: same-side, opposite side, and centre. Specifically, D_{ss} , looks at how alignment impact the distance between media from the same side of the political spectrum. It represents an estimate of how tight the media on the right and on the left are with their fellow partisans as a function of their alignment with parties from the centre, the same side, and the opposite side. D_{os} does the same for media from the opposite side, measuring how far media outlets from opposite political leanings are in the embedding space as a function of alignment. Finally, D_c measures how far media from the right and the left are from centrist media. Together, the four models allow us to investigate how changes in party-press alignment coincide with changes in distances between media from different sides of the political spectrum (H_{1c-f}).

In all the above-mentioned regression models we use a series control variables. First, we account for the network-specific variables, precisely the number of nodes and the number of edges each network has. These are indicative of a network's dimensions and can thus influence both the distances between media classes as well as modularity. Secondly, to isolate the role of party-press alignment, we control for issue salience at a given point in time. This control takes three values: issue salience in the media, issue salience in political parties, as well as issue salience online. The first two are measured in the ways discussed above (see section 3.2), the latter is measured using Google Trends data. Third, we control for party size in the French and EU parliaments at a given point in time estimating it as the number of seats the party holds using data from ParlGov (Döring and Manow, 2020). Finally, we control for a party's popularity using polling data from the French Institute of Public Opinion (Institut français d'opinion publique, IFOP). For more

¹⁷e.g., left/left; centre-left/centre-left; right/right; centre-right/centre-right; left/centre-left and so on.

¹⁸e.g., left/right; centre-left/centre-right; right/left; centre-right/centre-left; left/centre-right and so on.

information on data collection and analysis of Google Trends, ParlGov, and IFOP data see the methods appendix.

4 | RESULTS

In this chapter we outline the results from the data analysis starting from the descriptive statistics of the French immigration and climate change debate. First, we look at the evolution of the salience of the two issues over time, focusing on how the two debates differ. In doing so, we break down salience into political leanings, analysing the trends across the political spectrum. Secondly, building on the salience analysis, we look into party-press alignment focusing on differences between the congruence¹ the same and opposite side. We then move to the analysis of the media networks, describing the composition and evolution of the architecture of the French media system on immigration and climate change. Finally, we conclude by analysing the results of the OLS regression models.

4.1 Descriptive statistics

4.1.1 Salience analysis

We begin by analyzing the evolution of the salience of immigration and climate change in the media and parties' political communication depicted in figure 4.1. The first aspect to emphasise in this regard is that the average salience in the 2017-2019 period is comparable for the two debates. In fact, the mean salience of immigration in the media and political parties do not substantially differ from one another. In the case of the media, immigration salience averages at ≈ 0.017 while that of climate at ≈ 0.019 . Similarly, in the case of political parties, immigration salience is ≈ 0.042 , while climate salience ≈ 0.039 .

However, it is clear that while the two debates might not display significant differences, the salience they get in parties political communication compared to media coverage does. On average, salience in parties communication is higher than that in the media, an aspect which is likely related to the fact that immigration and climate change are key issues in the discourses of right and left wing parties respectively. In turn, parties which respectively own the two issues are more likely to make them integral parts of their communication strategies and are more likely to respond to exogenous shocks regarding those issue.²

This idea is also reinforced by looking at the break down of salience by political leaning (figure 4.2). The analysis shows that there is a stark prevalence of left and centre-left actors in driving climate change salience in both parties communication and the media content, and of the right and centre-right on that of immigration. This finding is very much in line with the fact that the

¹Please note that to avoid repetition we hereby use congruence to refer to party-press alignment.

²This is especially relevant when it comes to online discourses (Barberá et al., 2019).

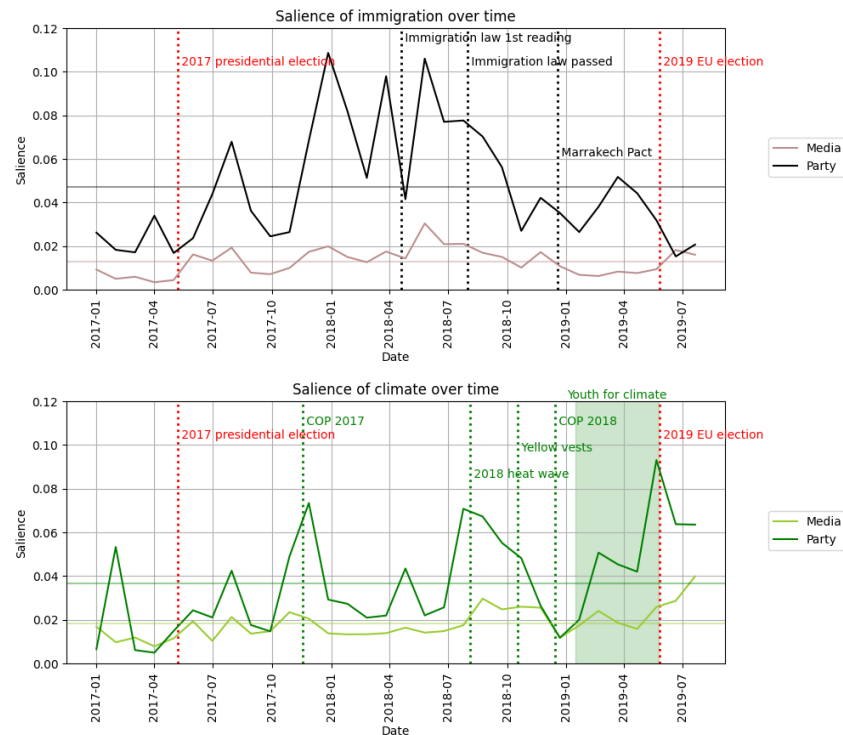


Figure 4.1: Evolution of immigration and climate debate salience in the media and parties' political communication – cumulative

salience of issues in political parties communication tends to focus on the issues they are most associated with (Budge, 2015; Petrocik, 1996, see also section 2.3).³

Salience of immigration exhibits two main characteristics. First, it is related to exogenous aspects related to legislative and international discussions. In the case of the media, immigration salience shows clear links to the discussions of the immigration law passed by the French parliament in August 2018,⁴ and the international pact on migration signed in Marrakech in December of the same year.⁵ Political parties, especially on the right and centre-right, follow similar trends, displaying higher salience of immigration during 2018 as opposed to 2017 and 2019 which can be linked to the discussion of the two documents.

Secondly, immigration salience in the media is related to the discussion of the problematic situation in refugee camps – especially in Calais – as well as migrant arrivals on the Mediterranean

³In this regards, it is also interesting to notice the slight peak in the salience of immigration on the right just before the presidential and EU elections.

⁴The *loi asile et immigration* – also known as *loi Collomb* – was a law proposed by the parliamentary majority group LREM-MoDem. Among other things, it aimed at speeding up the process for the reception of asylum-seeker status, while also making it easier to expel those whose applications were rejected. It faced oppositions from both the left and the right (Rescan, 2018).

⁵The *Global Compact for Safe, Orderly and Regular Migration* – also referred to as the *Marrakech Pact* – is an international agreement endorsed by the UN General Assembly in December 2018. The text aims to create a non-binding framework for regular and secure migration, putting in place mechanisms for aiding migrants. It sparked discussions in France because of the lack of parliamentary consultations ahead of the Marrakesh convention which lead to the approval of the Pact (Le Monde and AFP, 2018).

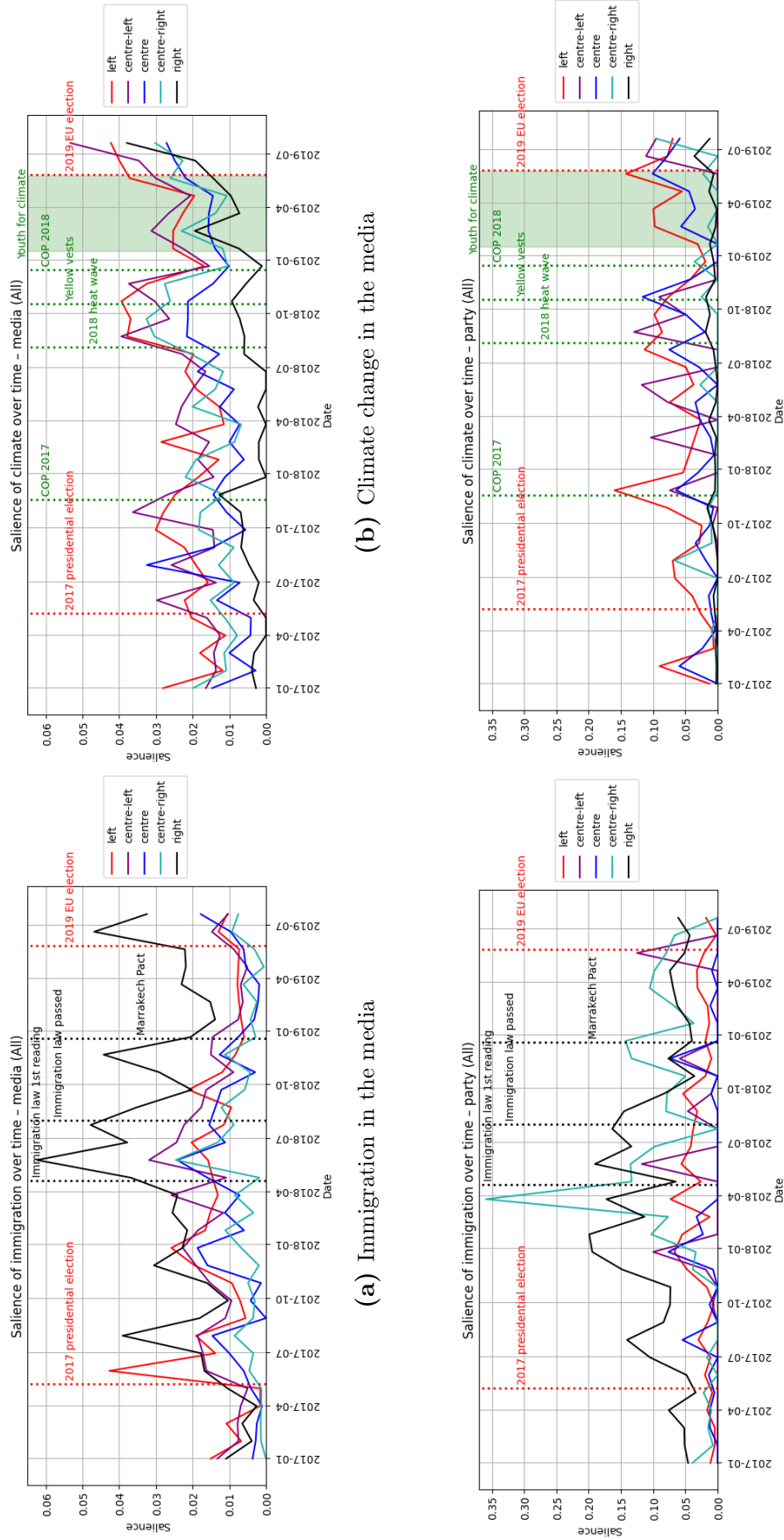


Figure 4.2: Evolution of immigration climate change salience in the media and parties' political communication – breakdown

shores. In fact, the discussion of these topics is the main reason behind the peak between December 2017 and January 2018, as well as for the periodical peaks during the summer months – i.e., those when Mediterranean crossings are more frequent. In the case of political parties, this dynamic is present in the case of the summer months but less evident for the period between December 2017 and January 2018.

Looking at the breakdown by political leaning, the main finding is that – although at times aided by outlets and parties from other political leanings – the right is the main actor involved in shaping salience on immigration (figure 4.2). The only exception to this is the media peak between December 2017 and January 2018 which was composed of a stark rise of immigration salience also on the left. In turn, this leads us to identify some key differences between the discussion of immigration on left and right-wing media. In fact, the main differences between the evolution of salience in the two can be traced back to the use of two different frames. The left tends to employ a humanitarian frame – focusing on the human aspect of migration in terms of stories and emotions of migrants – while the right relies more on a threat frame – emphasizing the economic, cultural, and security concerns surrounding immigration (cf Mancini et al., 2021).⁶ These differences in the framing of immigration were present throughout the debate – including in the right and centre-right use of the threat frame in discussing of the above-mentioned documents⁷ – and could be seen as part of the factors which lead immigration to be salient in the two sides at different times.

Looking now at the salience of climate change, we can identify some clear factors likely to have impacted media coverage around the issue in the 2017-2019 period. In line with the findings of Schäfer et al. (2014), we find peaks in the coverage of climate change across the political spectrum around international high-profile events – such as the Conference of Party (COP) 2017 and 2018 – as well as extreme weather events – such as the heat wave in August 2018. What is more, we also find increased coverage of climate change in moments of increased civil unrest. Specifically, the rise of the Youth for Climate movement – triggered by Swedish climate activist Greta Thunberg and picked up first in Belgium and then in France through Anuna De Wever and Kyra Gantois – as well as the Yellow Vests movement – emerged as a response of increasing fuel prices and exhibiting anti-elite and anti-government attitudes – coincide with a rise in the salience of climate change in media outlets across the political spectrum in the autumn of 2018

⁶Another good example of this are the two spikes we see in media salience on immigration right after the 2017 election. In fact, immigration was salient in left-wing media during June 2017, focusing on the inhumane conditions of the Calais refugee camp, the so-called “Jungle de Calais”. On the right, immigration was salient in August of the same year, triggered by the increasing arrivals on European soil and discussing the role of the Libyan coast guard and of NGOs in easing migration from North-Africa to Europe.

⁷Centre-right parties (LR) increased their communication efforts on immigration in the lead-up to the first reading of the immigration law, emphasizing the easier access procedures asylum-seekers would benefit from, and highlighting immigration as a threat to national security, an argument taken up by the right (FN) during the period of parliamentary debates. At the same time, right wing media was also providing coverage of the law, coupling it with coverage of the disorders around the Calais refugee camp, and the administrative disorganisation surrounding the arrival of boats on the shores of the mediterranean. Similar dynamics were present also in the debate leading up to the Marrakech Pact where the right-wing press – along with centre-right and right-wing parties – vocally opposed the pact claiming it would make it easier for migrants to reach European soil.

and the spring of 2019.

Contrarily to the analysis of immigration salience, the peaks in the climate change media debate usually come from more than one side of the political spectrum. In fact, while the left and centre-left are strongly associated with the issue and are still the main actors driving the salience of climate change, we also see that centre and centre-right media display relatively high salience throughout the 2017-2019 period (figure 4.2). On the contrary, right-wing media do not seem to significantly engage with the topic, at least until from the rise of the Yellow Vests in October 2018 which seemed to have sparked a rise in salience on that side of the political spectrum. On the side of political parties, salience seems to be mostly driven by left and centre-left parties – specifically the Green Party (EELV) – which focused their communication efforts in the period of COP 2017, the 2018 heat wave, the Youth for Climate Movement, and the 2019 EU election. On the contrary, centre-right and right-wing parties rarely engage the issue of climate change in their political communication.

The themes of the climate change discussion seem to be somewhat more stable than those of immigration. Even during the peaks, the main topics of discussion remain linked to CO₂ emissions, air pollution, and the need to act in light of the climate target set in the 2015 Paris Agreement. While we do see peaks around international conferences, extreme weather event, and moments of social unrest, most of the coverage provided by the media – mostly from the left and centre-left – usually tends to focus on a constant discourse concerning the causes, consequences, and policies around climate change.

Overall, the analysis of salience shows that while the two issues do not exhibit substantial discrepancies in terms of their average salience,⁸ some differences are still present between the French immigration and climate change debate. The immigration debate seems to be more politicised, with evident differences between the frames used on the left and the right. Climate change on the other hand shows a more stable discussion around similar topics on the two sides of the political spectrum. However, in both cases there is a clear relation between issue ownership by one side of the political spectrum and higher salience granted to the issue – with climate change being more salient on the left and immigration on the right. The next section builds on this analysis to look at party-press alignment in terms of issue salience in media coverage and parties' political communication.

4.1.2 Party-Press alignment

Looking at party-press alignment – measured as the correlation between the issue salience in media outlets' coverage and party political communication – the main finding is that the coeffi-

⁸It is important to mention that while we did not find substantial differences between immigration and climate change, future research should further explore the role of issue characteristics in discursive polarization. Factors such as perceived urgency, complexity, and moral framing, might contribute to variations to discursive partitioning and polarization in issues other than immigration and climate change. However, an exploration of this aspect lies beyond the scope of this dissertation.

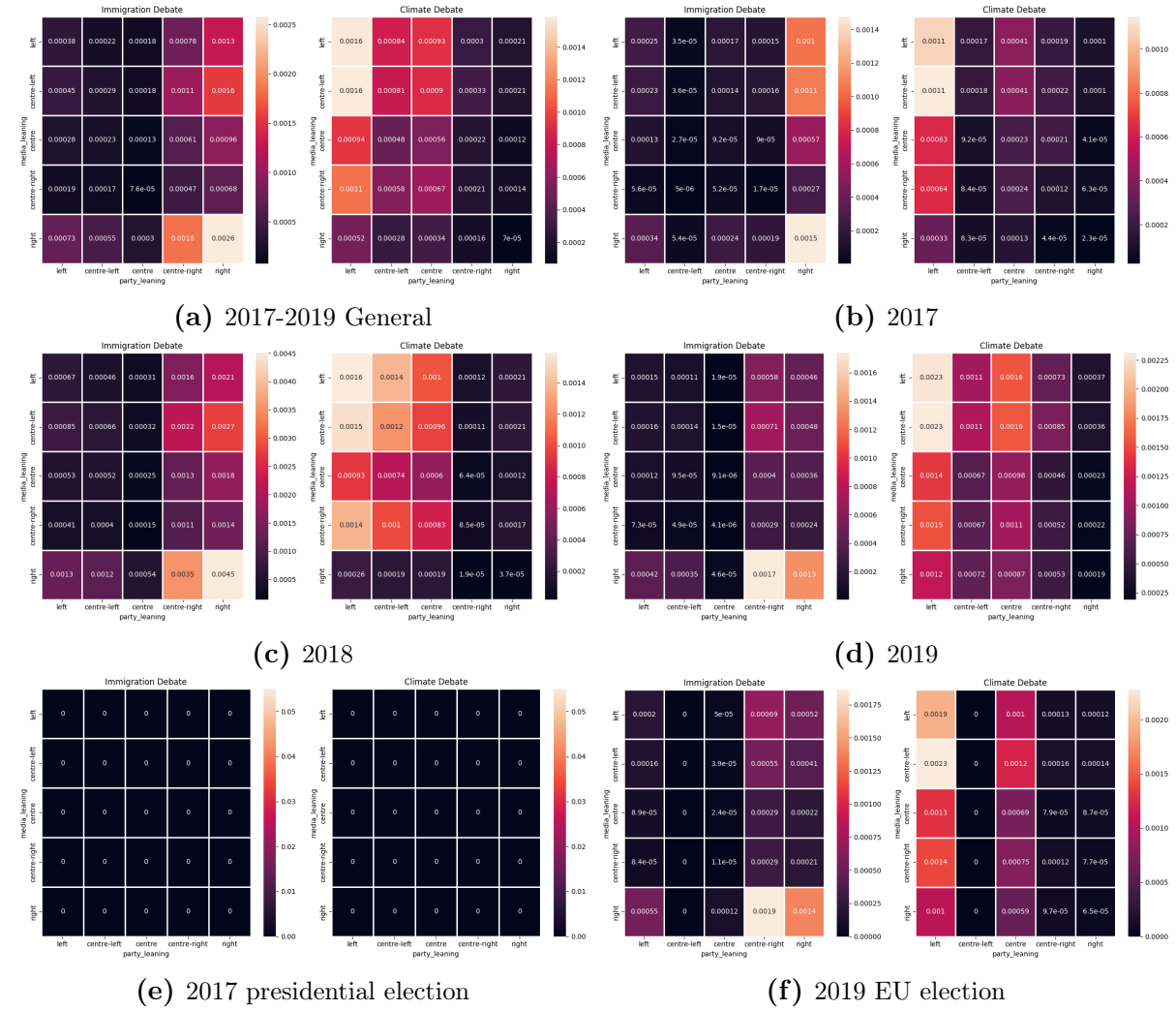


Figure 4.3: Alignment between media and party leanings at different points in time.

Each value represents the period's average of the correlation between salience in media outlets and in parties political communication. Heatmap colours represent the values proper to that timeperiod. For uniform color scale see figure A.3 in the appendix.

cients are overall quite low (see figure 4.3). Measured on a scale from -1 to 1, the values never surpass 0.1. In all but one case, they do not surpass 0.05 and in most cases, they are much closer to 0 than they are to 0.05. This observation seems to suggest that there is little alignment between media outlets and political parties when it comes to issue salience. H_2 seems to be confirmed.

However small, the alignment data for the French immigration and climate debates still presents some variance which is indicative of important characteristics of the two debates. First, on average, alignment is higher for those political parties which are closely associated with the issue discussed. Consistently across time, party-press alignment is highest with right-wing and centre-right parties in the immigration debate. The same is true for left-wing and centre-left parties in the case of climate change. Looking at the media, a similar pattern is present for media outlets on the right in the immigration debate, which display higher alignment coefficients with respect with respect to media from other leanings. The same does not seem to be true for left wing

media in the climate debate.

Along similar lines, we can also notice that, consistently across time periods, the highest coefficients are always those between right-wing media and parties in the case of immigration, while in the case of climate change these are those between left-wing media and parties. Figure 4.4 presents the evolution of party-press alignment between media and parties which belong to the same political leaning. From it, it seems evident that alignment on immigration on the right is consistently higher compared to other leanings while the same is true, although to a lesser extent, on the left in the case of climate change. In turn, this seems to signal stronger alignment between media and party leanings on topics they are most related to.

Turning now to analysing the evolution of party-press alignment through time, we can find patterns similar to those identified in the salience analysis. First, on immigration, alignment on the right is consistently high while that on the left is consistently low. What is more, on the right, alignment is higher during the summer months as well as during the immigration law debate. Importantly, it is worth mentioning that this is not the case on the left, which, regardless of the multiple moments of high salience, consistently records a low level of party-press alignment. On climate change, we consistently see that party-press salience correlations are higher on the left than on the right, and that they increase around the time of the COP 2017 as well as during the moments of civil unrest. This seems to suggest that although party-press alignment increases in moments of high salience,⁹ it is not the main factor driving congruence.

Finally, it is worth mentioning that election periods do not display any significant increase in party-press alignment. On the contrary, during the 2017 election, no alignment was detected. Similarly, during the 2019 EU election, the trends are somewhat softened with some alignment between media and parties on both sides of the political spectrum being more emphasised on the centre-right and centre-left, rather than with the right or left wing media.

Overall, the analysis shows that alignment between media and parties is higher on the issues owned by the party or proper of the political leaning – i.e., immigration on the right and climate change on the left. No substantial election effect was observed. Nevertheless, party-press alignment displays generally low levels across the political spectrum. The next section turns to the analysis of the media networks.

4.1.3 Media network analysis

The network analysis shows the architecture of the media system to be relatively similar in the immigration and climate change debate. Both issues are dominated by the prevalence of centrist and centre-left media which make up a substantial share of the 25 most important nodes in the

⁹This factor might be related to the fact that high salience can indicate a moment of high politicisation of the issue (Busemeyer et al., 2020; Culpepper, 2010; Janusch, 2021).

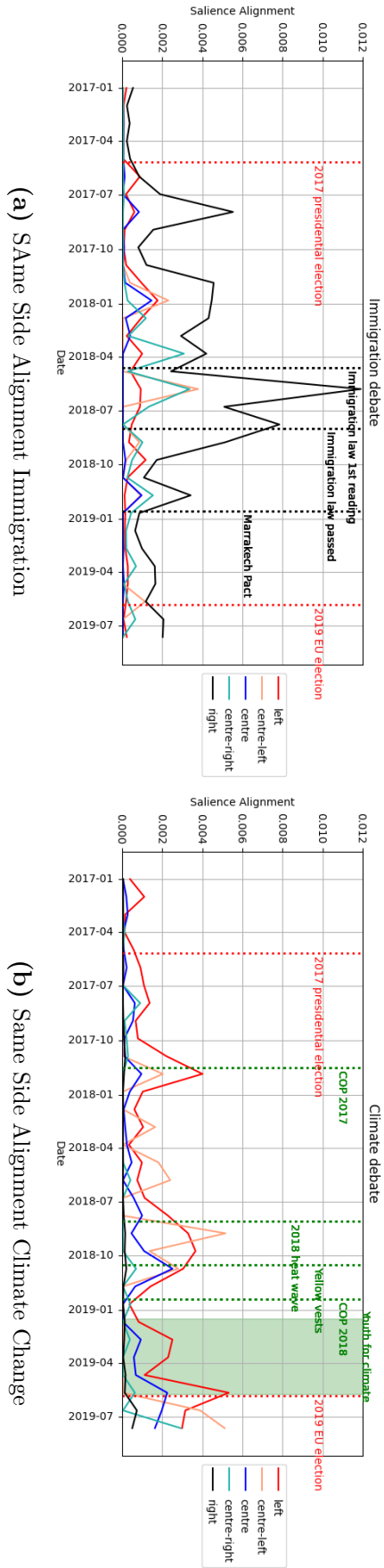


Figure 4.4: Alignment between media and party from the same side of the political spectrum over time. Left refers to left media/left parties alignment, centre-left refers to centre-left/centre-left and so on.

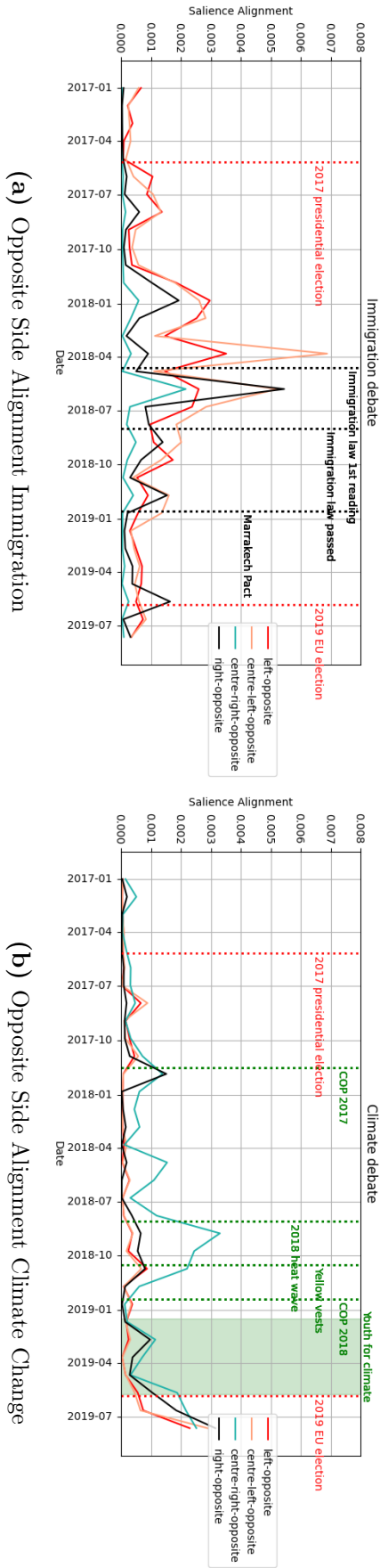
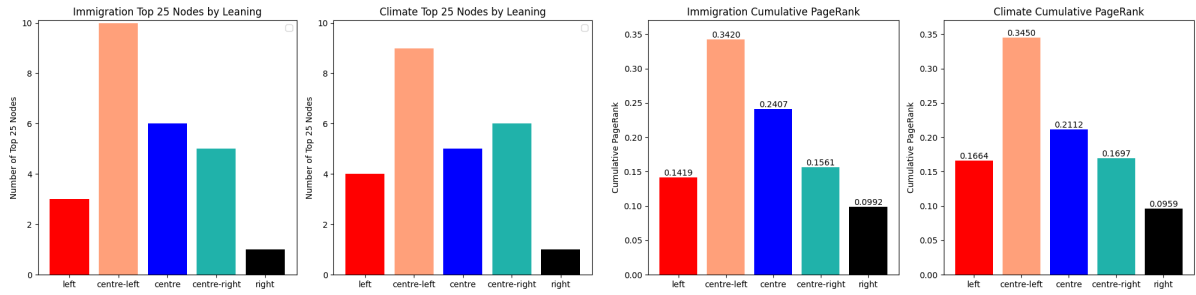


Figure 4.5: Alignment between media and party from the other side of the political spectrum over time. This refers to the alignment of left media with right and centre-right party; of centre-right media with right and centre-right parties, of right media with left and centre-left parties, and of centre-right media with left and centre-left parties.

Table 4.1: Top 10 media outlets in the immigration and climate change debate.

Debate	Top 10 Domains
Immigration	francetvinfo.fr (CL), lemonde.fr (CL), leparisien.fr (C), lefigaro.fr (R), the-conversation.com (C), bfmtv.com (CR), francebleu.fr (CL), liberation.fr (L), nouvelobs.com (CL), huffingtonpost.fr (CL)
Climate Change	lemonde.fr (CL), francetvinfo.fr (CL), leparisien.fr (C), lefigaro.fr (R), ouest-france.fr (CL), bfmtv.com (CR), francebleu.fr (CL), liberation.fr (L), france24.com (CR), franceinter.fr (L)

Note: Media outlets are ordered by PageRank .L = left, CL = centre-left, C = centre, CR = centre-right, R = right.



(a) Number of top 25 nodes by ideological leaning. (b) Cumulative PageRank by ideological leaning.

Figure 4.6: Distribution of the top 25 nodes by PageRank across political leanings and visualization of the cumulative PageRank value by political group.

network as well as displaying the highest values in terms of cumulative PageRank¹⁰ (see figure 4.6). Specifically, the two debates display comparable profiles when it comes to both cumulative PageRank as well as the PageRank distribution across the political spectrum (see figure A.1). Both centred around the centre-left media which exhibits a cumulative PageRank of 0.34 and contains the highest number of top nodes. Also important is the role of centrist media, which display a cumulative PageRank of 0.24 and 0.21 in the immigration and climate change networks respectively. The left and centre-right constitute secondary hubs in both debates while right-wing media seems to remain overall peripheral.

Secondly, as shown in table 4.1, both networks are centred around traditional mainstream media,¹¹ and specifically the websites of the national press – *Le Monde*, *Le Parisien*, *Le Figaro*, *Nouvel Observatoire*, *Libération* – and TV and radio stations – *France info*, *France 24*, *France*

¹⁰PageRank is a measure of centrality developed in Brin and Page (1998) which calculates the importance of a node in a network based on how and which other nodes refer to it. The measure represent the probability that starting from anywhere in the network and randomly following paths within it one will end up at a particular node. As such, it takes higher values if a node receives a high number of inlinks but also if it receives inlinks from nodes which are important in the network. We hereby take the cumulative PageRank for each political leaning as the sum of the PageRank of the domains from that leaning and use it to measure how important each leaning is within the network.

¹¹By traditional mainstream media I hereby mean national newspapers and periodicals founded before 2000 as well as TV and radio stations. This category is opposed to the regional press, digitally-born outlets, and political blogs.

Table 4.2: Top 5 nodes by PageRank for political leaning – immigration (top), climate (bottom)

<i>Immigration</i>				
Left	Centre-left	Centre	Centre-right	Right
liberation.fr	francetvinfo.fr	leparisien.fr	bfmtv.com	lefigaro.fr
telerama.fr	lemonde.fr	theconversation.com	france24.com	valeursactuelles.com
franceinter.fr	francebleu.fr	la-croix.com	lavie.fr	causeur.fr
reporterre.net	nouvelobs.com	lejdd.fr	parismatch.com	fdesouche.com
republicain-lorrain.fr	huffingtonpost.fr	rfi.fr	lepoint.fr	atlantico.fr
<i>Climate Change</i>				
Left	Centre-left	Centre	Centre-right	Right
liberation.fr	lemonde.fr	leparisien.fr	bfmtv.com	lefigaro.fr
franceinter.fr	francetvinfo.fr	lejdd.fr	france24.com	valeursactuelles.com
mediapart.fr	ouest-france.fr	rfi.fr	rtl.fr	fdesouche.com
telerama.fr	francebleu.fr	20minutes.fr	lesechos.fr	ripostelaique.com
republicain-lorrain.fr	huffingtonpost.fr	actu.fr	lavie.fr	causeur.fr

Bleu, *France Inter*, *BFMTV*. More specifically, of the top 25 nodes in the immigration debate, 21 are part of either the national, traditional press or national TV and radio, while the remaining four are either digitally-born outlets – *theconversation.com*, *huffingtonpost.fr* – or part of the regional press – *Ouest-France*, *Sud-Ouest*. In the case of climate change, 19 of 25 most important nodes belong to traditional mainstream media, three are regional outlets – *Ouest-France*, *La Voix du Nord*, *Le Telegramme* – and three digitally born – *huffingtonpost.fr*, *mediapart.fr*, *actu.fr*.

Third, looking at political leanings separately (see table 4.2), we can see that the most important nodes are consistently traditional mainstream media. In particular, *Libération* on the left, *Le Monde* and *France TV* on the centre-left, *Le Parisien* on the centre, *BFMTV* and *France 24* on the centre-right, and *Le Figaro* on the right, all occupy important locations in the networks of the immigration and climate debate. They act as points of reference for the media outlets from their same political leanings as well as outlets from different ones, representing a central interconnected hub. A tight interconnection is especially prevalent in a small group of media composed of the centre-left *Le Monde*, *Le Nouvel Observatoire*, *Le Courriel International*, *Huffington Post* and the left-wing *Télérama*. This hub, which is consistently present across time (see figure 4.9 and A.4), connects to all other main nodes across the political spectrum.

Further, looking at the main nodes from each political leaning (table 4.2) we can notice that the left, centre-left, centre, and centre-right are all dominated by mainstream media. In fact, while they do include some digitally born media in their most important nodes – namely, *Médiapart* on the left, the *Huffington Post* on the centre-left and *The Conversation* and *Actu.fr* on the centre – these eventually rose to prominence and are now considered as part of the mainstream media rather than alternative information sources (Cointet et al., 2021). On the contrary, right-wing

media are dominated by digitally born media outlets which remained mostly niche. In fact, aside from the top two outlets – *Le Figaro* and *Valeurs Actuelles* – which have a long history in the French media landscape, the other three most important nodes on in the immigration and climate debate include novel media outlets that were founded in the mid to late 2000s. These are *causeur.fr*, a monthly right wing megazine which was founded as an agglomeration of political blogs in 2007 and eventually started printing paper copies in 2008; *rispostelaitique.com*, an islamophobic political blog based around a dogmatic idea of laicity; *fdesouche.com*, originally a political blog and now press review based around topics of identity and immigration; and *atlantico.fr*, an online business-related outlet similar to the American *Business Insider*. While these are not substantially central in terms of PageRank (highest ≈ 0.006 , lowest ≈ 0.003), and remain peripheral within the network, they are important reference points in peripheral sections of the right-wing media environment. What is more, they mostly refer to centrist, centre-right, and right-wing media but are rarely referred to by the mainstream media.

Turning now to the evolution of the network in time, the main finding is that the overall structure just described – i.e., one centred around traditional mainstream, and with a prevalence of centrist and centre-left media – is relatively consistent across time. In fact, both looking at key time periods of high issue salience, electoral times, and yearly breakdowns of the networks (see figure 4.9 and A.4), there seems to be a consistent structure of the media system revolving around the main actors discussed above. All time periods analysed present both the tight centre-left hub around *Le Monde* discussed above as well as the overall prevalence of *France TV*, *Le Monde*, *Le Parisien*, *Le Figaro*, *BFMTV* and *France 24* as central nodes in the networks.

There are, however, some deviances to this. The most evident is the immigration debate in the period of the 2017 presidential election (figure A.4a), where along the usual centrist nodes, the two main outlets in the network are the centre-left traditional media *La Dépêche* and the right-wing digital outlet *Causeur*. While this difference stands out in its visualization, a more careful observation reveals that the network is still centred around centre-left mainstream media. A more substantial difference can be seen in the 2018 climate network (figure 4.9d) which stands out because of three main factors. First, it presents a small, highly peripheral group of right-wing outlets; second, it displays a highly interconnected left-wing group of media centred around *Médiapart*; and third, there is a high prevalence of centre and centre-right nodes as the most central by PageRank which seems to be in contrast to the centre-left domination identified above. However, by looking at the cumulative PageRank breakdown (figure A.2a), we can see that overall the debate is still centred around centre-left media. Similarly, in the 2018 climate and immigration media networks (figure 4.9d, 4.9c) the most important nodes are not those from the centre-left but rather those of the centre and the right – namely, *Le Parisien* and *Le Figaro*. In this case the difference seems to be more substantial, especially in terms of the higher distance of *Le Figaro* from the centre-left and centre media with respect to other time-periods and to the general 2017-2019 network. Furthermore, it is important to highlight the interactions on the right in the 2017 and 2019 yearly immigration networks. Specifically, the higher number of interactions with *Valeurs Actuelles*, *Causeur* and *fdesouche*, together with the higher PageRank of both *Causeur* and *Valeurs Actuelles*, are indicative of their relevance when it comes to discussing

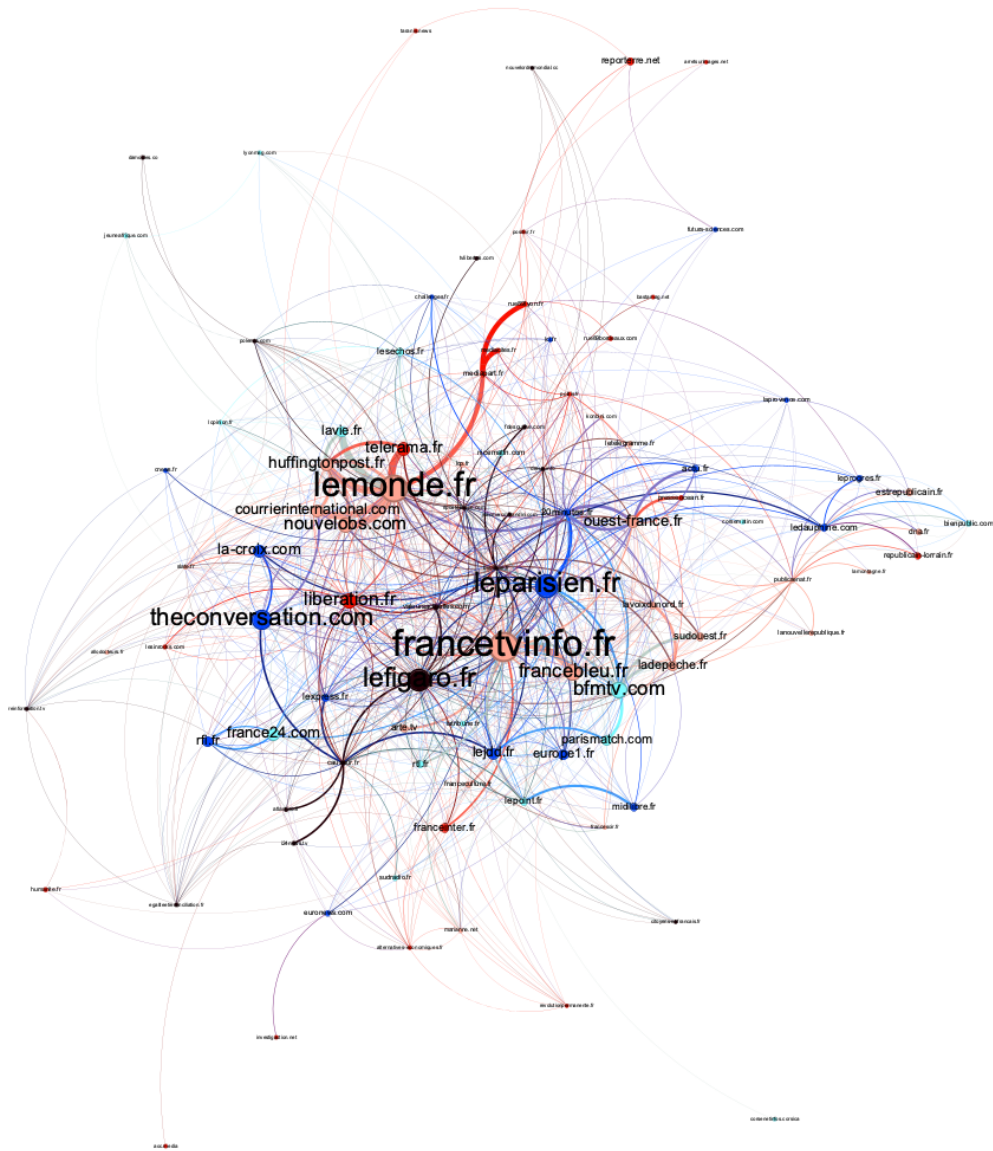


Figure 4.7: Visualization of the French immigration debate media network 2017-2019. Node size according to PageRank (damping = 0.85). Colors according ideological leaning. Network layout using Force Atlas 2 algorithm.

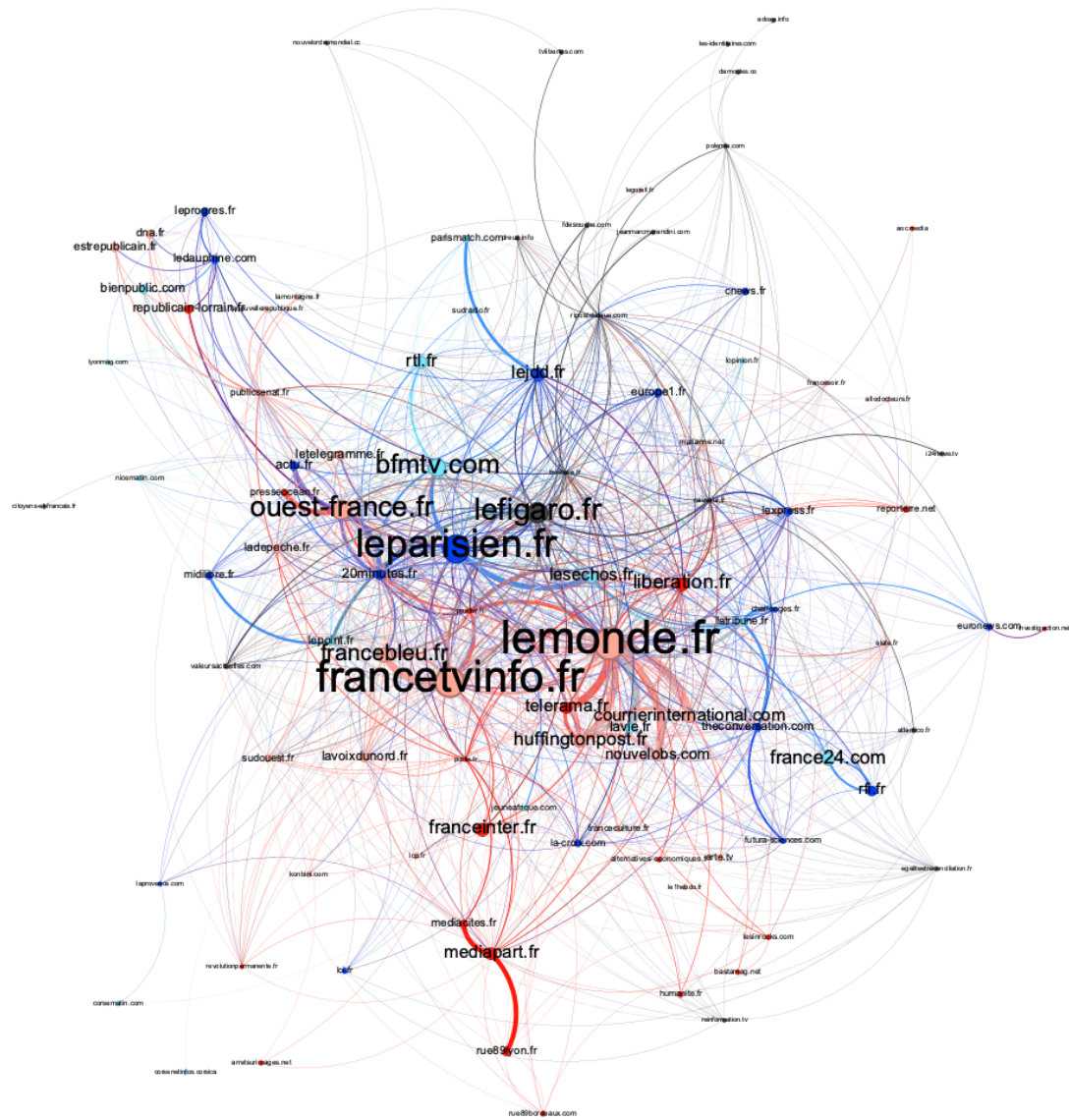


Figure 4.8: Visualization of the French climate debate media network 2017-2019. Node size according to PageRank (damping = 0.85). Colors according ideological leaning. Network layout using Force Atlas 2 algorithm.

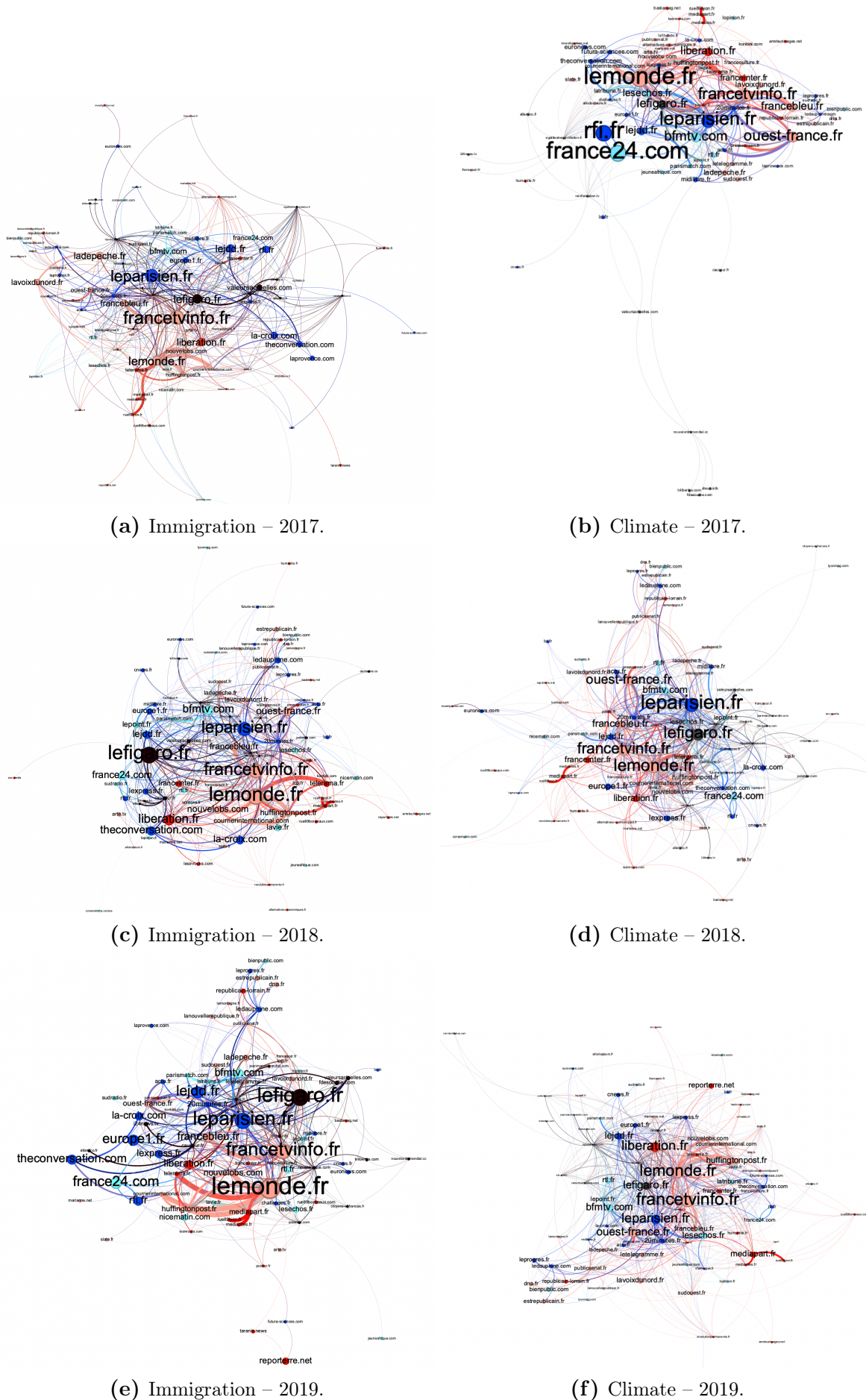


Figure 4.9: Yearly visualization of the French immigration and climate change media networks – Node size according to PageRank. Colors according ideological leaning. Layout using Force Atlas 2.

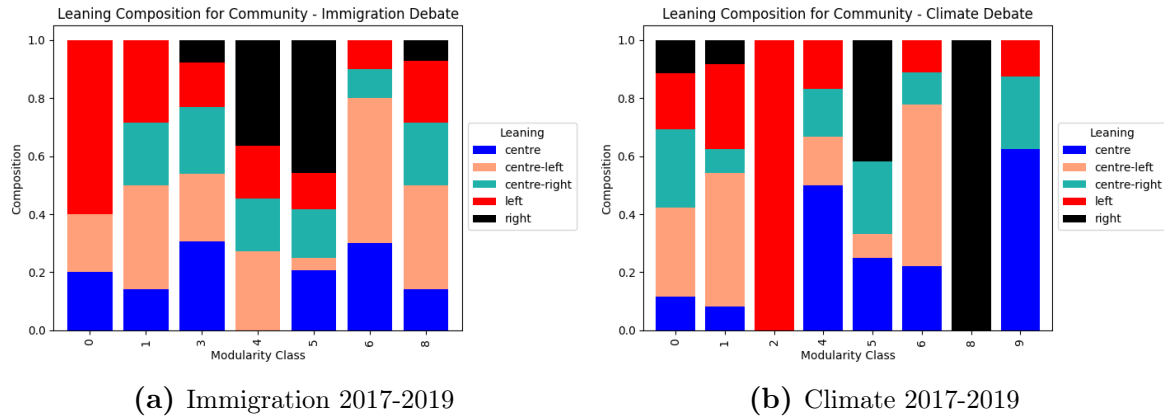


Figure 4.10: Composition of the communities detected using the Louvain community detection method (resolution = 1) by political leaning – share of community belonging to political leaning.

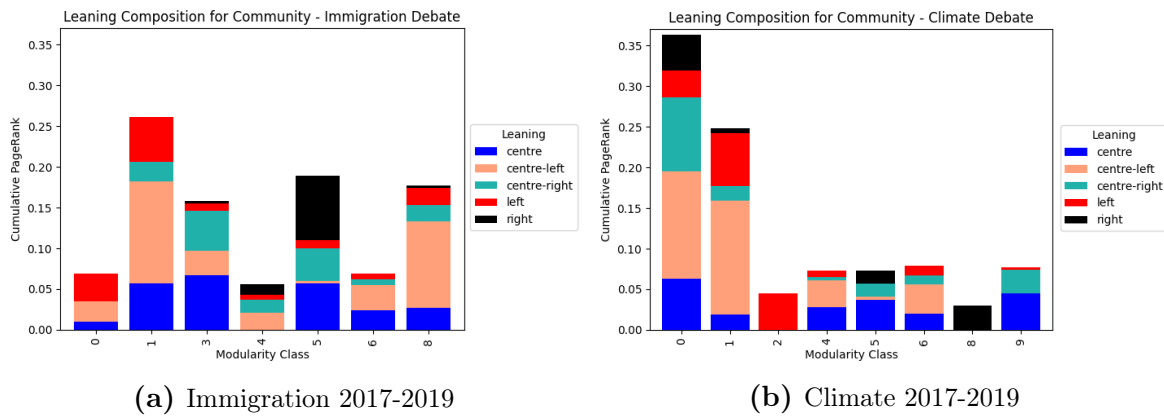


Figure 4.11: PageRank composition of the communities detected using the Louvain community detection method (resolution = 1) by political leaning – cumulative PageRank of community's political leanings.

immigration. What is more, this trend is also displayed in the yearly breakdowns of cumulative PageRank by year (figure A.2) which show a higher importance of the right in 2017 and 2019 with respect to the general immigration media network.

Looking now at the networks community structures, it appears that the overall media architecture does not display significant clustering along political lines. In fact, the networks' community structure does not seem to be clearly aligned with any division along political lines (see figure 4.10). In the case of immigration, all communities are composed of outlets from different political leanings, mostly dominated by media from the centre and the centre-left. There are two main exceptions to this: community number 0 and community number 5. The former is dominated by left-wing media – namely, *Reporterre*, *Médiapart*, *Rue 89 Lyon*, and *Politis* – but still presents a strong presence of media from the centre-left – *La Dépêche* and *La Voix du Nord*. The latter is dominated by right-wing media – including the most important nodes on the right in the debate on immigration: *Le Figaro*, *Valeurs Actuelles*, and *Causeur*.

What is more, the distribution of PageRank across different communities is relatively constant

(see figure 4.11), meaning that the network is not highly centralised around any particular one of them. Still, the most important community is number one (cumulative PageRank ≈ 0.26) which includes all main traditional mainstream media especially from the centre-left and left – *Le Monde*, *Nouvel Observateur*, *Huffington Post*, and *Libération* and *The Conversation*. Secondly, communities 3 and 8 all have similar cumulative PageRanks – 0.16 and 0.18 respectively – while also displaying a heterogeneous political composition centred around the centre – *Le Parisien* – and centre-left – *France TV* and *France Bleu* – respectively. Finally, community number 5 discussed above is also among the ones displaying a significant cumulative PageRank of 0.19. This makes the right-wing dominated community the second most important one within the network. However, it is important to notice that while the community is centred around the main right-wing node *Le Figaro*, the other most important nodes driving its cumulative PageRank are either centrist or from the centre-right – namely, *France 24*, *Le JDD*, *L'Éxpress*, *rfi*, and *rtl*.

The community structure of the climate change network presents itself as more divided along political lines compared to the immigration one (figure 4.10). In fact, while the most important communities – community 0 (cumulative PageRank ≈ 0.36) and community 1 (cumulative PageRank ≈ 0.25) – are still heterogeneous, we do find that some clustering across political lines is indeed present. In this regard, community number 2 is a highly interconnected small community composed exclusively of left-wing media – including digital outlets such as *Révolution Permanente* (linked to the homonymous radical left party), *Mediacités* and *Médiapart*. On the contrary, community number 8 is made up exclusively of right-wing media – including mostly digital radical right outlets such as *fdesouche*, *Risposte Laique*, *Les Identitaire*.¹² However, it is important to emphasize that communities 2 and 8 are the least important communities in the network in terms of cumulative PageRank. Compared to a median value of 0.08, the left-wing community displays a value of ≈ 0.05 while the right-wing one of ≈ 0.03 . In turn, this signals the presence of segregated peripheral groups of media outlets on both the right and the left in the climate change debate which however have a limited influence within the network.

Taken together this seems to suggest that French media is quite integrated and does not display substantial divisions along political lines. The media architecture seems to be centred around somewhat centrist media outlets – spanning between the centre-left and the centre-right – which are key reference points within the media system of the country. What is more, the most important media outlets in the two debates are either traditional mainstream media or digital outlets which are considered as part of the mainstream, while extreme packages of news seem to remain peripheral within the media networks (cf Cointet et al., 2021). We now turn to the analysis of the regression models.

¹²The community's average left-right leaning on the CHES scale is 9.2.

4.2 Regression Analysis

This section discusses the results of the OLS regression models. It does so in two steps: first, it looks into the outputs for the models run on modularity, and secondly it moves on to comment those run on the distances between media outlets. In doing so, we display the coefficients for these variables along with three of the controls we included: media salience, party salience, and online salience¹³. The other control variable have been excluded from the table for visualization purposes.¹⁴

4.2.1 Modularity Regressions

To understand the association between party-press alignment and discursive partitioning of the networks at different points in time, we run two regressions for immigration and climate change separately. The dependent variable is modularity, that is, the extent to which the network can be divided into smaller more cohesive subgroups or communities. The higher the modularity, the more segregated the network is. As already pointed out in section 3.5, this is not a direct measure of discursive polarization as it does not take into account the composition of each subgroup in terms of its political leaning. Rather, it is a measure of discursive partitioning, namely how segregated different part of the media networks are from one another.

Looking at the results for both immigration and climate change (table 4.3 and tables A.7 and A.8 in the appendix), we can first of all notice that the association between party-press alignment and the network modularity is not statistically significant. The only exception to this is the case of alignment of media outlets with centrist parties which displays a positive association with network modularity in the immigration debate. Still, its significance level is quite low. In turn, we might infer that there is no significant association between party-press alignment and the level of partitioning of the media networks: H_{1a} is rejected.

4.2.2 Distances Regressions

More interesting results come from the analysis of distances. To understand the association between party-press alignment and the distances between media classes in the network embedding we run eight separate models – four for the immigration debate (table 4.4), and four for the climate debate (table 4.5). As explained in section 3.5, the four different models aim to isolate different aspects of our DV related to the differences associated with the nature of the distance between the two classes. The first type of model we run, referred to as *distances general*, does not make any distinction between media classes, thus giving us a general estimate of the association between our IV and DV. The other three – referred to as *same side distances*, *opposite side distances*, and *centre distances* – look into how the correlation between the DV and the distances

¹³See section 3.5 for an outline of the controls used.

¹⁴The full regression tables can be found in the online code repository – see appendix C.

Table 4.3: Regression Results – Modularity

	Immigration	Climate
const	1.88 (2.93)	-1.38 (3.30)
Same left alignment	-7.87 (19.72)	-0.8 (0.76)
Same right alignment	-1.49 (10.00)	-5.36 (68.64)
Opposite alignment	4.95 (9.84)	-39.72 (36.80)
Centre alignment	85.29* (35.34)	-25.38 (26.21)
Media salience	-3.36 (2.27)	3.19 (2.63)
Party salience	0.08 (0.40)	0.36 (0.88)
Online salience	-0.0 (0.00)	0.0 (0.00)
R^2	0.44	0.46

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

between media from the same side, opposite side, and centre respectively. In terms of discursive polarization, high distance from centrist media, small distances on the same side, and high distance with the opposite side are all indicative of high polarization levels.

The results of the regressions paint two different pictures for the debates on immigration and climate change. In the case of immigration (table 4.4), we can see that the coefficients concerning party-press alignment are generally not statistically significant. There are two exceptions to this: the alignment between media outlets and centrist parties (significant at the .1 level), and that between media outlets and parties from the opposite side (significant the .01 level). This means that, on immigration, we can only conclude that (i) an increase in the alignment of media outlets with political parties from the opposite side is negatively correlated to an increase in the distance between media outlets from the opposite side – H_{1e} is confirmed, and (ii) an increase in the alignment of media outlets with centrist parties is correlated with an increase of the distances from outlets in the centre. Considering only these two aspects makes it hard to arrive to substantial conclusions regarding the impact of party-press alignment on discursive polarization in the immigration debate – $H_{1c,d,f}$ are rejected. Still, from the regression model (table 4.4) we can infer that increasing salience of immigration in the media leads to a decrease in the distances between media outlets. More specifically, an increase in salience leads to a decrease of the distances between media outlets on the same side as well as with the centre, while it increases

Table 4.4: Regression Results – Distances (Immigration)

	Model 1 Distances General	Model 2 Same Side Distances	Model 3 Opposite Side Distances	Model 4 Centre Distances
Constant	1399.71 (3821.79)	1409.6 (5273.81)	-54.26*** (19.69)	-2609.32 (5571.17)
Alignment centre	537.73 (1111.09)	-189.05 (1747.29)	1651.76 (4439.52)	2848.1* (1510.67)
Alignment same side	1352.93 (934.87)	1588.66 (1548.21)	144.83 (522.21)	489.38 (1217.19)
Alignment opposite side	160.28 (325.84)	144.83 (522.21)	-4031.23** (1676.49)	217.48 (405.33)
Media Salience	-93.8*** (34.77)	-120.27** (56.71)	190.89* (110.53)	-186.38*** (65.24)
Party Salience	-12.81 (8.94)	-7.4 (14.99)	39.12 (40.00)	-20.88* (11.45)
Online Salience	-0.09 (0.05)	0.01 (0.08)	-0.47** (0.21)	-0.08 (0.07)
R^2	0.22	0.22	0.58	0.31

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Please note that the high regression coefficients in are the result of the extremely low values resulting from the analysis of party-press alignment. In fact, while party-press alignment have values in the realm of 10^{-2} and 10^{-3} , euclidean distances can be in the units.

the distances between media from opposite sides. Overall, the association between alignment and discursive polarization is uncertain. In fact, while the increase in distances between media from different sides paralleled by the decreasing distances from media from the the same side might suggest an increase in polarization, the decreasing distance from centrist media suggests otherwise. H_{1b} is not confirmed.

In the case of climate change (table 4.5), we must highlight three main findings from the regression results. First, the alignment of media outlets with centrist political parties has a negative effect on the distances between media. In fact, the *alignment centre* coefficient is significant at the .01 level when correlated to the average distances between media classes, and at the .1 level for the distances between media from the same side, as well as with the centre. This means that while we can conclude that there is a negative effect of alignment of media outlets with centrist parties on the distances between media outlets, whether such an effect increases polarization is not clear. All we can say is that an increase in the media's alignment with the political communication of centrist parties media outlets to become closer to other outlets from the same side and from the centre, and thus to a tighter architecture of the media system. In turn, we could speculate that

Table 4.5: Regression Results – Distances (Climate)

	Model 1	Model 2	Model 3	Model 4
	Average Distances	Same Side Distances	Opposite Side Distances	Centre Distances
Constant	-42.32 (215.09)	-135.04 (216.94)	-12.5 (41.70)	-4720.18 (7514.93)
Alignment Centre	-4158.24*** (1468.96)	-4141.28* (2100.74)	-4724.4 (5416.62)	-4111.82* (2397.69)
Alignment Same Side	1829.86* (1028.45)	1537.7 (1509.69)	626.18 (2107.76)	1763.55 (1492.08)
Alignment Opposite Side	446.08 (1452.87)	626.18 (2107.76)	-3690.33 (6436.32)	-369.38 (2027.09)
Media Salience	39.03 (43.81)	114.05* (64.53)	118.13 (195.07)	43.66 (74.98)
Party Salience	36.3*** (12.15)	44.68** (17.83)	7.97 (59.46)	40.89** (18.43)
Online Salience	-0.03 (0.08)	0.01 (0.11)	-0.02 (0.30)	0.01 (0.10)
R^2	0.19	0.20	0.51	0.21

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Please note that the high regression coefficients in are the result of the extremely low values resulting from the analysis of party-press alignment. In fact, while party-press alignment have values in the realm of 10^{-2} and 10^{-3} , euclidean distances can be in the units.

this might equate to a decrease in discursive polarization as extreme points of views are mitigated by a common centre but not substantial conclusion can be drawn.

Furthermore, we also find a positive effect of alignment between media outlets and parties from the same side which is significant at the .1 level. This suggests that an increase in the alignment on the same side is positively related to an overall increase in the distances between media outlets. While this finding are in support of H_{1b} the lack statistical significance for the coefficients in the case of same side, opposite side, and centre distances means that we lack details about a breakdown of this effect and cannot comment on H_{1c-f} .

Finally, it is worth commenting on the significance of party salience in driving discursive polarization on climate change. The regression results show that an increase in the salience of climate change in parties political communication is positively related to an increase in the distances between media outlets – an effect which is statistically significant on both distances in general but also in the case of distances from the same side and from centrist media. In turn, this seems to suggest that the more parties talk about climate change, the more media

outlets will move away from each other. However, the lack of statistical significance in the case of media from opposite sides prevents us from drawing any conclusion regarding discursive polarization.

Overall, our main hypothesis H_1 seems to be rejected. The two regressions show that the impact of party-press alignment on discursive partitioning and on the distances between media outlets is not statistically significant.¹⁵ In the next chapter we will discuss the implications of these findings, specifically focusing on the differences between the US and French political systems as a possible explanation for the lack of significance of the influence of party-press alignment on discursive polarization. The idea is that because of the lack of a clear bipartition of the political spectrum into a political in- and out-group, and historically high levels of political parallelism, a multi-party, polarized pluralist system makes party-press alignment less effective in shaping media interactions (see also section 2.5).

What is more, the discussion will also touch on the low values of party-press alignment and the overall integrated structure of the French media system as possible explanations of the lack of effects.

¹⁵In the immigration debate, media alignment with parties from the opposite side decreases the distance between media outlets from the opposite side. In the case of climate change, media alignment with centre parties decreases distances between media outlets – especially between those from the same side as well as from those from the centre. Moreover, salience in the media and in parties political communication also has an effect on the distances between media outlets. In the immigration debate, media salience has an effect on discursive polarization, although uncertain. In the climate debate, party salience has a positive effect on distances but no conclusion can be drawn when it comes to discursive polarization.

5 | DISCUSSION, LIMITATIONS, AND CONCLUSION

5.1 Discussion

The results of the analysis highlight three main findings:

- On immigration and climate change, the French media system does not display a high level of polarization in the 2017-2019 period;
- While displaying slight increases during periods of high salience, party-press alignment in France is relatively low across the period (H_2 is confirmed);
- There is no conclusive evidence that the association between party-press alignment and media polarization is statistically significant in France during the analysed period (H_1 is rejected).

In addition, it is to be noticed that the two issue-specific media networks do not show significant disconnection between different sides of the political spectrum. Rather, they remain centred around centrist and centre-left traditional mainstream media outlets – namely, *Le Monde*, *Le Parisien*, *FranceTVInfo*, and *le Figaro* – leaving alternative, opinion-based, and partisan media – e.g., *Valeurs Actuelles*, *Causeur*, *Alternative Economique* – bound to the periphery. This signals a prevalence of professional journalism¹ in the French media environment which might act as a sort of de facto *cordon sanitaire mediatique* preventing the mainstreaming of extreme media discourses. This is something which has been already detected in the BeNeLux region in the case of coverage of right-wing populist parties (de Jonge, 2019). In that context, engaging with extreme points of view was seen as unprofessional by French-speaking journalists in the region. On the contrary, Dutch-speaking ones privileged a commercial mindset which tends toward covering extreme and scandalous politics in “a struggle for readers and viewers” (cf Mudde, 2004, p. 553). This difference, that de Jonge (2019) links to the characteristics of each region’s media system, is indicative to the role of structural characteristics on the practices of media outlets.

We provide a similar explanation for the observed network structures and salience alignment levels. In fact, the overall centralisation and the general reluctance of mainstream media to engage with alternative outlets, the low levels of polarization and party-press alignment, and the lack of a significant association between the two, can all be linked to two main explanations linked to the very motivations behind this study. We argue that these findings can be connected to the characteristics of the French media and political system.

¹Please note that here we use professionalism to refer to the French rather than the American standard. We thus detach ourselves from the definition of professionalism provided by Hallin and Mancini (2004) and take to refer to the standard journalistic practices present in French speaking newspaper.

First, the French media system is one which has historically been characterised by high levels of political parallelism and low levels of commercialisation (Hallin and Mancini, 2004; Brüggemann et al., 2014). As explained in section 2.5, these two factors have an impact on the ways mainstream media outlets respond to market pressures deriving from the rise of the internet and, in turn, on outlets interaction and polarization of the media system. The low level of commercialisation of the French media system can be linked to a decreased impact of the entrance of digital competitors in the media market. As such, traditional mainstream media will be less likely to feel the need to increase interactions with digitally-born radical outlets in order to remain competitive. This might be put forward as one of the explanations for the fact that traditional mainstream media maintain a central role and that France still displays a rather integrated media landscape. Similarly, the lack of statistically significant associations between party-press alignment and media polarization can be linked to the historically high levels political parallelism which have been internalised by the media system. The more the media are historically linked to political parties, the less their citation practices will be influenced by such an alignment. In turn, the less these will change if alignment was to increase.

Second, as opposed to the US, France has a multi-party system – i.e., one in which multiple party associations are possible (Garry, 2007). As explained in section 2.5, the absence of a clear bipartition of the political arena makes it less straightforward for strong partisan identities to become prevalent. In turn, no media outlet will commit to align to one single party’s communication because of the fact that it would prevent the outlet from tapping into wider audiences that go beyond that of the single party’s voter base. As a response of the rise of the internet, media outlets did indeed increasingly provide news that their target groups demanded (Hamilton, 2004; Van Aelst et al., 2017). However, given the possibility of multiple associations, the multi-party system might contribute to make the identification of such target groups less direct, and alignment less likely (or desirable) to achieve.

Turning now to specific observations deriving from the analysis, it is important to mention that in the French media system there is an increasing importance and interconnection of right-wing media. Between 2017 and 2019, in fact, right-wing media outlet *Le Figaro* became an increasingly central hub in the immigration debate, especially by interacting with more radical right media outlets such as *Valeurs Actuelles*, *fdesouche*, *Causeur*, and *bvoltaire*. While our analysis has not found significant levels of polarization, it is worth noting that this increasing interconnection on the right is indeed present and does not find equivalents on the left. The reason why this is relevant is because it resembles the transitory situation present in the US in the late 2000s (Prior, 2013; Benkler et al., 2018) which then evolved towards asymmetric polarization. In fact, regardless of the overall prevalence of centre and centre-left outlets in the French media system, the increasing interaction of right-wing mainstream media with partisan digital outlets might be an early sign of the system’s evolution towards discursive polarization. However, in the case of France, more recent evidence is necessary to explore this trend in a satisfying manner.

Overall, while more comparative evidence is needed to confirm this hypothesis, our findings

suggest that the alignment between the media and politics in the context of a multi-party system and a “polarized pluralist” media system (cf Hallin and Mancini, 2004) does not have a significant impact on the polarization of the public discourse in terms of media interactions.

5.2 Limitations

The analysis developed in this thesis does not come without limitations. These mostly relate to the choices made concerning the research design, the measurements of the key variables, and the data employed.

Looking at the research design, the main limitations of our analysis derive from (i) the sole consideration of political parties in the operationalisation of party-press alignment, (ii) the mono-dimensional operationalisation of party-press alignment in terms of salience, and (iii) the aggregate perspective taken in the study. Concerning the first, the present study has focused on dynamics of alignment between media outlets and the political communication of institutional actors in the form of political parties. However, the opinion feedback dynamics described in Benkler et al. (2018) have a wider scope, involving the media-politics-citizens triptych in all its components. On the politics side, the present study misses out on capturing the role played by individual politicians and social movements. Especially in light of their leverage of direct communication channels and connection to alternative media outlets, both politicians and social movements are key players in alignment dynamics (e.g., Suk et al., 2021; Schroeder, 2019; Holt, 2020; Jungherr et al., 2019). On the citizens side, we lack an account of the role played by public opinion as well as an accurate modelling of citizens’ discursive dynamics – which are central to the rhizomatic structure⁹ which stands at the basis of discursive polarization (e.g., Brüggemann, 2020; Williams et al., 2015). On the media side, the focus on the media system fails to capture the socio-technical dynamics proper of social media platforms (e.g., Brüggemann and Meyer, 2023; Bakshy et al., 2015; Azzimonti and Fernandes, 2023) which significantly impact people’s perception of the public sphere and political opponents.² In this regard, future research on discursive polarization should look to complement the present analysis by looking into dynamics of alignment between the media and political parties, individual politicians, and social movements, as well as combining it with studies of public opinion and individual discursive interaction in the digital sphere.

Second, party-press parallelism is a multi-dimensional concept which includes, but is not limited to salience. Future, more holistic measures of party-press parallelism should complement salience with evaluations of issue-ownership, framing, and the epistemological assumptions of the different actors under study. In turn, this would allow us to better understand alignment between politics and media on some of the key dimensions contributing to discursive polarization (Brüggemann and Meyer, 2023). Specifically, issue ownership should be taken into account to

²Recall from section 2.1 and 2.2 that these are central to the discursive polarization process.

weight salience alignment in a way that allows us to target party-press parallelism in a more precise way. In fact, rather than indications of alignment, salience correlations could also derive from the fact that a certain issue is traditionally high on the political agenda on that side of the political spectrum. In turn, weighting salience correlations by issue ownership would allow us to better isolate party-press alignment. In a similar fashion, framing should be considered to better understand the connections between the rhetorical choices of politicians and the media. Similarities in framing would suggest that not only do two actors talk about the same thing, but they also present it in similar ways, thus making alignments in salience more relevant. Finally, analysing alignments in epistemological assumptions³ would allow us to have a more direct proxy of the presence of feedback loop dynamics in the construction of truth. Complementing measures of party-press alignment on issue salience with these aspects would thus allow us to develop a more comprehensive image of these nuances. Mixed-method approaches, including more structured qualitative analyses through applications of grounded theory,⁶ could help us move beyond measuring alignment solely in terms of salience and take into account its multi-faceted characteristics.

Third, the study has addressed the relation between party-press alignment and media polarization from an aggregate perspective. However, this approach does not consider the individual level dynamics which might influence single media outlets from changing their interaction patterns and increasingly align with parties political communication or alternative media. What is more, while we have analysed the relation between media and politics by looking at alignment in the media to politics direction, the interaction between the two is very much bidirectional. As we said in the introduction, as much as the media reacts to parties political communication, political parties also respond to media coverage on issues. In this regard, future research should look to complement aggregate big-N analyses (such as the one proposed in this dissertation) with small-N case studies focusing on how opinion feedback loops come into being at the micro level. Thereupon, the focus should be on the discursive habits of politicians and the ways they are echoed or echo in alternative and mainstream media outlets. This approach might help tackling both the question of directionality and that of individual level dynamics.

From a methodological perspective, the measures chosen for both polarization and party-press alignment could be improved. Concerning the first, while modularity and euclidean distances in the embedding space are good indicators of discursive partitioning and provide satisfactory insights into the ideological segregation of media networks, future analyses would benefit from more holistic measurements of media polarization. In this regard, the embedding space derived from the media network and constructed using correspondence analysis (see section 3.4) could be leveraged to identify media polarization using more advanced computational methods. The main way to do so is to first identify meaningful and stable dimensions in the embedding space – either using external reference points or SVD⁴ (see appendix A.2.1) – which can be comparable through time (Ramaciotti Morales et al., 2022). In turn, similar to previous work

³The identification of epistemological assumptions could be done in ways similar to Hameleers and Yekta (2023).

⁴Singular Value Decomposition.

(Ramaciotti et al., 2024; Maoz, 2011; Azzimonti and Fernandes, 2023; Clark, 2009), the density distributions of media outlets on the identified dimensions could be used to estimate polarization more directly through the Duclos et al. (2004) polarization measure. This would grant a more comprehensive and comparable measurement of polarization consistent across time and national contexts.

Second, while analysing correlations in the evolution of issue-salience can be indicative of alignment, the measurement of this variable could be expanded beyond accounts in terms of volume. One option for future research to do so is to use sentiment analysis to estimate the positive or negative ways in which different media or parties talk about a specific issue. In turn,⁵ this could be used to better estimate the correlation between positive or negative salience in the two. Another option is to leverage a more in depth qualitative analysis of topic modelling outputs to better break down media coverage and political communication into different sub-topics.⁶ The results can then be used to study how actors talk about similar issues based on the identified categories of sub-topic. Similarly to previous work (Völker and Saldivia Gonzatti, 2024; Heiberger et al., 2022), future research could depict them in the form of bipartite discursive networks where the nodes are outlets and parties, on one side, and subtopics, on the other, and the edges represent coverage of a given sub-topic. In turn, their projection would yield a network where the node are outlets and parties, and the edges the weighted measure of alignment based on whether parties and media discuss the same topics. By leveraging the edges weights as a proxy of alignment, this approach would allow us to move beyond measuring it in terms of salience correlations. In turn, it would provide a more comprehensive image of party-press alignment that is more indicative of overlapping spheres of legitimate controversy (section 2.2 and 2.3).

Finally, our analysis is limited to the cases analysed, namely the French immigration and climate change debate during the 2017-2019 period. As such, there is the need to further explore our findings in comparative settings and alternative temporal intervals. Moreover, on the side of the media, the results derive from a limited sample of the overall French media debate – that is, the one that have been posted by a sample of users on Twitter. While providing a good estimate, it might miss out on outlets not shared on the platform, or by users who do not belong to our sample. On the side of political communication, our results are limited to the Twitter posts from the official accounts of French parties above the 5% threshold. Future research should widen the sample size and data sources of both media articles and political communication. In the case of the first, it could include URLs deriving from other platforms and online forums, as well as widen the number of users taken into account. What is more, it could combine a wider sample with more powerful web scraping techniques to further look into the full text of all articles. Looking at political communication, it could employ data from derived from party manifestos,⁷ press

⁵By applying sentiment analysis to the text corpus of media articles and politicians' social media posts

⁶This could be done using insights from Grounded Theory (Strauss and Corbin, 1990; Nelson, 2020), a content analysis methodology which aids in iteratively categorising text items into different categories of interest. Specifically, it does so by iteratively reading through text items (in our case the different topics in the topic modelling output) and open coding them into different categories of higher and higher orders. In turn, this process of focused coding reveals themes which are meaningful to the research topics at hand.

⁷This could be done by leveraging the comparative manifesto project (<https://manifesto-project.wzb.eu>).

releases,⁸ and individual politicians' social media activity while also considering parties below the 5% threshold. Together, these further specifications can inform the study of patterns related to specific cases of party-press alignment as well as the evolution of media polarization beyond Twitter and the 2017-2019.⁹ In turn, this can shed light on some of the patterns identified in this dissertation, especially concerning the increasing clustering of right-wing media in France beyond the immigration debate.

5.3 Conclusion

This dissertation has analysed the relation between party-press alignment and discursive polarization in the context of the French immigration and climate change debates. Using a computational approach based on network and text analysis, we have examined interaction patterns between media outlets to estimate the underlying structure of the public discourse, and investigated party-press alignment through the correlation between issue salience in political communication and media coverage. Our results provide little evidence of the presence of discursive polarization or party-press alignment and suggest that there is no significant association between the two in the French immigration and climate change debate. Overall, the media landscape in France is well interconnected around a core of traditional centrist and centre-left mainstream media, without significant clustering on the extreme ends of the spectrum.

These findings diverge from what the literature had documented in the US case (Benkler et al., 2018), a discrepancy we attributed to the structural characteristics of the French media and political system. As we argued, the historically low levels of commercialisation of the media and high levels of political parallelism proper of “polarized pluralist” media systems (Hallin and Mancini, 2004) likely affected how the rise of digital media changed the interaction dynamics between outlets and politics. On the one hand, low commercialisation levels have mitigated the market pressure derived from increased competition (Bennett and Pfetsch, 2018; Hamilton, 2004; Van Aelst et al., 2017), limiting the traditional media's struggle for audiences which led US mainstream media to turn to identity-reinforcing journalism. On the other hand, the internalisation of opinion-based journalism and strong links to politics is likely to have slowed the mainstreaming of partisan opinion-based narratives (Schroeder, 2019; Jungherr et al., 2019). Finally, the possibility of multiple partisan associations characteristic of multi-party systems mitigates the formation of strong partisan identities (Garry, 2007), thus limiting the effectiveness of identity-based rhetoric on the basis of political affiliations alone.

Overall, this dissertation contributes to the study of political polarization by investigating its underlying discursive dimension. The main idea is that before societies break apart, civil public debates turns into conflicts of identities. Whereas social media are often taken to be the forces driving society apart, we argue that understanding the structural changes to our information

⁸Here we could refer to the PARTYPRESS database (Erfort et al., 2023).

⁹It would be especially interesting to investigate the evolution taking place during and after the COVID-19 pandemic.

environments by looking at the relation between alignments in content and interactions has the potential to steer the debate towards more concrete – but complex – dynamics. While social media does indeed play a role in changing the technological affordances leveraged by different (political) actors to promote their narratives, it is the rhizomatic discursive exchanges¹⁰ that are set in motion which ultimately determine which socio-political developments arise from these variations. The interest in studying the socio-political consequences of the rise of the internet and social media should be on different systems’ *adaptations to* and *integration of* the novel dynamics of information production and consumption online, rather than their evolution *per se*. Adapting Hay and Marsh (2000)’s argument on globalisation, we speculate that there are multiple processes of discursive polarization that are “unevenly developed over space and time” (p. 3) which are highly complex and based on interconnected networked dynamics of discursive interactions. While technological affordances are often taken as explanatory factors to explain the creation of networked dynamics and interpret politics in the internet age (e.g., Bennett and Pfetsch, 2018), the focus should be on understanding the multi-level mechanisms of change in interaction patterns of which technology is but one factor. In this regard, future studies should implement insights from actor-network theory (Latour, 1994)¹¹ to political science in order to study the adaptations of media and political systems to novel technological affordances and communication dynamics and their influence on shaping political conflict. As such, they should understand technological development less as an explanatory factor and more as an integral part of the discursive polarization process, leading to the presence and prevalence of alternative discourses in the first place.

Specifically, the prevalence of partisan, identity-based dynamics in the relation between media and politics leads to the development of stronger political misperceptions which in turn contribute to affective and ideological polarization. As we argued in this thesis, their mainstreaming is most evident in the changing interaction patterns between media outlets and the levels of party-press parallelism. Our findings suggest that the development of opinion feedback dynamics and discursive polarization is not prevalent in polarized pluralist and multi-party systems – which seems to indicate that the historical prevalence of opinion-based, interpretative content in a given

¹⁰“Rhizomatic” refers to a decentralized, non-hierarchical way of organising knowledge or systems, which emphasizes the multiplicity of viewpoints existing in a complex network rather than a single, centralised truth (Deleuze and Guattari, 2017). In our case, we leverage the concept to refer to the networked interaction between different human and non-human actors within information systems.

¹¹Actor-Network Theory (ANT) is a theoretical and methodological approach from the field of science and technology studies and linked to the work of Bruno Latour, Michel Callon, and John Law. As an approach to social theory and research, it focuses on the complex and symmetric relationships between human and non-human actors within networks. While it has been applied to study the development and adoption of technologies, we hereby argue that it should be used to explain the changes set off by the interaction of the socio-political and technological spheres.

context might prevent identity-based information from crystallising into feedback loops.¹² We speculate that this could indicate the presence of multiple processes of discursive polarization whose variations are related to contextual factors linked to political and media systems which might have been overlooked due to the focus on technological change as an explanatory variable.¹³ In this regard, modelling connections between parties, media, politicians, citizens, and algorithms based on identity-confirmation dynamics as mediated by technological affordances is a promising avenue to understand changes to political conflict and the creation of opinion feedback loops across different environments.

We thus call for further comparative research to better understand how party-press alignment and discursive polarization vary across national contexts. This will help assess the influence of structural factors on political communication and media dynamics across countries and grant us a deeper understanding of how the congruence and divergence of spheres of legitimate controversy influence public debate and discursive polarisation. Future research could target these aspects in different ways. First, they could look into the motivations of journalists and editors for interacting with alternative media, as well as how their editorial choices relate to political communication. In doing so, they should focus on the role that (partisan) identity plays in the identification of outlets' audiences, and whether identity-based reporting is regarded as a practice to attract their target groups. Secondly, they should focus on detailing the practices employed by journalists in dealing with anti-establishment and populist rhetorics,¹⁴ concentrating on how different outlets integrate or critique such discursive approaches in the case of alternative media and populist politicians. Finally, future studies could look at the multi-level dynamics of contagion between political communication strategies and media coverage, specifically focusing on analysing consistencies in the epistemic assumptions and framing practices between the two. Together these approaches can help us to break down the aggregate dynamics explored in this thesis focusing on how the structural differences between national contexts influence discursive polarization and party-press alignment. In doing so, they will contribute to a detailed documentation of this process, moving beyond technological explanations.

¹²Here it is interesting to speculate that this might be related to the distance that opinion-based journalism keeps from directly describing the political reality. Compared to the US system, where mainstream media often predicates its legitimacy based on the reporting of "truth", the prevalence of opinion-based content creates a situation where moral argument can be made regarding the truth value of specific statements. In turn, alternative media's attack on the mainstream outlets as "fake news" – which are highly present in the American case – does not fit within the same dynamics of conflict. In other words, while political conflict in the US allows for a shift to conflicts on truth which can be exploited by political actors, the traditional prevalence of opinion and interpretative journalism leaves less space for these attacks to be effective.

¹³This is also in line with our argument from section 2.1 where we focus on the leverage of technological affordances not as an explanatory variable but rather as one aspect in a wider process which contributed to ideological sorting Mason (2018); Törnberg (2022).

¹⁴This is especially interesting to see in countries with traditionally high levels of political parallelism.

A | APPENDIX

A.1 Appendix A – Figures

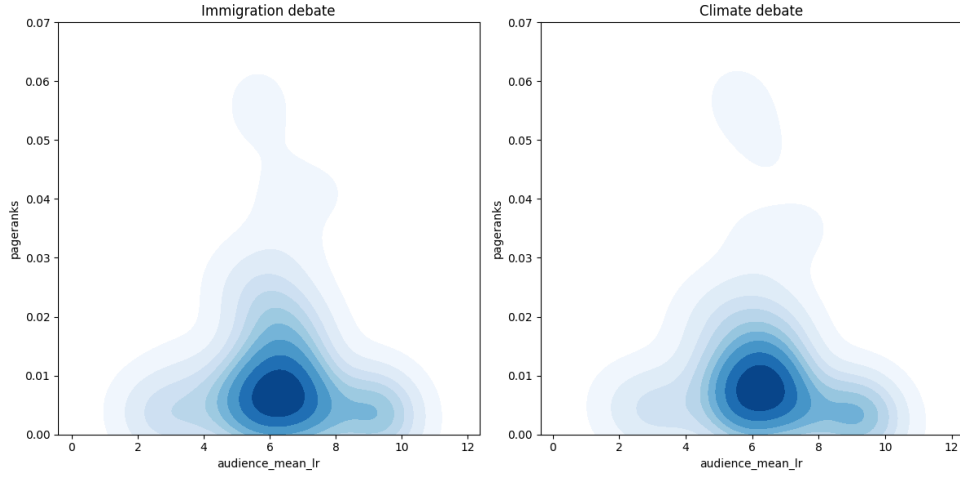


Figure A.1: Dstribution of PageRank across the political spectrum, 2017-2019.

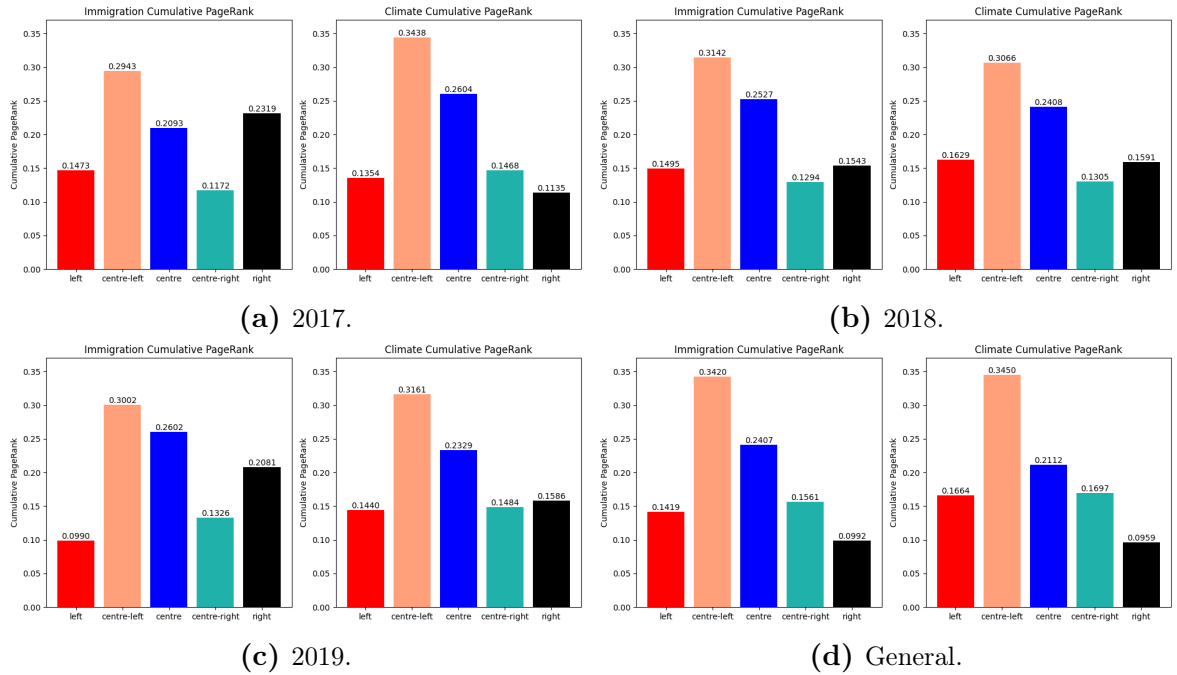


Figure A.2: Cumulative PageRank of the immigration and climate change networks by political leaning across time.

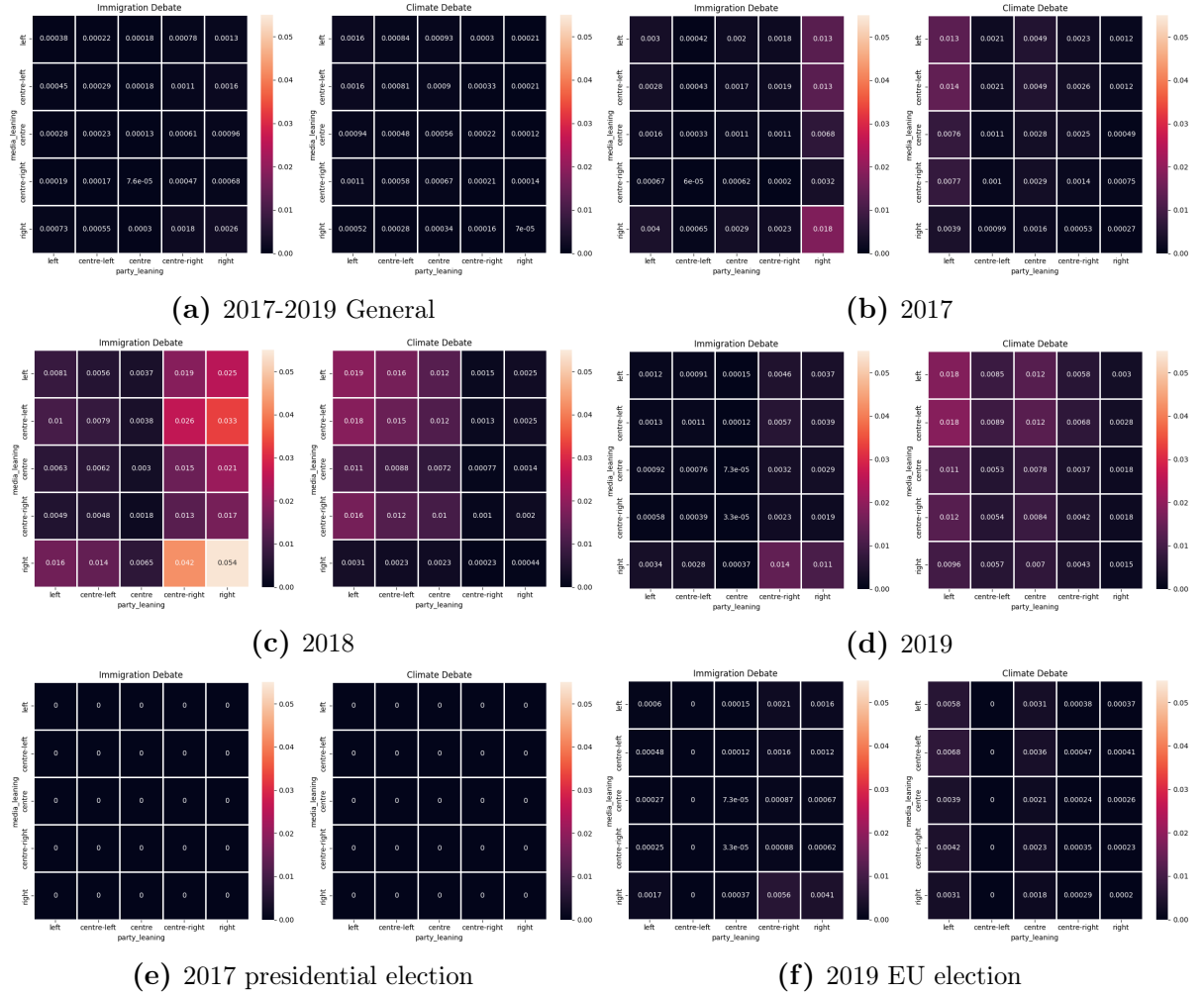
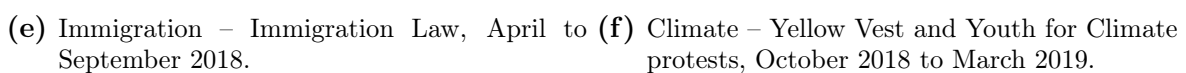
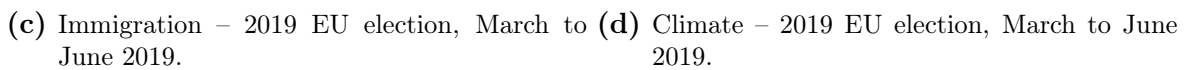
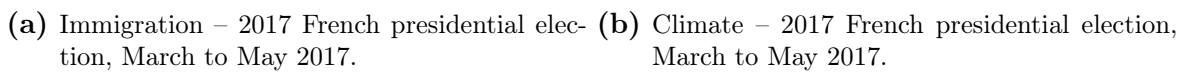


Figure A.3: Alignment between media and party leanings at different points in time. Heatmap colors are based on a uniform scaling across all analysed time intervals. Each value is the period's average of the correlation between salience in media outlets and in parties political communication.



IX

A.2 Appendix B – Methods

List of words used to identify immigration and climate change related topics in the topic modelling output:

- Immigration: immigration, immigrer, migrant, immigrant, migration, refuge, asile, accueil, sauvetage.
- Climate: climat, changement climatique, climatique, environnement, environnement, durable, soutenable, écologique, écolo, pollution, charbon, pétrole, gaz.

To evaluate the similarity of a given topic to a given word, we used the following function:

```
similar_topics, similarity = topic_model.find_topics(word)
```

List of words used to identify specific aspects of immigration and climate change:

- **Immigration:**
Immigration hotspots in France: calais, mayotte,
Immigration hotspots in Greece: chios, kos, leros, lesbo, samos,
Immigration hotspots in Italy: lampedusa, trapani, pozzallo, messina, taranto,
Active NGO ships: sea watch, sea eye, open arms, geo barents,
Active NGOs: sos mediterrane, sos humanity, ocean viking, mission lifeline, united4rescue.
- **Climate:**
Climate change policies: green deal, net zero, économie vert,
Specific climate change terms: fossile, effet de serre, co2,
Energy transition related terms: électrique, énergie renouvelable, énergie vert,
Conferences of Parties: COP, cop17, cop18, cop19, cop20, cop21, cop22, cop23, cop24, cop25,
Key international summits: summit du climat", conférence du climat", 1.5 degré", 'accord de paris',
Climate activists: greta thunberg, salome saque, hugo decrypte, camille etienne,
Active NGOs: extinction rebellion, greenpeace.

A.2.1 Ideal points estimation using network scaling methods

Ideal point estimation methodologies aim to measure different people's – e.g., citizens, politicians, journalists – political positions. Traditional ways to estimate this were through roll-call votes in legislatures (Poole and Rosenthal, 2001), votes and citations in courts (Clark and Lauderdale, 2010), expert surveys (Bakker et al., 2019), party manifestos, speeches and press releases (Budge, 2015), or survey responses (Jessee, 2009). However, these methods are often limited to specific populations, and contexts. More recent developments have leveraged network data from social media platforms to estimate policy positions (*ideal points*) of different actors at scale and in

multiple countries using adaptations of the method from Barberá (2015). These have been used to study echo chambers and polarization on social media platforms (Barberá et al., 2015), but also leveraged to study the dimensionality of the political sphere in Europe (Peralta et al., 2023; Ramaciotti Morales et al., 2021) and the US (Ramaciotti et al., 2024; Ramaciotti Morales, 2023).

Drawing from spacial models of politics, inferring ideological position using social media data relies on the key assumption that users prefer to follow the political accounts they perceive to be ideologically close to their own position. The assumption behind this is that the users is allocating part of her attention – i.e., a scarce resource – to the accounts they decide to follow. The decision to follow another user is a costly one because, by doing so, an individual will be exposed to the posts of those she decides to follow. Based on this assumption, we can apply network scaling methods to infer ideological positions of individuals and political accounts in a common latent “social space” (Hoff et al., 2012). Specifically, the method proposed by Barberá (2015) starts by constructing a network of following relations between a population of social users that are significantly linked to political accounts.¹ It then uses this data to construct a bipartite matrix M whose rows contain the vectors indicating the connection of each user to selected political accounts. From this, the method tries to estimate the ideal points of both the user and the political account – θ_i and ϕ_j respectively. It does so by assuming that the probability that user i follows account j is:

$$P(A_{i,j} = 1) = \text{logit}^{-1}(\alpha_j + \beta_i - \gamma(\theta_i - \phi_j)^2) \quad (\text{A.1})$$

where θ_i and ϕ_j refer to the ideology of the user and the political account respectively, γ is a normalizing constant which represents the importance of political ideology in connecting i and j , α_j measures the popularity of the political account, and β_i the political interest of the user. α_j and β_i are necessary to account for the fact that the more popular an account is the more likely it is to gain attention, and that the more interested in politics a person is, the more they will be likely to follow any political account. In short, the above model takes the probability of connection between two accounts to be dependent on the ideological distance between those two accounts in the latent space $\gamma(\theta_i - \phi_j)^2$. In fact, the further the user is from the political account in the latent space, the less likely it is that she will follow that political accounts. We then need a method to estimate the the latent ideological variables θ_i and ϕ_j .

The original method proposed by Barberá (2015) aimed to minimise a likelihood function by running a model in two stages. First, using a random sample of the original matrix it estimates the distribution of the j -indexed parameters using Markov Chain Monte Carlo. Second, it estimates all i -indexed parameters using a Metropolis-Hastings algorithm. However, given the computational requirements of this method, Imai et al. (2016) found that comparable results could be achieved using estimation maximization models (EM) which is also significantly

¹In his paper Barberá defines this as all those accounts linked to at least 5 explicitly political accounts – i.e., accounts of politicians, media outlets, or political parties and government agencies.

less computationally intensive. Nevertheless, the most efficient identification of the ideological parameter has been through the use of matrix factorization in the form of correspondence analysis (CA) which has been shown to be mathematically similar to log-linear latent space models (Lowe, 2008). The way this is done is by computing a matrix of standardized residuals using correspondence analysis on M and then using Singular Value Decomposition (SVD) to infer the Left and Right vectors on which the coordinates for each user i and political account j are then projected. While this method works well in the US context, applications to multi-dimensional political environments like the European one presents specific complications. This is due to the fact that the ideological difference factor $\gamma(\theta_i - \phi_j)^2$ now needs to take different dimensions into account and is thus rephrased as $\sum_{d=1}^D \gamma_d(\theta_{id} - \phi_{jd})^2$, where d represents the number of the dimension. In turn, we can use different dimensions of the correspondence analysis to represent different dimensions of political competition.

In the case of the data from Ramaciotti Morales et al. (2021) leveraged in this dissertation, the ideal points estimates for the French sample of Twitter users was derived using a similar network scaling method. Specifically, they built follow networks for the 831 Members of the French Parliament (MPs) having a Twitter account by collecting the followers of each account. They then created a bipartite network based on this data and filtered out those accounts connected to less than 3 MPs and less than 25 followers. In turn, they used the above described method to produce the network embedding through CA.

Differently from the above method, which uses SVD to identify Left and Right vectors within the latent space, Ramaciotti Morales et al. (2021) leverage external referential attitudinal data from the Chapel Hill Expert Survey (CHES) to achieve this goal. The way they do this is by first calculating the position of each individual party as the average of its MPs and then measure the correlations between party positions in the latent space and their position in attitudinal positions from CHES. In turn, they identify which of the principal components (PC) of the CA are highly related to meaningful CHES measures, and use these to project the coordinates of all nodes on these and derive ideal point estimates for all users in their sample based on the positions of parties within the latent space.

A.2.2 Google Trends Data

To measure online salience we refer to data from Google Trends (<https://trends.google.fr/trends/>), a service provided by Google which grants access to data concerning online searches. In previous years, Google allowed access to the raw number of searches for any search term of interest aggregated on a weekly basis. As of 2024, this had changed to limit access to an exploration of the trend of searches through normalised data. This means that, within a given time period, the week registering the maximum amount of searches takes value 100 and the rest of the values are normalised on that baseline. In the measurement of issue salience, Google trends data has been proven to produce similar results to Gallup’s “most important problem” question, especially on the issue of immigration (Mellon, 2014).

We collected data for the time period of interest (January 1st 2017 - August 31st 2019) to match that of our Twitter sample. In the case of immigration, we used the search term *immigration*, while for climate change we referred to the word *climat*. We then aggregated the data biweekly to match the data format in our analysis by taking the mean value between the two weeks. This gave us a normalised value of the issue’s online salience.

Table A.1: Summary statistics for Google Trends data

	Online immigration salience	Online climate salience
Mean	0.274	0.118
Standard Deviation	0.205	0.128
Minimum	0.000	0.000
25th Percentile	0.165	0.062
Median	0.227	0.092
75th Percentile	0.335	0.131
Maximum	1.000	1.000

A.2.3 ParlGov Data

To measure party size we leverage data for number of parliamentary seats for France from ParlGov (Döring and Manow, 2020). Specifically, we select data for the 2012 and 2017 French parliamentary election, and the 2014 and 2019 EU election for the parties which overcame the 5% threshold in at least one of the two elections. For each election we select the number of seats each party gained take it as a percentage of all total seats. We then aggregate this data based on political leanings (see section 3.3 and table A.3) by summing the parliamentary shares of the parties belonging to each leaning.

Table A.2: Parliamentary seats by party leanings (share of total seats).

	EP 2014 election	EP 2019 election	2012 Parliamentary election	2017 Parliamentary election
Left	0.202703	0.351351	0.502600	0.100520
Centre-left	0.108108	0.054054	0.006932	0.003466
Centre	-	0.533795	-	0.283784
Centre-right	0.270270	0.108108	0.336222	0.194107
Right	0.324324	0.297297	0.003466	0.013865

A.2.4 Polling Data

To measure party popularity, we refer to public opinion data from the French Institute of Public Opinion (IFOP). IFOP provides polling data based on a representative sample of the French

population of around 3,000 people. During election periods they supply detailed data through an extensive, rolling interview process based on around 500 interviews a day taken from their sample. During non-electoral periods, they regularly publish the results of the polls they conduct under the commission of different media outlets and government agencies. This master thesis uses data from the both types of reports:

- Single report detailing the evolution of voting intentions in the French election from January to May 2017 (detailed election period data). This is available at this [link](#).
- Individual reports commissioned by news outlets concerning the voting intentions of French citizens. Each report, contains only one observation for the month in which the report was published. We combined data from these reports to derive party popularity within the national context between May 2017 and August 2019 (less granular inter-election period data).
 - November 2017: [link](#).
 - April 2018: [link](#).
 - December 2018: [link](#).
 - February 2019: [link](#).
 - May 2019: [link](#).
- Single report detailing the evolution of voting intentions in the EU parliamentary election from March to May 2019 (detailed election period data). This is available at the following [link](#).
- Individual reports commissioned by news outlets concerning the voting intentions of French citizens in the EU parliamentary election. Each report, contains only one observation for the month in which the report was published. We combined data from these reports to derive party popularity within the EU context between 2017 and March 2019 (less granular inter-election period data). These are available at the following webpages:
 - December 2017: [link](#).
 - May 2018: [link](#).
 - June 2018: [link](#).
 - September 2018: [link](#).
 - October 2018: [link](#).
 - November 2018: [link](#).
 - December 2018: [link](#).
 - January 2019: [link](#).
 - February 2018: [link](#).

Given the fact that IFOP does not have a centralised storage of these data outside the reports themselves, we leveraged the Wikipedia transcriptions of their polling results. The transcriptions were validated through a manual check with half of the reports. All links were accessed in April 2024.

A.3 Appendix C – Github Repository

Access to the online repository containing the code used in the data cleaning and analysis can be found at the following [link](#).

A.4 Appendix D – Data

Table A.3: Party Leanings

Party	CHES Left-Right General	Leaning	Twitter Account
PCF	1,125	left	@PCF
FI	1,25	left	@FranceInsoumise
EELV	2,5	left	@EELV
PS	3	left	@partisocialiste
MoDem	6,125	centre-left	@MoDem
LREM	6,333	centre	@Renaissance
LR	7,875	centre-right	@lesRepublicains
RN	9,75	right	@RNational_off

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
professeur-joyeux.com	1,149	11	left
jeffklak.org	2,008	16	left
revue-ballast.fr	2,012	562	left
investigaction.net	2,026	1823	left
humanite.fr	2,121	9717	left
legrandsoir.info	2,186	333	left
la-bas.org	2,195	2480	left
fakirpresse.info	2,235	335	left
leblogalupus.com	2,270	12	left
espritsciencemetaphysiques.com	2,279	193	left
terrestres.org	2,315	40	left
regards.fr	2,439	1218	left
rouendanslarue.net	2,450	16	left
lemediatv.fr	2,464	2149	left
lvsl.fr	2,511	1118	left
lundi.am	2,579	1454	left
paris-luttes.info	2,630	360	left
hypotheses.org	2,657	18	left
taranis.news	2,662	666	left
politix.fr	2,680	3945	left

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
acrimed.org	2,719	3218	left
yetiblog.org	2,860	1302	left
revolutionpermanente.fr	2,879	4617	left
bastamag.net	2,881	7661	left
worldtvdesinfo.com	2,986	96	left
rebellyon.info	3,034	179	left
lasemaine.fr	3,089	21	left
monde-diplomatique.fr	3,095	9434	left
prescrire.org	3,180	4	left
reporterre.net	3,298	17618	left
alternatives-economiques.fr	3,528	10675	left
rue89bordeaux.com	3,581	211	left
lamarseillaise.fr	3,816	1164	left
aoc.media	3,882	2323	left
sante-et-travail.fr	3,888	80	left
bondyblog.fr	4,199	2156	left
pauljorion.com	4,244	15	left
yagg.com	4,252	665	left
infosmaintenant.net	4,308	4	left
mediapart.fr	4,321	94675	left
republicain-lorrain.fr	4,332	830	left
gj-magazine.com	4,348	564	left
arretsurimages.net	4,356	12569	left
l-echo.info	4,395	39	left
les-crises.fr	4,429	1909	left
mrmondialisation.org	4,429	729	left
ecranlarge.com	4,431	4	left
reflets.info	4,436	468	left
ipreunion.com	4,474	23	left
society-magazine.fr	4,503	19	left
historia.fr	4,523	25	left

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
telecablesat.fr	4,547	66	left
radioorient.com	4,552	953	left
chouard.org	4,693	284	left
larepubliquedespyrenees.fr	4,702	461	left
initiativecitoyenne.be	4,709	11	left
informaction.info	4,746	8	left
causette.fr	4,761	138	left
cahiersdufootball.net	4,802	123	left
orientxxi.info	4,821	1210	left
lesjours.fr	4,866	2841	left
liberation.fr	4,912	120372	left
mediacites.fr	4,936	2479	left
streetpress.com	4,986	3611	left
telerama.fr	4,994	6928	left
rue89strasbourg.com	4,996	588	left
rue89lyon.fr	5,035	381	left
canardpc.com	5,042	116	left
patriote.info	5,071	27	left
positivr.fr	5,072	3137	left
geo.fr	5,159	773	left
maitre-eolas.fr	5,167	243	left
santenatureinnovation.com	5,225	121	left
presseocean.fr	5,239	2033	left
charentelibre.fr	5,257	487	left
aisnenouvelle.fr	5,257	784	left
lepopulaire.fr	5,269	642	left
franceinter.fr	5,365	31179	left
reforme.net	5,367	43	left
saphirnews.com	5,368	419	left
santepiusmag.com	5,370	35	left
lesinrocks.com	5,377	11352	left

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
scienceinfo.fr	5,381	78	centre-left
franceculture.fr	5,391	35798	centre-left
lindependant.fr	5,410	2516	centre-left
zinfos974.com	5,422	488	centre-left
publicsenat.fr	5,469	7357	centre-left
lechasseurfrancais.com	5,475	57	centre-left
lcp.fr	5,487	9151	centre-left
marianne.net	5,487	40393	centre-left
macommune.info	5,490	168	centre-left
ipsn.eu	5,498	70	centre-left
le1hebdo.fr	5,500	264	centre-left
environnement-magazine.fr	5,522	656	centre-left
vosgesmatin.fr	5,547	115	centre-left
dalloz-actualite.fr	5,561	911	centre-left
lesmoutonsenrages.fr	5,563	65	centre-left
al-kanz.org	5,568	289	centre-left
lemonde.fr	5,607	368932	centre-left
lejdc.fr	5,608	132	centre-left
estrepublikain.fr	5,609	2590	centre-left
60millions-mag.com	5,623	186	centre-left
lanouvellerepublique.fr	5,633	2255	centre-left
clicanoo.re	5,637	176	centre-left
arte.tv	5,654	14575	centre-left
nordlittoral.fr	5,686	214	centre-left
madmoizelle.com	5,686	524	centre-left
maxisciences.com	5,692	91	centre-left
francetvinfo.fr	5,707	147767	centre-left
nouvelobs.com	5,721	48073	centre-left
legorafi.fr	5,726	28098	centre-left
grazia.fr	5,734	111	centre-left
trustmyscience.com	5,735	141	centre-left

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
dailygeekshow.com	5,742	672	centre-left
ladepeche.fr	5,743	11061	centre-left
francebleu.fr	5,745	26253	centre-left
brain-magazine.fr	5,747	274	centre-left
bibamagazine.fr	5,748	25	centre-left
allocine.fr	5,754	386	centre-left
letelegramme.fr	5,764	5358	centre-left
nordeclair.fr	5,767	249	centre-left
lecourrier-du-soir.com	5,776	768	centre-left
charliehebdo.fr	5,800	697	centre-left
businessbourse.com	5,813	192	centre-left
lamontagne.fr	5,823	2170	centre-left
dna.fr	5,828	1079	centre-left
lecanardenchaine.fr	5,840	320	centre-left
pleinevie.fr	5,843	23	centre-left
slate.fr	5,856	17332	centre-left
premiere.fr	5,870	111	centre-left
lebonbon.fr	5,875	154	centre-left
courrierinternational.com	5,875	8203	centre-left
lavoixdunord.fr	5,883	9604	centre-left
programme-television.org	5,889	67	centre-left
courrierdesmaires.fr	5,893	425	centre-left
quechoisir.org	5,895	559	centre-left
alldoctors.fr	5,913	686	centre-left
sudouest.fr	5,916	9420	centre-left
sciencepost.fr	5,933	409	centre-left
huffingtonpost.fr	5,954	64739	centre-left
marieclaire.fr	5,964	1224	centre-left
lephocean.fr	5,965	33	centre-left
courrier-picard.fr	5,969	1603	centre-left
mariefrance.fr	5,971	5	centre-left

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
francesoir.fr	5,971	3175	centre-left
sciencesetavenir.fr	5,972	9352	centre-left
vice.com	5,977	1715	centre-left
lechodelaboucle.fr	5,978	125	centre-left
sante-nutrition.org	5,994	77	centre-left
gamekult.com	6,009	29	centre-left
ouest-france.fr	6,022	44954	centre-left
linfo.re	6,026	133	centre-left
pourquoidocteur.fr	6,030	134	centre-left
konbini.com	6,038	947	centre-left
sofoot.com	6,062	609	centre-left
echelledejacob.blogspot.com	6,065	4	centre-left
topsante.com	6,066	113	centre-left
leberry.fr	6,070	159	centre-left
tendanceouest.com	6,071	270	centre-left
lagazettedescommunes.com	6,074	3878	centre-left
lemediapourtous.fr	6,130	254	centre-left
lunion.fr	6,131	1065	centre-left
programme-tv.net	6,140	1189	centre-left
lessor.org	6,142	327	centre
lalettrea.fr	6,142	1017	centre
femmeactuelle.fr	6,148	482	centre
ohmymag.com	6,169	183	centre
sortiraparis.com	6,172	110	centre
centre-presse.fr	6,182	91	centre
afp.com	6,183	1208	centre
public.fr	6,194	156	centre
contexte.com	6,197	1097	centre
topito.com	6,198	415	centre
nextinpact.com	6,201	3850	centre
cosmopolitan.fr	6,225	300	centre

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
lyonne.fr	6,243	211	centre
science-et-vie.com	6,243	199	centre
sott.net	6,256	230	centre
numerama.com	6,258	4085	centre
lesmoutonsrebelles.com	6,259	74	centre
lejsl.com	6,276	519	centre
courrierdelouest.fr	6,278	902	centre
lepetitjournal.com	6,285	1833	centre
journaldesfemmes.fr	6,289	60	centre
theconversation.com	6,295	6670	centre
psychologies.com	6,310	206	centre
20minutes.fr	6,323	38738	centre
purepeople.com	6,323	357	centre
laprovence.com	6,332	4566	centre
paris-normandie.fr	6,335	3164	centre
mcetv.fr	6,342	29	centre
studyrama.com	6,342	171	centre
futura-sciences.com	6,370	2256	centre
actu.fr	6,381	17608	centre
la-croix.com	6,392	13547	centre
vanityfair.fr	6,396	1673	centre
midi-olympique.fr	6,405	27	centre
leparisien.fr	6,418	145209	centre
sputniknews.com	6,419	39	centre
rfi.fr	6,425	14122	centre
kulturegeek.fr	6,427	13	centre
larep.fr	6,445	473	centre
conspiracywatch.info	6,445	295	centre
antipresse.net	6,448	33	centre
objectifgard.com	6,454	320	centre
gqmagazine.fr	6,467	360	centre

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
midilibre.fr	6,487	5859	centre
pariszigzag.fr	6,495	371	centre
letudiant.fr	6,496	3809	centre
planetes360.fr	6,505	2095	centre
notretemps.com	6,509	279	centre
tv5monde.com	6,514	393	centre
korben.info	6,522	429	centre
ledauphine.com	6,545	4556	centre
hoaxbuster.com	6,546	32	centre
leprogres.fr	6,554	2564	centre
lejdd.fr	6,566	50180	centre
lyoncapitale.fr	6,568	1422	centre
lequipe.fr	6,574	6888	centre
capital.fr	6,578	11327	centre
reseauinternational.net	6,592	576	centre
ozap.com	6,593	3091	centre
cercledesvolontaires.fr	6,596	5	centre
leseconoclastes.fr	6,598	78	centre
europel.fr	6,609	32640	centre
lexpress.fr	6,610	35429	centre
limportant.fr	6,613	25975	centre
lequotidiendumedecin.fr	6,615	1777	centre
zonebourse.com	6,621	141	centre
lci.fr	6,622	15784	centre
elle.fr	6,648	2182	centre
boursier.com	6,652	148	centre
vsd.fr	6,671	172	centre
corsemachin.com	6,686	15	centre
occitanie-tribune.com	6,694	27	centre
footballfrance.fr	6,725	36	centre
lepelerin.com	6,731	80	centre

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
autoplus.fr	6,734	183	centre
vogue.fr	6,739	217	centre
larecherche.fr	6,747	30	centre
euronews.com	6,750	533	centre
cnews.fr	6,755	18269	centre
tariqramadan.com	6,759	9	centre
linternaute.com	6,763	2077	centre
challenges.fr	6,768	21176	centre
jeuneafrique.com	6,780	2830	centre-right
bienpublic.com	6,784	878	centre-right
lerevenu.com	6,784	127	centre-right
france24.com	6,796	18346	centre-right
agoravox.fr	6,799	541	centre-right
gentside.com	6,800	102	centre-right
journaldugeek.com	6,802	204	centre-right
prevention-sante.eu	6,803	4	centre-right
aufeminin.com	6,813	560	centre-right
bfmtv.com	6,828	78266	centre-right
lelibrepenseur.org	6,839	194	centre-right
varmatin.com	6,843	990	centre-right
planet.fr	6,848	615	centre-right
caminteresse.fr	6,856	144	centre-right
voici.fr	6,858	526	centre-right
mycanal.fr	6,861	4529	centre-right
leveil.fr	6,884	97	centre-right
latribune.fr	6,889	20557	centre-right
nrpyrenees.fr	6,892	28	centre-right
lalsace.fr	6,897	381	centre-right
dieudosphere.com	6,912	350	centre-right
lejournaldesentreprises.com	6,923	199	centre-right
rtl.fr	6,932	34177	centre-right

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
rt.com	6,932	329	centre-right
sudradio.fr	6,942	1970	centre-right
phonandroid.com	6,949	319	centre-right
opex360.com	6,950	368	centre-right
6play.fr	6,955	1070	centre-right
toutelatele.com	6,972	181	centre-right
lesechos.fr	7,000	72757	centre-right
lsa-conso.fr	7,013	552	centre-right
lesnumeriques.com	7,020	175	centre-right
closermag.fr	7,033	1700	centre-right
01net.com	7,045	1717	centre-right
fredzone.org	7,053	32	centre-right
fawkes-news.com	7,063	9	centre-right
begeek.fr	7,078	78	centre-right
parismatch.com	7,093	14449	centre-right
boursorama.com	7,107	8647	centre-right
zejournal.mobi	7,110	20	centre-right
24matins.fr	7,116	1098	centre-right
usinenouvelle.com	7,117	2998	centre-right
clubic.com	7,134	4055	centre-right
arcturius.org	7,142	7	centre-right
generation-nt.com	7,146	76	centre-right
putsch.media	7,147	1988	centre-right
be.com	7,149	14	centre-right
wikistrike.com	7,149	295	centre-right
orange.fr	7,162	107	centre-right
itespresso.fr	7,171	189	centre-right
wordpress.com	7,183	121	centre-right
lepoint.fr	7,208	67250	centre-right
msn.com	7,218	2448	centre-right
corsematin.com	7,227	1038	centre-right

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
frandroid.com	7,259	270	centre-right
lenouveleconomiste.fr	7,260	861	centre-right
businessinsider.fr	7,269	955	centre-right
silicon.fr	7,303	243	centre-right
macg.co	7,318	52	centre-right
nicematin.com	7,330	4317	centre-right
corsenetinfos.corsica	7,332	630	centre-right
zdnet.fr	7,335	1209	centre-right
gala.fr	7,341	806	centre-right
authueil.fr	7,381	11	centre-right
bmf-news.com	7,389	32	centre-right
lechorepublicain.fr	7,419	441	centre-right
lyonmag.com	7,423	1122	centre-right
presse-citron.net	7,458	1265	centre-right
lavie.fr	7,476	1434	centre-right
e-sante.fr	7,493	13	centre-right
lopinion.fr	7,503	15722	centre-right
agefi.fr	7,527	794	centre-right
alternativesante.fr	7,530	28	centre-right
francefootball.fr	7,532	568	centre-right
letribunaldunet.fr	7,548	160	centre-right
maddyness.com	7,580	9028	centre-right
2012un-nouveau-paradigme.com	7,588	18	centre-right
commentcamarche.net	7,591	19	centre-right
lest-eclair.fr	7,606	229	centre-right
telestar.fr	7,610	397	centre-right
programme.tv	7,688	111	centre-right
maxi-mag.fr	7,689	14	right
frenchweb.fr	7,702	10344	right
usine-digitale.fr	7,734	5760	right
santemagazine.fr	7,739	49	right

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
alterinfo.net	7,745	134	right
herault-tribune.com	7,755	22	right
femina.fr	7,758	42	right
oumma.com	7,825	214	right
lefigaro.fr	7,827	181861	right
jeanmarcmorandini.com	7,863	2971	right
hitek.fr	7,870	11	right
journaldunet.com	7,877	7616	right
stopmensonges.com	7,915	168	right
melty.fr	7,969	43	right
enquete-debat.fr	7,990	115	right
atlantico.fr	8,010	7666	right
jssnews.com	8,050	59	right
jeune-nation.com	8,087	4	right
jforum.fr	8,103	71	right
nice-provence.info	8,121	77	right
infochretienne.com	8,204	142	right
contrepoints.org	8,310	4571	right
nouvelordremondial.cc	8,321	267	right
radiocourtoisie.fr	8,401	27	right
nos-medias.fr	8,493	31	right
infos-bordeaux.fr	8,516	60	right
actu17.fr	8,543	11599	right
morandinisante.com	8,564	5	right
les-identitaires.com	8,567	117	right
minute-hebdo.fr	8,579	107	right
contribuables.org	8,628	1160	right
elishean.fr	8,631	12	right
contre-info.com	8,638	157	right
tomsguide.fr	8,678	11	right
egaliteetreconciliation.fr	8,679	345	right

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
actionfrancaise.net	8,687	77	right
i24news.tv	8,706	2188	right
lengadoc-info.com	8,771	208	right
jovanovic.com	8,788	203	right
medias-presse.info	8,793	533	right
info24.fr	8,835	201	right
causeur.fr	8,835	7834	right
infos-toulouse.fr	8,859	105	right
eklablog.com	8,929	2758	right
borislelay.com	8,937	41	right
la-chronique-agora.com	8,947	15	right
yahoo.com	8,975	736	right
leweek.info	8,984	41	right
over-blog.com	8,984	14	right
ndf.fr	9,022	229	right
lagauchematuer.fr	9,026	821	right
24heuresactu.com	9,067	1229	right
valeursactuelles.com	9,115	50512	right
thomasjoly.fr	9,133	76	right
breizh-info.com	9,157	1916	right
ripostelaique.com	9,158	1805	right
voltairenet.org	9,160	230	right
breizatao.com	9,191	460	right
moto-station.com	9,210	4	right
parisvox.info	9,223	48	right
adoxa.info	9,237	4691	right
europe-israel.org	9,286	615	right
lesalonbeige.fr	9,300	686	right
citoyens-et-francais.fr	9,360	190	right
nationspresse.info	9,377	357	right
tvlibertes.com	9,388	4488	right

Table A.4: Media Leanings

Domain	Left-Right Leaning	Citations	Leaning
bvoltaire.fr	9,392	6471	right
damocles.co	9,394	3236	right
peupledefrance.com	9,405	115	right
dreuz.info	9,448	1718	right
lescrutateur.com	9,460	74	right
christianophobie.fr	9,510	1441	right
ojim.fr	9,548	654	right
novopress.info	9,595	51	right
fdesouche.com	9,638	30493	right
polemia.com	9,758	812	right
crashdebug.fr	9,831	176	right
reinformation.tv	9,909	354	right
les4verites.com	10,173	71	right
revue-elements.com	10,323	30	right
onzemondial.com	10,333	6	right
a-droite-fierement.fr	10,749	1837	right

Table A.5: Original Dataset from Faverjon and Ramaciotti (2023) – Breakdown by Year

(a) Total URLs				(b) Unique URLs		
Year	Immigration	Climate	General	Immigration	Climate	General
2010	1	0	56	1	0	9
2011	2	12	4.137	2	3	392
2012	123	121	31.430	16	23	3.161
2013	133	319	49.400	31	56	5.743
2014	462	942	81.763	72	166	10.737
2015	2.317	3.205	127.251	392	507	17.717
2016	3.012	2.861	173.898	483	437	25.612
2017	6.585	7.490	418.947	831	906	49.843
2018	20.703	16.822	623.063	1.874	1.630	65.707
2019	23.130	35.309	1.102.405	1.533	2.665	81.186
Total	56.468	67.081	2.612.350	5.235	6.393	260.107

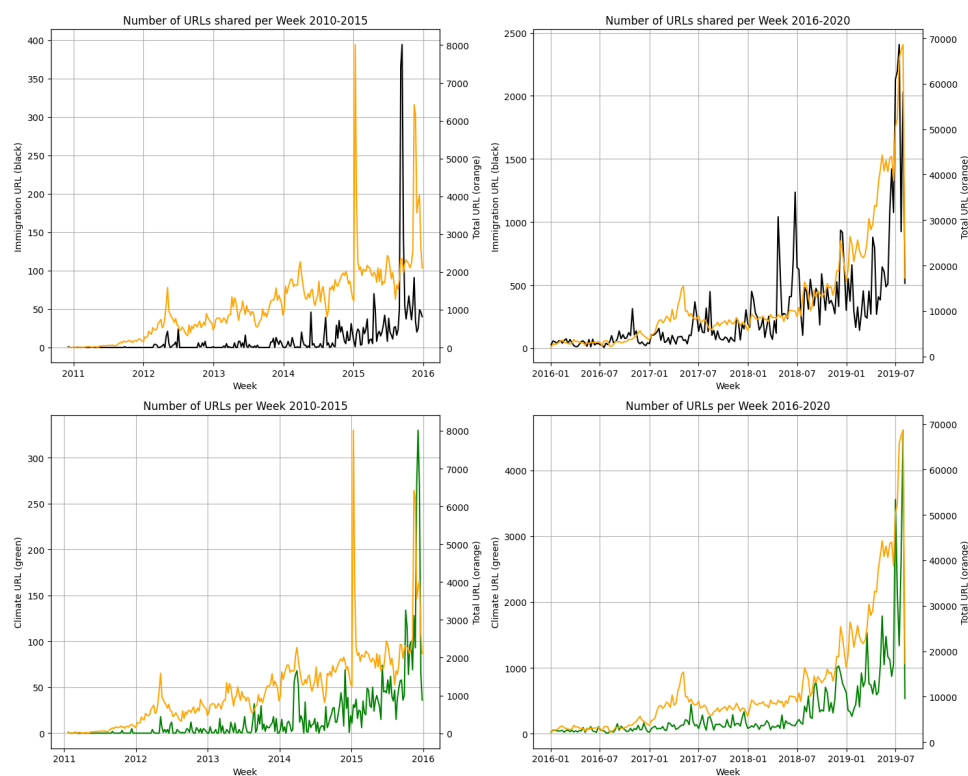


Figure A.5: Overview of the number of tweets over time in the original Faverjon and Ramaciotti (2023) dataset.

A.5 Appendix E – Regression Tables

Table A.7: Regression Results – Modularity (Immigration)

	Model 1	Model 2	Model 3	Model 4	Model 5
const	1.95 (2.84)	1.91 (2.87)	1.92 (2.91)	3.21 (2.85)	1.88 (2.93)
Same left alignment		-4.5 (18.23)	-4.59 (18.48)	-38.23* (22.64)	-7.87 (19.72)
Same right alignment			-0.58 (9.76)	-16.06 (11.29)	-1.49 (10.00)
Opposite alignment				8.58 (9.51)	4.95 (9.84)
Centre alignment					85.29* (35.34)
Media salience	-3.87* (1.71)	-3.55 (2.15)	-3.52 (2.23)	-5.26* (2.30)	-3.36 (2.27)
Party salience	0.07 (0.36)	0.09 (0.37)	0.10 (0.39)	-0.34 (0.42)	0.08 (0.40)
Online salience	-0.0 (0.00)	-0.0 (0.00)	-0.0 (0.00)	-0.0 (0.00)	-0.0 (0.00)
R^2	0.36	0.37	0.37	0.37	0.44

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.8: Regression Results – Modularity (Climate)

	Model 1	Model 2	Model 3	Model 4	Model 5
const	-1.35 (3.23)	-1.46 (3.26)	-1.55 (3.30)	-1.36 (3.30)	-1.38 (3.30)
Same left alignment		-0.92 (0.75)	-0.94 (0.75)	9.05 (14.29)	-0.8 (0.76)
Same right alignment			-28.33 (65.36)	-0.26 (68.88)	-5.36 (68.64)
Opposite alignment				-32.0 (37.68)	-39.72 (36.80)
Centre alignment					-25.38 (26.21)
Media salience	2.38 (2.20)	2.72 (2.31)	3.25 (2.63)	2.84 (2.66)	3.19 (2.63)
Party salience	-0.39 (0.63)	-0.2 (0.72)	-0.08 (0.79)	0.54 (0.90)	0.36 (0.88)
Online salience	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)	0.0 (0.00)
R^2	0.43	0.44	0.44	0.45	0.46

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.9: Regression Results – Average Distances (Immigration)

	Model 1	Model 2	Model 3	Model 4
Constant	1161.35 (3847.79)	1324.16 (3825.16)	1394.42 (3818.42)	1399.71 (3821.79)
Alignment centre	-	1803.71** (720.03)	464.13 (1100.01)	537.73 (1111.09)
Alignment same side	-	-	1460.7 (908.04)	1352.93 (934.87)
Alignment opposite side	-	-	-	160.28 (325.84)
Media Salience	-65.15* (33.65)	-86.93** (34.56)	-93.15*** (34.71)	-93.8*** (34.77)
Party Salience	-1.35 (8.04)	-9.43 (8.62)	-11.91 (8.74)	-12.81 (8.94)
Online Salience	-0.08 (0.05)	-0.08 (0.05)	-0.09* (0.05)	-0.09 (0.05)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.10: Regression Results – Same Side Distances (Immigration)

	Model 1	Model 2	Model 3	Model 4
Constant	1160.09 (5263.22)	1292.61 (5261.56)	1404.69 (5258.64)	1409.6 (5273.81)
Alignment centre	-	1216.75 (1115.47)	-252.16 (1727.44)	-189.05 (1747.29)
Alignment same side	-	-	1679.45 (1508.86)	1588.66 (1548.21)
Alignment opposite side	-	-	-	144.83 (522.21)
Media Salience	-94.83* (54.21)	-105.88* (55.12)	-120.12** (56.55)	-120.27** (56.71)
Party Salience	3.63 (13.12)	-1.76 (14.01)	-6.57 (14.65)	-7.4 (14.99)
Online Salience	0.02 (0.08)	0.02 (0.08)	0.01 (0.08)	0.01 (0.08)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.11: Regression Results – Opposite Side Distances (Immigration)

	Model 1	Model 2	Model 3	Model 4
Constant	-43.44** (19.94)	-44.88** (20.10)	-44.89** (20.34)	-54.26*** (19.69)
Alignment centre	-	2408.63 (3034.37)	2316.18 (4670.80)	1651.76 (4439.52)
Alignment same side	-	-	84.2 (3206.61)	1356.96 (3087.63)
Alignment opposite side	-	-	-	-4031.23** (1676.49)
Media Salience	81.67 (84.26)	48.47 (94.38)	47.87 (98.20)	190.89* (110.53)
Party Salience	-7.89 (25.77)	-22.51 (31.76)	-22.6 (32.34)	39.12 (40.00)
Online Salience	-0.57*** (0.21)	-0.55** (0.21)	-0.55** (0.21)	-0.47** (0.21)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.12: Regression Results – Centre Distances (Immigration)

	Model 1	Model 2	Model 3	Model 4
Constant	-2868.68 (5707.28)	-2642.77 (5550.45)	-2631.65 (5560.67)	-2609.32 (5571.17)
Alignment centre	-	3379.08*** (969.57)	2760.46* (1499.03)	2848.1* (1510.67)
Alignment same side	-	-	640.43 (1181.99)	489.38 (1217.19)
Alignment opposite side	-	-	-	217.48 (405.33)
Media Salience	-105.4* (61.49)	-191.03*** (64.64)	-187.52*** (65.09)	-186.38*** (65.24)
Party Salience	-6.14 (10.87)	-19.37* (11.23)	-19.98* (11.31)	-20.88* (11.45)
Online Salience	-0.07 (0.07)	-0.08 (0.07)	-0.08 (0.07)	-0.08 (0.07)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.13: Regression Results – Average Distances (Climate)

	Model 1	Model 2	Model 3	Model 4
Constant	-74.52 (215.49)	-62.19 (214.58)	-37.77 (214.35)	-42.32 (215.09)
Alignment Centre	-	-1686.93** (757.04)	1891.2* (1007.79)	-4158.24*** (1468.96)
Alignment Same Side	-	-	-	1829.86* (1028.45)
Alignment Opposite Side	-	-	-	446.08 (1452.87)
Media Salience	26.85 (42.96)	46.71 (43.68)	39.65 (43.72)	39.03 (43.81)
+ Party Salience	24.09*** (8.86)	41.61*** (11.81)	36.18*** (12.13)	36.3*** (12.15)
Online Salience	-0.04 (0.06)	-0.01 (0.06)	-0.02 (0.06)	-0.03 (0.08)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.14: Regression Results – Same Side Distances (Climate)

	Model 1	Model 2	Model 3	Model 4
Constant	-169.4 (216.43)	-150.66 (214.80)	-129.41 (215.52)	-135.04 (216.94)
Alignment Centre	-	-2056.79** (1036.52)	-4000.54* (2041.10)	-4141.28* (2100.74)
Alignment Same Side	-	-	1629.1 (1474.02)	1537.7 (1509.69)
Alignment Opposite Side	-	-	-	626.18 (2107.76)
Media Salience	111.8* (64.27)	122.51* (63.96)	114.21* (64.35)	114.05* (64.53)
Party Salience	31.59** (13.81)	50.85*** (16.78)	44.41** (17.76)	44.68** (17.83)
Online Salience	-0.0 (0.08)	0.03 (0.09)	0.03 (0.09)	0.01 (0.11)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.15: Regression Results – Opposite Side Distances (Climate)

	Model 1	Model 2	Model 3	Model 4
Constant	-1.88 (33.22)	2.51 (34.66)	0.07 (35.12)	-12.5 (41.70)
Alignment Centre	-	-1517.37 (2982.20)	-4486.75 (5347.16)	-4724.4 (5416.62)
Alignment Same Side	-	-	2275.74 (3389.26)	3202.37 (3785.55)
Alignment Opposite Side	-	-	-	-3690.33 (6436.32)
Media Salience	43.78 (149.17)	88.05 (174.04)	73.14 (176.82)	118.13 (195.07)
Party Salience	-21.68 (33.14)	0.68 (55.26)	-2.68 (55.93)	7.97 (59.46)
Online Salience	-0.12 (0.23)	-0.13 (0.23)	-0.13 (0.23)	-0.02 (0.30)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.16: Regression Results – Centre Distances (Climate)

	Model 1	Model 2	Model 3	Model 4
Constant	-4515.83 (7528.35)	-4549.09 (7497.83)	-4760.2 (7492.79)	-4720.18 (7514.93)
Alignment Centre	-	-1906.9 (1186.28)	-4226.4* (2307.93)	-4111.82* (2397.69)
Alignment Same Side	-	-	1729.15 (1476.35)	1763.55 (1492.08)
Alignment Opposite Side	-	-	-369.38	-369.38 (2027.09)
Media Salience	-8.29 (69.57)	35.77 (74.51)	42.95 (74.69)	43.66 (74.98)
Party Salience	22.19* (12.80)	43.26** (18.29)	40.97** (18.38)	40.89** (18.43)
Online Salience	-0.02 (0.08)	0.0 (0.08)	-0.01 (0.08)	0.01 (0.10)

Note: standard errors in parentheses. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Bibliography

- Abdin, L. (2019). Bots and Fake News: The Role of WhatsApp in the 2018 Brazilian Presidential Election. In *Intersections Cross-sections*, pages 1–15.
- Abou-Chadi, T. (2016). Niche Party Success and Mainstream Party Policy Shifts – How Green and Radical Right Parties Differ in Their Impact. *British Journal of Political Science*, 46(2):417–436.
- Adamic, L. A. and Glance, N. (2005). The political blogosphere and the 2004 U.S. election: Divided they blog. In *Proceedings of the 3rd International Workshop on Link Discovery*, LinkKDD '05, pages 36–43, New York, NY, USA. Association for Computing Machinery.
- Ahler, D. J. and Sood, G. (2018). The Parties in Our Heads: Misperceptions about Party Composition and Their Consequences. *The Journal of Politics*, 80(3):964–981.
- Allington, D., McAndrew, S., Moxham-Hall, V. L., and Duffy, B. (2021). Media usage predicts intention to be vaccinated against SARS-CoV-2 in the US and the UK. *Vaccine*, 39(18):2595–2603.
- Álvarez-Peralta, M., Rojas-Andrés, R., and Diefenbacher, S. (2023). Meta-analysis of political communication research on Twitter: Methodological trends. *Cogent Social Sciences*, 9(1):2209371.
- Arceneaux, K., Johnson, M., and Murphy, C. (2012). Polarized Political Communication, Oppositional Media Hostility, and Selective Exposure. *The Journal of Politics*, 74(1):174–186.
- Aruguete, N., Calvo, E., and Ventura, T. (2021). News Sharing, Gatekeeping, and Polarization: A Study of the #Bolsonaro Election. *Digital Journalism*, 9(1):1–23.
- Azzimonti, M. and Fernandes, M. (2023). Social media networks, fake news, and polarization. *European Journal of Political Economy*, 76:102256.
- Bail, C. (2021). *Breaking the Social Media Prism. How to Make Our Platforms Less Polarizing*. Princeton University Press, Princeton, NJ.
- Bail, C., Argyle, L. P., Brown, T. W., Bumpus, J. P., Chen, H., Hunzaker, M. B. F., Lee, J., Mann, M., Merhout, F., and Volfovsky, A. (2018). Exposure to opposing views on social media can increase political polarization. *Proceedings of the National Academy of Sciences*, 115(37):9216–9221.
- Bakker, R., de Vries, C., Edwards, E., Hooghe, L., Jolly, S., Marks, G., Polk, J., Rovny, J., Steenbergen, M., and Vachudova, M. A. (2015). Measuring party positions in Europe: The Chapel Hill expert survey trend file, 1999–2010. *Party Politics*, 21(1):143–152.
- Bakker, R., Hooghe, L., Jolly, S., Marks, G., Polk, J., Rovny, J., Steenbergen, M., and Vachudov, M. A. (2019). Chapel Hill Expert Survey, v. 2019.1.

- Bakshy, E., Messing, S., and Adamic, L. A. (2015). Exposure to ideologically diverse news and opinion on Facebook. *Science*, 348(6239):1130–1132.
- Barberá, P. (2015). Birds of the Same Feather Tweet Together: Bayesian Ideal Point Estimation Using Twitter Data. *Political Analysis*, 23(1):76–91.
- Barberá, P. (2020). Social Media, Echo Chambers, and Political Polarization. In Tucker, J. A. and Persily, N., editors, *Social Media and Democracy*, SSRN Anxieties of Democracy, pages 34–55. Cambridge University Press, Cambridge.
- Barberá, P., Casas, A., Nagler, J., Egan, P. J., Bonneau, R., Jost, J. T., and Tucker, J. A. (2019). Who Leads? Who Follows? Measuring Issue Attention and Agenda Setting by Legislators and the Mass Public Using Social Media Data. *American Political Science Review*, 113(4):883–901.
- Barberá, P., Jost, J. T., Nagler, J., Tucker, J. A., and Bonneau, R. (2015). Tweeting From Left to Right: Is Online Political Communication More Than an Echo Chamber? *Psychological Science*, 26(10):1531–1542.
- Baumgartner, F., Linn, S., and Boydston, A. (2009). The Decline of the Death Penalty: How Media Framing Changed Capital Punishment in America. *Winning with Words: The Origins and Impact of Political Framing*.
- Behr, R. L. and Iyengar, S. (1985). Television News, Real-World Cues, and Changes in the Public Agenda. *Public Opinion Quarterly*, 49(1):38.
- Benkler, Y. (2006). *The Wealth of Networks. How Social Production Transforms Markets and Freedom*. Yale University Press, London.
- Benkler, Y., Farris, R., and Roberts, H. (2018). *Network Propaganda*, volume 1. Oxford University Press.
- Bennett, W. L. and Pfetsch, B. (2018). Rethinking Political Communication in a Time of Disrupted Public Spheres. *Journal of Communication*, 68(2):243–253.
- Berger, V. T. and Jäger, F. (2023). Do electoral candidates reflect or select campaign issues? The influence of electoral manifestos on online communication. *Party Politics*, page 13540688231194704.
- Blondel, V. D., Guillaume, J.-L., Lambiotte, R., and Lefebvre, E. (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment*, 2008(10):P10008.
- Borgatti, S. P., Everett, M. G., and Johnson, J. C. (2018). *Analyzing Social Networks*. SAGE Publications Ltd, Los Angeles, 2e édition edition.
- Boulianne, S., Koc-Michalska, K., and Bimber, B. (2020). Right-wing populism, social media and echo chambers in Western democracies. *New Media & Society*, 22(4):683–699.

- Bracciale, R., Andretta, M., and Martella, A. (2021). Does populism go viral? How Italian leaders engage citizens through social media. *Information, Communication & Society*, 24(10):1477–1494.
- Bracciale, R. and Martella, A. (2017). Define the populist political communication style: The case of Italian political leaders on Twitter. *Information, Communication & Society*, 20(9):1310–1329.
- Brin, S. and Page, L. (1998). The anatomy of a large-scale hypertextual Web search engine. *Computer Networks and ISDN Systems*, 30(1-7):107–117.
- Brüggemann, M. (2020). Mutual Group Polarization in the Blogosphere: Tracking the Hoax Discourse on Climate Change. *International Journal of Communication*, 14:1025–1048.
- Brüggemann, M., Engesser, S., Büchel, F., Humprecht, E., and Castro, L. (2014). Hallin and Mancini Revisited: Four Empirical Types of Western Media Systems. *Journal of Communication*, 64(6):1037–1065.
- Brüggemann, M. and Meyer, H. (2023). When debates break apart: Discursive polarization as a multi-dimensional divergence emerging in and through communication. *Communication Theory*, 33(2-3):132–142.
- Budge, I. (2015). Issue Emphases, Saliency Theory and Issue Ownership: A Historical and Conceptual Analysis. *West European Politics*, 38(4):761–777.
- Budge, I. and Farlie, D. J. (1983). *Explaining and Predicting Elections: Issue Effects and Party Strategies in Twenty-Three Democracies*. Unwin Hyman, London.
- Busemeyer, M. R., Garritzmman, J. L., and Neimanns, E. (2020). *A Loud but Noisy Signal?: Public Opinion and Education Reform in Western Europe*. Cambridge University Press, Cambridge, United Kingdom : New York, NY.
- Chadwick, A. (2017). *The Hybrid Media System: Politics and Power*. Oxford Studies in Digital Politics. Oxford University Press, New York, N.Y., second edition edition.
- Chinn, S., Hart, P. S., and Soroka, S. (2020). Politicization and Polarization in Climate Change News Content, 1985-2017. *Science Communication*, 42(1):112–129.
- Chu, E., Andreas, J., Ansolabehere, S., and Roy, D. (2023). Language Models Trained on Media Diets Can Predict Public Opinion.
- Clark, T. (2009). Measuring Ideological Polarization on the United States Supreme Court. *Political Research Quarterly*, 62(1):146–157.
- Clark, T. S. and Lauderdale, B. (2010). Locating Supreme Court Opinions in Doctrine Space. *American Journal of Political Science*, 54(4):871–890.
- Cohen, B. (1963). *The Press and Foreign Policy*. Princeton University. Center of International Studies. U.P, Princeton.

- Cointet, J.-P., Cardon, D., Mogoutov, A., Ooghe, B., Plique, G., and Morales, P. R. (2021). Uncovering the structure of the French media ecosystem. *IC2S2*.
- Culpepper, P. D. (2010). *Quiet Politics and Business Power: Corporate Control in Europe and Japan*. Cambridge Studies in Comparative Politics. Cambridge University Press, Cambridge.
- D'Alessio, D. and Allen, M. (2000). Media Bias in Presidential Elections: A Meta-Analysis. *Journal of Communication*, 50(4).
- Dalmus, C., Hänggli, R., and Bernhard, L. (2017). The Charm of Salient Issues? Parties' Strategic Behavior in Press Releases. pages 187–205.
- Dalton, R. J. (1987). Generational Change in Elite Political Beliefs: The Growth of Ideological Polarization. *The Journal of Politics*, 49(4):976–997.
- Dalton, R. J. (2002). The Decline of Party Identifications. In Wattenberg, M. P. and Dalton, R. J., editors, *Parties Without Partisans: Political Change in Advanced Industrial Democracies*, page 0. Oxford University Press.
- de Jonge, L. (2019). The Populist Radical Right and the Media in the Benelux: Friend or Foe? *International Journal of Press/Politics*, 24(2):189–209.
- De Vries, C. and Hobolt, S. (2020a). *Political Entrepreneurs*. Princeton university press edition.
- De Vries, C. and Hobolt, S. (2020b). The Rise of Challenger Parties. *Political Insight*, 11(3):16–19.
- Deleuze, G. and Guattari, F. ([1980] 2017). *Mille piani. Capitalismo e schizofrenia*. Orthotes, Milano.
- Dennison, J. and Kriesi, H. (2023). Explaining Europe's transformed electoral landscape: Structure, salience, and agendas. *European Political Science Review*, 15(4):483–501.
- DiMaggio, P., Evans, J., and Bryson, B. (1996). Have American's Social Attitudes Become More Polarized? *American Journal of Sociology*, 102(3):690–755.
- Döring, H. and Manow, P. (2020). ParlGov 2020 Release.
- Dorison, C. A., Minson, J. A., and Rogers, T. (2019). Selective exposure partly relies on faulty affective forecasts. *Cognition*, 188:98–107.
- Downs, A. (1957). An Economic Theory of Political Action in a Democracy. *Journal of Political Economy*, 65(2):135–150.
- Duclos, J.-Y., Esteban, J., and Ray, D. (2004). Polarization: Concepts, Measurement, Estimation. *Econometrica*, 72(6):1737–1772.
- Durante, R. and Knight, B. (2012). Partisan control, media bias, and viewer responses: Evidence from Berlusconi's Italy. *Journal of the European Economic Association*, 10(3):451–481.

- Edgerly, S. and Vraga, E. K. (2020). Deciding What’s News: News-ness As an Audience Concept for the Hybrid Media Environment. *Journalism & Mass Communication Quarterly*, 97(2):416–434.
- Einspänner-Pflock, J. and Anastasiadis, M. (2018). “Doing Second Screen Communication” in the 2014 EU Elections: Analyzing the participative potential of tweets from the EU TV debate in Germany. In *L’usage de Twitter par les candidats*, Entreprise & Sacré, pages 19–53. EMS Editions, Caen.
- Erfort, C., Stoetzer, L. F., and Klüver, H. (2023). The PARTYPRESS Database: A new comparative database of parties’ press releases. *Research & Politics*, 10(3):20531680231183512.
- Faverjon, T. and Ramaciotti, P. (2023). Discovering ideological structures in representation learning spaces in recommender systems on social media data. In *2023 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, Kusadasi, Turkey.
- Fernbach, P. M. and Van Boven, L. (2022). False polarization: Cognitive mechanisms and potential solutions. *Current Opinion in Psychology*, 43:1–6.
- Fiorina, M. P. and Abrams, S. J. (2008). Political Polarization in the American Public. *Annual Review of Political Science*, 11(1):563–588.
- Fisher, S. D., Kenny, J., Poortinga, W., Böhm, G., and Steg, L. (2022). The politicisation of climate change attitudes in Europe. *Electoral Studies*, 79:102499.
- Fletcher, R. and Nielsen, R. K. (2018). Are people incidentally exposed to news on social media? A comparative analysis. *New Media and Society*, 20(7):2450–2468.
- Froio, C. and Ganesh, B. (2019). The transnationalisation of far right discourse on Twitter: Issues and actors that cross borders in Western European democracies. *European Societies*, 21(4):513–539.
- Garfield, E. (1955). Citation indexes for science; a new dimension in documentation through association of ideas. *Science (New York, N.Y.)*, 122(3159):108–111.
- Garfield, E. (1972). Citation Analysis as a Tool in Journal Evaluation: Journals can be ranked by frequency and impact of citations for science policy studies. *Science*, 178(4060):471–479.
- Garry, J. (2007). Making ‘party identification’ more versatile: Operationalising the concept for the multiparty setting. *Electoral Studies*, 26(2):346–358.
- Gentzkow, M. and Shapiro, J. M. (2006). Media Bias and Reputation. *Journal of Political Economy*, 114(2):280–316.
- Gentzkow, M., Wong, M. B., and Zhang, A. T. (2023). Ideological Bias and Trust in Information Sources.
- Gessler, T. and Hunger, S. (2022). How the refugee crisis and radical right parties shape party competition on immigration. *Political Science Research and Methods*, 10(3):524–544.

- González-Bailón, S., Lazer, D., Barberá, P., Zhang, M., Allcott, H., Brown, T., Crespo-Tenorio, A., Freelon, D., Gentzkow, M., Guess, A. M., Iyengar, S., Kim, Y. M., Malhotra, N., Moehler, D., Nyhan, B., Pan, J., Rivera, C. V., Settle, J., Thorson, E., Tromble, R., Wilkins, A., Wojcieszak, M., de Jonge, C. K., Franco, A., Mason, W., Stroud, N. J., and Tucker, J. A. (2023). Asymmetric ideological segregation in exposure to political news on Facebook. *Science*, 381(6656):392–398.
- Grootendorst, M. (2022). BERTopic: Neural topic modeling with a class-based TF-IDF procedure.
- Guess, A., Barberá, P., Yang, J., and Munzert, S. (2022). Media Exposure and Opinion Formation in an Age of Information Overload (MEOF) – Survey U.S.A. Media Exposure and Opinion Formation in an Age of Information Overload (MEOF) – Survey U.S.A.
- Guess, A., Nyhan, B., and Reifler, J. (2018). Selective Exposure to Misinformation Evidence from the Consumption of Fake News during the 2016 U.S. Presidential Campaign. *European Research Council*, 9(682758):9.
- Gvirsman, S. D. (2014). It’s Not That We Don’t Know, It’s That We Don’t Care: Explaining Why Selective Exposure Polarizes Attitudes. *Mass Communication and Society*, 17(1):74–97.
- Habermas, J. (1998). *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*. The MIT Press, Cambridge, Mass., reprint edition edition.
- Hagen, L., Fox, A., O’Leary, H., Dyson, D., Walker, K., Lengacher, C. A., and Hernandez, R. (2022). The Role of Influential Actors in Fostering the Polarized COVID-19 Vaccine Discourse on Twitter: Mixed Methods of Machine Learning and Inductive Coding. *JMIR infodemiology*, 2(1):e34231.
- Hallin, D. C. (1986). *The Uncensored War: The Media and Vietnam*. Oxford University Press.
- Hallin, D. C. and Mancini, P. (2004). *Comparing Media Systems: Three Models of Media and Politics*. Cambridge University Press.
- Hameleers, M. and Vliegenthart, R. (2020). The Rise of a Populist Zeitgeist? A Content Analysis of Populist Media Coverage in Newspapers Published between 1990 and 2017. *Journalism Studies*, 21(1):19–36.
- Hameleers, M. and Yekta, N. (2023). Entering an Information Era of Parallel Truths? A Qualitative Analysis of Legitimizing and De-legitimizing Truth Claims in Established Versus Alternative Media Outlets. *Communication Research*, page 00936502231189685.
- Hamilton, J. T. (2004). *All the News That’s Fit to Sell: How the Market Transforms Information into News*. Princeton University Press.
- Harcup, T. and O’Neill, D. (2017). What is News?: News values revisited (again). *Journalism Studies*, 18(12):1470–1488.

- Hay, C. and Marsh, D. (2000). Introduction: Demystifying Globalization. In Hay, C. and Marsh, D., editors, *Demystifying Globalization*, pages 1–17. Palgrave Macmillan UK, London.
- Heiberger, R., Majó-Vázquez, S., Castro Herrero, L., Nielsen, R. K., and Esser, F. (2022). Do Not Blame the Media! The Role of Politicians and Parties in Fragmenting Online Political Debate. *The International Journal of Press/Politics*, 27(4):910–941.
- Hetherington, M. and Weiler, J. (2018). *Prius Or Pickup?: How the Answers to Four Simple Questions Explain America’s Great Divide*. Mariner Books, Boston, illustrated edition edition.
- Hobolt, S. B. and de Vries, C. E. (2015). Issue Entrepreneurship and Multiparty Competition. *Comparative Political Studies*, 48(9):1159–1185.
- Hoff, P. D., Raftery, A. E., and Handcock, M. S. (2012). Latent Space Approaches to Social Network Analysis. *Journal of the American Statistical Association*, 97(460):1090–1098.
- Holt, K. (2020). Populism and Alternative Media. In Kramer, B. and Holtz-Bacha, C., editors, *Perspectives on Populism and the Media*, pages 201–214. Nomos Verlagsgesellschaft.
- Hooghe, L. and Marks, G. (2018). Cleavage theory meets Europe’s crises: Lipset, Rokkan, and the transnational cleavage. *Journal of European Public Policy*, 25(1):109–135.
- Humprecht, E. (2019). Where ‘fake news’ flourishes: A comparison across four Western democracies. *Information, Communication & Society*, 22(13):1973–1988.
- Humprecht, E., Castro Herrero, L., Blassnig, S., Brüggemann, M., and Engesser, S. (2022). Media Systems in the Digital Age: An Empirical Comparison of 30 Countries. *Journal of Communication*, 72(2):145–164.
- Hutter, S. and Kriesi, H. (2022). Politicising immigration in times of crisis. *Journal of Ethnic and Migration Studies*, 48(2):341–365.
- Imai, K., Lo, J., and Olmsted, J. (2016). Fast Estimation of Ideal Points with Massive Data. *American Political Science Review*, 110(4):631–656.
- Iyengar, S. and Kinder, D. R. (1987). *News That Matters: Television and American Opinion, Updated Edition*. University of Chicago Press, Chicago, revised édition edition.
- Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., and Westwood, S. J. (2019). The Origins and Consequences of Affective Polarization in the United States. *Annual Review of Political Science*, 22(1):129–146.
- Iyengar, S., Sood, G., and Lelkes, Y. (2012). Affect, Not Ideology: A Social Identity Perspective on Polarization. *Public Opinion Quarterly*, 76(3):405–431.
- Iyengar, S. and Westwood, S. J. (2015). Fear and Loathing across Party Lines: New Evidence on Group Polarization. *American Journal of Political Science*, 59(3):690–707.
- Janusch, H. (2021). Audience, agenda setting, and issue salience in international negotiations. *Cooperation and Conflict*, 56(4):472–490.

- Jessee, S. A. (2009). Spatial Voting in the 2004 Presidential Election. *American Political Science Review*, 103(01):59–81.
- Jolly, S., Bakker, R., Hooghe, L., Marks, G., Polk, J., Rovny, J., Steenbergen, M., and Vachudova, M. A. (2022). Chapel Hill Expert Survey trend file, 1999–2019. *Electoral Studies*, 75:102420.
- Jungherr, A., Schroeder, R., and Stier, S. (2019). Digital Media and the Surge of Political Outsiders: Explaining the Success of Political Challengers in the United States, Germany, and China. *Social Media + Society*, 5(3):2056305119875439.
- Kozlowski, A. C. (2022). How Conservatives Lost Confidence in Science: The Role of Ideological Alignment in Political Polarization. *Social Forces*, 100(3):1415–1443.
- Kriesi, H., Grande, E., Lachat, R., Dolezal, M., Bornschier, S., and Frey, T. (2008). *West European Politics in the Age of Globalization*.
- Kubin, E. and von Sikorski, C. (2021). The role of (social) media in political polarization: A systematic review. *Annals of the International Communication Association*, 45(3):188–206.
- Lasswell, H. D. (1941). The World Attention Survey. *The Public Opinion Quarterly*, 5(3):456–462.
- Latour, B. (1994). *We Have Never Been Modern*. Harvard Univ. Press, Cambridge, Mass.
- Le Monde and AFP (2018). Le « pacte de Marrakech » de l’ONU sur les migrations largement approuvé. *Le Monde.fr*.
- Levendusky, M. S. and Malhotra, N. (2016). (Mis)perceptions of Partisan Polarization in the American Public. *Public Opinion Quarterly*, 80(S1):378–391.
- Li, P., Schloss, B., and Follmer, D. J. (2017). Speaking two “Languages” in America: A semantic space analysis of how presidential candidates and their supporters represent abstract political concepts differently. *Behavior Research Methods*, 49(5):1668–1685.
- Liedke, J. and Gottfried, J. (2024). U.S. adults under 30 now trust information from social media almost as much as from national news outlets.
- Lippmann, W. (1922). The world outside and the pictures in our heads. In *Public Opinion*, pages 3–32. MacMillan Co, New York, NY, US.
- Lowe, W. (2008). Understanding Wordscores. *Political Analysis*, 16(4):356–371.
- Mair, P. (2001). Searching for the positions of political actors: A review of approaches and a critical evaluation of expert surveys. In *Estimating the Policy Position of Political Actors*. Routledge.
- Mair, P. (2006). Cleavages. In Katz, R. S. and Crotty, W. J., editors, *Handbook of Party Politics*, pages 371–375. SAGE.
- Mancini, P., Mazzoni, M., Barbieri, G., Damiani, M., and Gerli, M. (2021). What shapes the coverage of immigration. *Journalism*, 22(4):845–866.

- Maoz, Z. (2011). Network Polarization. In *2011 SIUC*.
- Mason, L. (2016). A Cross-Cutting Calm: How Social Sorting Drives Affective Polarization. *Public Opinion Quarterly*, 80(S1):351–377.
- Mason, L. (2018). *Uncivil Agreement: How Politics Became Our Identity*. University of Chicago Press, Chicago, IL.
- Mau, S., Lux, T., and Westheuser, L. (2023). *Trigger points: Consensus and conflict in contemporary society*. Suhrkamp Verlag, Berlin, originalausgabe edition edition.
- Mccombs, M. (2008). *Setting the Agenda: The Mass Media and Public Opinion*.
- McPherson, M., Smith-Lovin, L., and Cook, J. M. (2001). Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*, 27(1):415–444.
- Meguid, B. M. (2008). *Party Competition between Unequals: Strategies and Electoral Fortunes in Western Europe*. Cambridge University Press, Cambridge.
- Mellon, J. (2014). Internet Search Data and Issue Salience: The Properties of Google Trends as a Measure of Issue Salience. *Journal of Elections, Public Opinion and Parties*, 24(1):45–72.
- Merton, R. (1976). *Sociological Ambivalence and Other Essays*. Free Press, New York (NY).
- Mudde, C. (2004). The Populist Zeitgeist. *Government and Opposition*, 39(4):541–563.
- Nelson, L. K. (2020). Computational Grounded Theory: A Methodological Framework. *Sociological Methods and Research*, 49(1):3–42.
- Netjes, C. E. and Binnema, H. A. (2007). The salience of the European integration issue: Three data sources compared. *Electoral Studies*, 26(1):39–49.
- Nisenholtz, M. (2008). The Hyperlinked News Organization. In Turow, J. and Tsui, L., editors, *The Hyperlinked Society, Questioning Connections in the Digital Age*, pages 125–136. University of Michigan Press.
- Nyhan, B., Settle, J., Thorson, E., Wojcieszak, M., Barberá, P., Chen, A. Y., Allcott, H., Brown, T., Crespo-Tenorio, A., Dimmery, D., Freelon, D., Gentzkow, M., González-Bailón, S., Guess, A. M., Kennedy, E., Kim, Y. M., Lazer, D., Malhotra, N., Moehler, D., Pan, J., Thomas, D. R., Tromble, R., Rivera, C. V., Wilkins, A., Xiong, B., de Jonge, C. K., Franco, A., Mason, W., Stroud, N. J., and Tucker, J. A. (2023). Like-minded sources on Facebook are prevalent but not polarizing. *Nature*, pages 1–8.
- Ooghe-Tabanou, B., Jacomy, M., Girard, P., and Plique, G. (2018). Hyperlink is not dead! In *Proceedings of the 2nd International Conference on Web Studies*, pages 12–18, Paris France. ACM.
- Pennycook, G., McPhetres, J., Bago, B., and Rand, D. G. (2022). Beliefs About COVID-19 in Canada, the United Kingdom, and the United States: A Novel Test of Political Polarization and Motivated Reasoning. *Personality and Social Psychology Bulletin*, 48(5):750–765.

- Peralta, A. F., Ramaciotti, P., Kertész, J., and Iñiguez, G. (2023). Multidimensional political polarization in online social networks.
- Petersen, M. B., Osmundsen, M., and Arceneaux, K. (2023). The “Need for Chaos” and Motivations to Share Hostile Political Rumors. *American Political Science Review*, pages 1–20.
- Petrocik, J. R. (1996). Issue Ownership in Presidential Elections, with a 1980 Case Study. *American Journal of Political Science*, 40(3):825–850.
- Pinski, G. and Narin, F. (1976). Citation influence for journal aggregates of scientific publications: Theory, with application to the literature of physics. *Information Processing & Management*, 12(5):297–312.
- Plique, G., Farjas, J., Breteau, P., Descamps, J., Théro, H., and Pellé, A. (2019). Minet - webmining library and command line tool written in python.
- Poole, K. T. and Rosenthal, H. (1984). The Polarization of American Politics. *The Journal of Politics*, 46(4):1061–1079.
- Poole, K. T. and Rosenthal, H. (2001). D-Nominate after 10 Years: A Comparative Update to Congress: A Political-Economic History of Roll-Call Voting. *Legislative Studies Quarterly*, 26(1):5–29.
- Prior, M. (2013). Media and Political Polarization. *Annual Review of Political Science*, 16(1):101–127.
- Ramaciotti, P., Cassells, D., Vagena, Z., Cointet, J.-P., and Bailey, M. (2024). American politics in 3D: Measuring multidimensional issue alignment in social media using social graphs and text data. *Applied Network Science*, 9(1):2.
- Ramaciotti Morales, P. (2023). Multidimensional Online American Politics: Mining Emergent Social Cleavages in Social Graphs. In Cherifi, H., Mantegna, R. N., Rocha, L. M., Cherifi, C., and Miccichè, S., editors, *Complex Networks and Their Applications XI*, volume 1077, pages 176–189. Springer International Publishing, Cham.
- Ramaciotti Morales, P., Cointet, J.-P., Muñoz Zolotoochin, G., Fernández Peralta, A., Iñiguez, G., and Pournaki, A. (2022). Inferring Attitudinal Spaces in Social Networks.
- Ramaciotti Morales, P., Cointet, J.-P., and Zolotoochin, G. M. (2021). Unfolding the dimensionality structure of social networks in ideological embeddings. In *2021 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM)*, Amsterdam, Netherlands.
- Readshaw, P. (2018). Twitter: Political Arena or Political Soap Opera, British Coverage of the European Parliamentary Election. In *L’usage de Twitter par les candidats*, Entreprise & Sacré, pages 333–353. EMS Editions, Caen.

- Recuero, R., Bonow, F., and Gruzd, A. (2020). Hyperpartisanship, disinformation and political conversations on twitter: The brazilian presidential election of 2018. *Proceedings of the 14th International AAAI Conference on Web and Social Media, ICWSM 2020*, (Icwsml):569–578.
- Reiljan, A. (2020). ‘Fear and loathing across party lines’ (also) in Europe: Affective polarisation in European party systems. *European Journal of Political Research*, 59(2):376–396.
- Rescan, M. (2018). La loi asile et immigration définitivement adoptée à l’Assemblée. *Le Monde.fr*.
- Resende, G., Melo, P., Sousa, H., Messias, J., Vasconcelos, M., Almeida, J., and Benevenuto, F. (2019). (Mis)Information Dissemination in WhatsApp: Gathering, Analyzing and Countermeasures. In *The World Wide Web Conference, WWW ’19*, pages 818–828, New York, NY, USA. Association for Computing Machinery.
- Ricard, J. and Medeiros, J. (2020). Using misinformation as a political weapon: COVID-19 and Bolsonaro in Brazil. *Harvard Kennedy School Misinformation Review*, 1(3).
- Rieder, B. (2012). What is in PageRank? A Historical and Conceptual Investigation of a Recursive Status Index. *Computational Culture*, (2).
- Riker, W. H. (1986). *The Art of Political Manipulation / William H. Riker*. Yale university press, New Haven (NY).
- Robertson, D. (1976). *A Theory of Party Competition*. London ; New York.
- Robinson, R. J., Keltner, D., Ward, A., and Ross, L. (1995). Actual versus assumed differences in construal: "Naive realism" in intergroup perception and conflict. *Journal of Personality and Social Psychology*, 68(3):404–417.
- Roskos-Ewoldsen, D. R., Klinger, M. R., and Roskos-Ewoldsen, B. (2007). Media Priming: A Meta-Analysis. In *Mass Media Effects Research: Advances through Meta-Analysis*, pages 53–80. Lawrence Erlbaum Associates Publishers, Mahwah, NJ, US.
- Schäfer, M. S., Ivanova, A., and Schmidt, A. (2014). What drives media attention for climate change? Explaining issue attention in Australian, German and Indian print media from 1996 to 2010. *International Communication Gazette*, 76(2):152–176.
- Schedler, A. (2023). Rethinking Political Polarization. *Political Science Quarterly*, 138(3):335–359.
- Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication*, 49(1):103–122.
- Schroeder, R. (2019). Digital Media and the Entrenchment of Right-Wing Populist Agendas. *Social Media + Society*, 5(4):2056305119885328.
- Schulman, S. L. (2008). Hyperlinks and Marketing Insight. In Turow, J. and Tsui, L., editors, *The Hyperlinked Society, Questioning Connections in the Digital Age*, pages 145–158. University of Michigan Press.

- Settle, J. E. (2018). *Frenemies. How Social Media Polarizes America*. Cambridge University Press, Cambridge.
- Seymour-Ure, C. (1974). *The Political Impact of Mass Media*. Constable.
- Shehata, A., Ekström, M., and Tryggvason, P. O. (2022). Selective Exposure and New Political Cleavages: Media Use and Ideological Reinforcement Over Time. *The International Journal of Press/Politics*, page 19401612221112003.
- Shoemaker, P. J. and Vos, T. (2009). *Gatekeeping Theory*. Routledge, New York.
- Soares, F. B., Recuero, R., and Zago, G. (2019). Asymmetric polarization on twitter and the 2018 brazilian presidential elections. In *ACM International Conference Proceeding Series*, pages 67–76. Association for Computing Machinery.
- Stier, S., Kirkizh, N., Froio, C., and Schroeder, R. (2020). Populist Attitudes and Selective Exposure to Online News: A Cross-Country Analysis Combining Web Tracking and Surveys. *The International Journal of Press/Politics*, 25(3):426–446.
- Strauss, A. and Corbin, J. M. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Sage Publications, Inc, Thousand Oaks, CA, US.
- Stroud, N. J. (2008). Media Use and Political Predispositions: Revisiting the Concept of Selective Exposure. *Political Behavior*, 30(3):341–366.
- Stroud, N. J. (2010). Polarization and Partisan Selective Exposure. *Journal of Communication*, 60(3):556–576.
- Suk, J., Abhishek, A., Zhang, Y., Ahn, S. Y., Correa, T., Garlough, C., and Shah, D. V. (2021). #MeToo, Networked Acknowledgment, and Connective Action: How “Empowerment Through Empathy” Launched a Social Movement. *Social Science Computer Review*, 39(2):276–294.
- Sunstein, C. R. (2017). *#Republic: Divided Democracy in the Age of Social Media*. Princeton University Press, Princeton.
- Tajfel, H. and Turner, J. (1979). An integrative theory of intergroup conflict. In Austin, W. and Worchel, S., editors, *The Social Psychology of Intergroup Relations*, pages 33–37. Brooks/Cole., Monterey, CA.
- Tewksbury, D. and Riles, J. M. (2015). Polarization as a Function of Citizen Predispositions and Exposure to News on the Internet. *Journal of Broadcasting & Electronic Media*, 59(3):381–398.
- Törnberg, P. (2022). How digital media drive affective polarization through partisan sorting. *Proceedings of the National Academy of Sciences*, 119(42):e2207159119.
- Tripodi, F. (2018). Searching for Alternative Facts: Analyzing Scriptural Inference in Conservative News Practices. *Data & Society Research Institute*, pages 1–64.
- Trump, D. (2021). Save America March in Washington, DC.

- Trump, D. J. (2017). I use Social Media not because I like to, but because it is the only way to fight a VERY dishonest and unfair “press,” now often referred to as Fake News Media. Phony and non-existent “sources” are being used more often than ever. Many stories & reports a pure fiction!
- Tsfati, Y., Boomgaarden, H. G., Strömbäck, J., Vliegenthart, R., Damstra, A., and Lindgren, E. (2020). Causes and consequences of mainstream media dissemination of fake news: Literature review and synthesis. *Annals of the International Communication Association*, 44(2):157–173.
- Tsfati, Y., Stroud, N. J., and Chotiner, A. (2014). Exposure to Ideological News and Perceived Opinion Climate: Testing the Media Effects Component of Spiral-of-Silence in a Fragmented Media Landscape. *International Journal of Press/Politics*, 19(1):3–23.
- Tsui, L. (2008). The Hyperlink in Newspapers and Blogs. In Turow, J. and Tsui, L., editors, *The Hyperlinked Society*, Questioning Connections in the Digital Age, pages 70–84. University of Michigan Press.
- Tucker, J., Guess, A., Barbera, P., Vaccari, C., Siegel, A., Sanovich, S., Stukal, D., and Nyhan, B. (2018). Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature. *SSRN Electronic Journal*, (March).
- Van Aelst, P., Strömbäck, J., Aalberg, T., Esser, F., de Vreese, C., Matthes, J., Hopmann, D., Salgado, S., Hubé, N., Stępińska, A., Papathanassopoulos, S., Berganza, R., Legnante, G., Reinemann, C., Sheaffer, T., and Stanyer, J. (2017). Political communication in a high-choice media environment: A challenge for democracy? *Annals of the International Communication Association*, 41(1):3–27.
- Völker, T. (2023). How terrorist attacks distort public debates: A comparative study of right-wing and Islamist extremism. *Journal of European Public Policy*, pages 1–28.
- Völker, T. and Saldivia Gonzatti, D. (2024). Discourse Networks of the Far Right: How Far-Right Actors Become Mainstream in Public Debates. *Political Communication*, 0(0):1–20.
- Wagner, M. (2021). Affective polarization in multiparty systems. *Electoral Studies*, 69:102199.
- Warwick, P. (1994). *Government Survival in Parliamentary Democracies*. Cambridge University Press, Cambridge.
- Weeks, B. E., Menchen-Trevino, E., Calabrese, C., Casas, A., and Wojcieszak, M. (2021). Partisan media, untrustworthy news sites, and political misperceptions. *New Media & Society*, page 14614448211033300.
- Williams, H. T. P., McMurray, J. R., Kurz, T., and Hugo Lambert, F. (2015). Network analysis reveals open forums and echo chambers in social media discussions of climate change. *Global Environmental Change*, 32:126–138.
- Wojcieszak, M. (2010). ‘Don’t talk to me’: Effects of ideologically homogeneous online groups and politically dissimilar offline ties on extremism. *New Media & Society*, 12(4):637–655.

Wolfsfeld, G., Sheafer, T., and Althaus, S. (2022). The Politics-Media-Politics Approach. In
Wolfsfeld, G., Sheafer, T., and Althaus, S., editors, *Building Theory in Political Communication: The Politics-Media-Politics Approach*, page 0. Oxford University Press.