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Abstract

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Keywords: media systems, typology, cross-national comparison, information and communication technologies, political communication, journalism

Media Systems in the Digital Age: An Empirical Comparison of 30 Countries

Research on media systems has played an important role in comparative communication research over the past two decades following the publication of Hallin and Mancini's (2004) groundbreaking book *Comparing Media Systems*. This work provided the scholarly community with a theoretical framework to compare Western media systems using a historical-institutional approach. The authors highlighted the differences and similarities between different political and media systems in North America and Western Europe. They further suggested four dimensions for comparing those media systems: the inclusiveness of the media market, journalistic professionalism, political parallelism, and the state's role. These dimensions have been used in comparative research, for example, to explain differences between countries in news coverage or media use (Aalberg et al., 2013; Fletcher et al., 2019; Magin, 2019). In addition, empirical media systems research was stimulated by the operationalization of dimensions and empirical validation of the typology in a study by Brüggemann et al. (2014), as researchers could now explain and measure similarities and differences between countries.

More recently, however, researchers have repeatedly pointed out that media systems are increasingly shaped by the rise of information and communication technologies (ICTs) and that this transformation needs to be reflected in the description of media systems and corresponding typologies (Chadwick 2013; Mattoni & Ceccobelli, 2018). The development of ICTs has changed how media content is produced and used. Today, most people consume media content digitally and on their mobile devices. In addition to journalistic websites, social platforms are increasingly being used to consume information. This development has changed the balance of power between traditional media companies and new digital intermediaries and has further intensified competition within the media industry. Moreover, ICTs have also changed media production, as, for example, a feedback channel for media users has emerged, and anyone can publish and disseminate digital information.

Liu et al. (2020) argued that while digital technologies and applications—including mobile phones, social media platforms, and artificial intelligence—are shaping media use and production in many countries, there are few comparative studies on the topic. The authors further lament a lack of research beyond the narrow focus on Western Europe and the United States. One reason for this research gap is the lack of standardized, empirically measurable media systems indicators that reflect the role of digital technologies. Although several authors discuss possible indicators for measuring digitalized media systems and refer to potential data sources (Flensburg & Lai, 2020; Mattoni & Ceccobelli, 2018), few empirical typologies are available.

A notable exception is a study by Perusko et al. (2015), who use indicators such as smartphone penetration and broadband Internet to study types of media systems across 22 countries. They find four country clusters, including (1) Eastern European countries, (2) a diverse set of Western European countries (Austria, Belgium, France, Germany, Ireland, Italy, the Netherlands, Spain, and the UK), (3) Nordic countries, and (4) Israel. The authors considered media usage and infrastructure indicators in their study. However, they did not include media system indicators that can be assigned to journalistic professionalism or political parallelism.

We aim to close this gap by providing an empirically measurable typology that combines the established theoretical models developed by Hallin and Mancini (2004) and operationalized by Brüggemann et al. (2014) and aspects of digitalized media systems and ICTs. Moreover, we extend Hallin and Mancini's (2004) framework by including press freedom, an important indicator that has been neglected in past studies that focused exclusively on Western Europe and the United States. We also include Southern and Eastern European countries in the analysis. Describing and mapping media systems in this way can help us understand patterns of media content, use, and effects in the broader context of the structures of a media system. Furthermore, research on differences between media systems

can uncover important issues of freedom of expression, political participation, and platform governance that have enormous implications for the future of digital communication.

Based on the current literature, we develop Hallin and Mancini's (2004) dimensions further regarding changes in the use and production of media and political and social developments. Building on the work of Brüggemann et al. (2014), we use aggregated data to operationalize existing dimensions and new indicators characterizing media systems. Furthermore, our study aims to answer two research questions. The first one addresses the relation between existing and newly developed indicators and asks how indicators linked to the digitalization of media systems can be combined with dimensions developed by Hallin and Mancini (2004) into an integrated framework (RQ1). The second question deals with typology building: Which media system typology results from the expanded dimensions and the enlarged country sample (RQ2)?

Dimensions of Media Systems

Hallin and Mancini's (2004) original theoretical framework consists of four dimensions: (the inclusiveness of) the media market, journalistic professionalism, political parallelism, and the state's role. We revisit those dimensions and build on recent research in the field to identify new indicators. In the following, we present a detailed discussion of these changes and the resulting revised media systems dimensions.

Inclusiveness of the Media Market

The dimension of the media market has been conceptualized regarding inclusiveness, that is, as the reach of news media among different groups of society (Brüggemann et al., 2014). Existing operationalizations include (1) the overall daily news reach, (2) news reach among the working class, and (3) news reach among women (Brüggemann et al., 2014; Hallin & Mancini, 2004). Previous operationalizations of this dimension focused on the printed press, examining its circulation and readership (Brüggemann et al., 2014; Büchel et al., 2016). However, several researchers, including Hallin (2020) and Mancini (2020), argue that although leading

newspaper brands continue to play an important role in many media systems, the printed press has become less important for news consumption than digital news outlets. Citizens increasingly rely on multiple media platforms and devices to access news content (Newman et al., 2021).

In addition, it has been argued that the digitalization of media markets has led to a fragmentation of the audience, resulting in increasing information inequality and an increasing number of citizens who hardly use any news (Van Aelst et al., 2017; Prior, 2005). This inequality is also reflected in the fact that there are media markets where leading newspaper brands still have a strong position and reach a large part of the population, whereas in other markets, such media organizations only reach a niche audience (Shehata & Strömbäck, 2011). Hence, to reflect these differences, it is necessary to consider the reach of online news and measure the reach of newspaper brands in their offline and online versions and among different groups of society.

Political Parallelism

The dimension of political parallelism refers to six indicators that have been operationalized by Brüggemann et al. (2014) as follows: (1) the lack of separation of news and commentary, (2) partisan influence and policy advocacy, (3) political orientation of journalists, (4) media-party parallelism, (5) political bias, and (6) (in)dependence of public broadcasting. Most of these indicators are not directly related to changes fostered by the digitalization of media systems and the rise of ICTs. Mattoni and Ceccobelli (2018) argue that although new media outlets, such as online-only news outlets and digital versions of established brands, have gained importance in recent years, the way political parallelism manifests itself has not been affected by these changes. According to Mattoni and Ceccobelli (2018), the digitalization of media systems does not lead to a complete realignment of journalistic norms and practices. However, social and political developments that lead to changes in traditional and new media and politicians' communication can be observed. For

example, indicators such as the political orientations of journalists concern offline and online media and established media brands and online-only outlets. In contrast, other indicators, such as the separation of news and commentary, may have become less important since, in the online sphere, news items are published and consumed individually, not in specially marked sections as in newspapers (Boukes et al., 2014).

That said, it can be assumed that the rapid technological development in the media sector and the respective adaptation to these changes have led to different outcomes in various countries. The US, for example, have had a comparatively low level of political parallelism (Hallin & Mancini, 2004), and previous studies have empirically validated this assumption (Brüggemann et al., 2014). However, recent research points to a transformation of the US media system, leading to increased political parallelism (Nechushtai, 2018). Moreover, several scholars have argued that increased media fragmentation (Van Aelst et al., 2017) and audience polarization (Fletcher et al., 2019) are linked to stronger political orientations by journalists, which were evident in the United States during recent electoral campaigns (Patterson 2016). Thus, it can be assumed that the digitalization of media systems has, in some cases, created conditions that have led to an increase in political parallelism. Therefore, we argue that the existing indicators of the dimension should be compared against current data to reflect recent political and social developments.

Journalistic Professionalism

Although the rise of digital media has changed many aspects of the journalistic profession, journalists still play an important role in news production and dissemination (Nielsen & Selva, 2018). Thus, the indicators that Hallin and Mancini (2004) employ in their theoretical framework to evaluate the dimension of journalistic professionalism in different countries remain fundamental. The dimension has been operationalized by Brüggemann et al. (2014) using the following indicators: (1) the internal and external autonomy of journalists, (2) the presence of professional guidelines and codes of ethics, (3) the degree to which news

media enjoy credibility, and (4) the degree of journalists' orientation toward public service. These indicators are arguably still adequate to examine how the journalistic profession has developed in recent years (Mattoni & Ceccobelli, 2018). For example, media credibility is considered in terms of "fake news" allegations by politicians attacking the news media (Egelhofer & Lecheler, 2019). Researchers have argued that such allegations could cause lasting damage to trust in journalism and lead audiences to turn to alternative news sources (Fawzi & Mothes, 2020; Figenschou & Ihlebæk, 2019). However, media systems differ in how professional and credible journalists are perceived to be. Therefore, such attacks may damage news media in countries with low levels of media credibility more than in countries where established media brands enjoy high levels of trust. In this context, researchers (Phillips, 2010; Singer, 2010) have also highlighted the need for professional guidelines and codes of professional ethics tailored to online media, for instance, concerning uncivil user comments or hate speech (Frischlich et al., 2019; Quandt, 2018). Such guidelines combine traditional journalistic values and norms with the requirements of digital publications and user interactions. Addressing these challenges may be of greater necessity in some countries than in others.

Finally, journalistic professionalism in the digital age is also characterized by the quality benchmarks of the entire media industry. Many researchers have argued that the orientation toward sensationalism has led to an erosion of journalistic standards, especially on social media (Tandoc et al., 2018; Waisbord, 2018), and that journalists increasingly focus on click numbers instead of the quality of the content (e.g., Christin, 2018). Thus, we argue that the existence of quality criteria and norms that signal journalistic excellence for most journalists can still be regarded as an important dimension of journalistic professionalism.

Digitalization has deeply transformed journalistic routines and practices (Lecheler & Kruikemeier, 2016). One important change is related to the more active role of the audience, as follow-up communication is more visible and important than it was in the pre-internet era

(Lawrence et al., 2018). Therefore, we argue that journalistic professionalism in the digital age is also characterized by how journalists deal with audience participation and, in particular, the responsiveness of journalists to the public. For example, neglecting user comments can lead to incivility or misinformation being spread through the comment sections. Reading such comments can also influence how users perceive the content of news and the media (Anderson et al., 2014; 2016). However, if journalists get involved in user discussions in the comment columns, the quality of such discussions can be increased (Masullo et al., 2020).

In summary, in addition to internal and external autonomy, professional guidelines, media credibility, and public service orientation, we include online audience responsiveness as a new indicator for measuring journalistic professionalism (see Table III in the Appendix).

Role of the State

The dimension of the state's role was described by Hallin and Mancini (2004) in terms of the actions a state takes to support and regulate the media sector. Brüggemann et al. (2014) argued conceptually and empirically that the "role of the state" is, in fact, not one dimension but a multi-dimensional construct, which they divided into three subdimensions referring to different types of actions that states can take to engage in the media sector: (1) funding and promotion of public broadcasters, (2) direct and/or indirect subsidization of news media organizations, and (3) the regulation of media concentration, ownership, and competition. However, several authors have argued that although state interventions still play an important role in shaping media systems, the type of interventions states undertake to govern the media sector have changed (Flensburg & Lai, 2020; Mancini, 2020).

The regulation of media markets (understood as traditional mass media) has taken a back seat, as the big tech companies have become the most powerful and least regulated actors in the media system (Haggart & Keller, 2021). Social media platforms are also increasingly used for news consumption and dissemination. However, these companies are so far only regulated to a very limited extent by nation-states because they are mainly based in

the United States and do not fall under the more traditional media regulation of the media sector, which has been slow to respond to technological change.

More recently, there have been more and more proposals to promote greater legitimacy for platform regulation, primarily based on the rule of law principles and human rights laws and norms (Suzor et al., 2018; Kaye, 2019). Although questions about the appropriate balance of responsibilities remain, policymakers, such as the European Commission, have started making companies liable for illegal speech propagated via their services. Since platform regulations have been imposed mainly at the transnational (e.g., European) level, this indicator is less suitable for comparing national media systems, particularly since our study focuses on Europe.

In contrast, the allocation of subsidies for private media plays an important role, especially in times of digitization. New online-only startups have to contend with financial problems because they first have to establish themselves on the market (Sirkkunen & Cook, 2012). Partial financing from state funds can therefore help to promote media diversity in a country. Some countries have done this by extending subsidy programs for newspapers to online media (Nielsen, 2013).

Media freedom is a central variable that shapes a media system (Norris, 2009). This is obvious for the study of media systems across the globe: in some states, critical journalists risk being persecuted and imprisoned or killed, whereas in other countries, they enjoy security and legal protection (Anagnostou et al., 2012; Brants & Voltmer, 2011). The study of media systems focusing on Western systems in the tradition of Hallin and Mancini (2004) was less concerned with this variable, as press freedom was taken for granted and not much variance was to be expected when studying Western Europe, the United States, and Canada. However, when integrating Central and Eastern Europe into the analysis, it is an important variable that helps to cluster similar media systems (Castro Herrero et al., 2017). Also, after four years of populist rule by Donald Trump with constant (albeit so far mostly rhetorical) attacks on the

free press, full freedom of the press is no longer completely self-evident even in Western countries such as the United States.

The argument that media freedom should be integrated into the study of media systems is also valid against the backdrop of digitalization, as online content is increasingly censored in some countries and independent journalists and bloggers are imprisoned (Voltmer & Wasserman, 2014).

Media freedom is measured by the non-profit and non-governmental organization Freedom House and includes aspects of the legal, political, and economic environment in which media outlets operate. For example, the legal environment category encompasses examining laws and regulations that could influence media content or restrict the media's ability to operate. The political environment category evaluates the degree of political influence in the content of news media, and the economic environment includes, among others, the structure of media ownership, production and distribution costs, and the extent to which the economic situation in a country affects the development and sustainability of the media (Freedom House, 2017). In addition, these indicators include aspects of the "role of the state" dimension described by Hallin and Mancini (2004) and Brüggemann et al. (2014), political parallelism, and journalistic professionalism. However, Freedom House (2017) states that their criteria are selected and evaluated by country experts with a particular focus on the role of different states in ensuring the right of freedom of expression. Moreover, the methodology has recently been modified to capture changes in the news and information environment and incorporate digital media's role. Therefore, we argue that while press freedom in the digital age is a multi-dimensional concept spanning various media system dimensions, it is primarily shaped by the state's role in supporting or limiting these freedoms.

Overall, we propose to include the following new indicators for operationalizing and measuring the dimensions of media systems in the digital age. First, for the dimension of inclusiveness of the media market, we include the reach of online news as well as the reach of

offline and online versions of established news media. Second, regarding the dimension of journalistic professionalism, we argue for adding journalist's online audience responsiveness. Third, we understand the dimension of the role of the state as state support for strong and free media, which entails considering some variables that have already been included in prior studies, such as support of public service broadcasting and subsidies for online and offline news outlets. In addition, we also consider media freedom as an additional indicator.

In the following sections, we will operationalize the indicators discussed above, drawing on many primary sources that provide valid and current data to create an empirical typology that will allow us to compare an enlarged sample of countries along these expanded dimensions.

Method and Data

Our operationalization of media system dimensions builds on the work of Brüggemann et al. (2014). To do so, we collected updated data for the existing indicators following the authors' data collection strategy. We also included the new indicators discussed in the previous sections of this article (see Table 1, where old indicators are signaled with an asterisk). To create a more meaningful typology, we collected data for the countries initially described by Hallin and Mancini (2004) and expanded the sample to include Eastern and Southern European countries, resulting in 30 countries under study. We used several data sources to build new dimension indices. We drew on survey data from the Eurobarometer (Eurobarometer, 2017), the Digital News Report (Newman et al., 2018), expert interviews from the European Media Systems Survey (Popescu et al., 2013), V-Dem (Coppedge et al. 2021), and the Worlds of Journalism Project (Worlds of Journalism Association, 2016), and data from the European Audiovisual Observatory yearbook (European Audiovisual Observatory, 2017). We also employed aggregated data from a policy report by the Center for Media Pluralism and Media Freedom (Brogi et al., 2018).

TABLE 1 ABOUT HERE

Our data analysis strategy also builds on Brüggemann et al.'s (2014) approach. However, in addition to the changes following the extended conceptualization of dimensions outlined above, the following operationalization had to draw on data sources that have been updated since the earlier measurement, leading to some changes in the indicators used.

We z-standardized all variables since they were measured on different scales and combined them into the four dimensions: the inclusiveness of the media market, political parallelism, journalistic professionalism, and state support for free media. In addition to the indicators operationalized by Brüggemann et al. (2014), we included the new indicators discussed above to account for media systems' digitalization and consider media freedom. To address current changes regarding journalistic professionalism, we included new data from the Worlds of Journalism Project on professional guidelines for offline and online media, media credibility, public orientation, and online audience responsiveness (Worlds of Journalism Association, 2016). We also used data from the European Media Systems Survey on excellence criteria in journalism, such as generally agreed-on criteria for judging excellence in the journalistic profession and perceived media credibility (Popescu et al., 2013).

To account for state support for the media, we relied on data from the Media Pluralism Monitor (Brogi, 2018), which considers three sub-indicators: spectrum allocation, government subsidies, and the state's advertising rules. The first sub-indicator on spectrum allocation assesses the existence and implementation of a legal framework that enacts the general regulatory principles and policy objectives of the European Commission's "Radio Spectrum Policy Program," including rules for the authorization for digital terrestrial TV. The second sub-indicators on state subsidies include direct and indirect media subsidies, such as cash grants and interest-free loans, tax exemptions, reduced postal service, and telephone rates. The third indicator on advertising rules refers to any advertising paid by governments (national, regional, and local) and state-owned institutions and companies to the media. This

operationalization of state support differs primarily from previous measurements in that we considered more aspects of state influence, including regulation of digital TV. In contrast, previous studies have focused primarily on ownership regulation of TV and the press. In addition, we used data from the European Audio Observatory (EAO, 2017) to measure the market share of public TV. Finally, media freedom was measured using data from Freedom House (2017). The Freedom House index includes indicators related to the legal environment of the media (e.g., laws and regulations influencing media content), the political environment (e.g., the degree of political influence in the content of news media), and the economic environment (e.g., economic influence on the media sector). The exact wording and operationalization of all indicators used, and data sources are summarized in Tables I to IV in the Appendix.

Next, we conducted a hierarchical cluster analysis to validate previous typologies of media systems. To do so, we followed the procedure described by Brüggemann et al. (2014). To identify the clusters, we used Ward's method and applied squared Euclidian distances to measure similarity (for similar approaches, see Castro Herrero et al., 2017; Perusko et al., 2015). Based on an analysis of the scree plot and a dendrogram, we identified a three-cluster solution. To optimize the cluster membership of the countries and validate the analysis, we also used the centroid-based k-means method (Milligan, G., & Sokal, 1980), which widely confirmed our cluster solution.

Results

This study aims to answer two research questions: whether indicators linked to the digitalization of media systems can be combined with Hallin and Mancini's (2004) original dimensions into an integrated framework (RQ1) and which media system typology can be built based on the integrated framework and the enlarged country sample (RQ2).

To answer RQ1, we examined the internal consistency of the newly formed dimensions, which yielded satisfactory values of Cronbach's α, that is, α = .86 for the

dimension of the media market, α = .86 for political parallelism, α = .66 for journalistic professionalism, and α = .82 for state support. These comparatively high reliability values (DeVellis, 2003; Hair et al., 1998) confirm that our theoretical considerations regarding the correlation between original and new indicators are empirically supported.

Next, we conducted correlation analyses, which confirmed the results of previous studies regarding the relationship between the dimensions. Political parallelism correlates negatively with all other dimensions, thus: the inclusiveness of the media market (−.59, $p <$ .01), journalistic professionalism (−.47, $p < .01$), and state support (−.59, $p < .01$).

Furthermore, journalistic professionalism is positively correlated with the dimensions of inclusiveness of the media market (.50, $p < .01$) and state support (.60, $p < .01$). The dimensions of inclusiveness of the media market and state support also show a positive correlation (.69, $p < .01$).

To answer RQ2, we conducted a hierarchical cluster analysis, which resulted in three clusters. We examined the three clusters regarding country membership and the characteristics of their assigned media systems to label them appropriately (see Figure 1).

FIGURE 1 ABOUT HERE

The first cluster consists of Nordic countries (Finland, Denmark, Norway, and Sweden), German-speaking countries (Austria, Germany, and Switzerland), and the Netherlands. This country sample corresponds largely to Hallin and Mancini's (2004) democratic-corporatist model and combines Brüggemann et al.'s (2014) Central and Northern models. As Table 2 shows, the cluster is characterized by a high degree of journalistic professionalism, an inclusive media market, a strong role of the state, and low degrees of political parallelism. Due to the similarity of the cluster's characteristics to Hallin and Mancini's (2004) democratic-corporatist model, we adopt this label for our first cluster.

TABLE 2 ABOUT HERE

The next cluster includes Eastern and Southern European countries, such as Bulgaria, Cyprus, Croatia, Greece, Hungary, Latvia, Montenegro, Poland, Romania, Slovakia, Slovenia, and Spain. This cluster differs from the democratic-corporatist cluster in having a weaker media market, lower levels of journalistic professionalism, lower levels of state support, and higher levels of political parallelism (Table 2). These characteristics largely correspond to Hallin and Mancini's (2004) polarized-pluralist media system model, although the cluster in our analysis additionally includes Eastern European countries. Therefore, we adopt this label and name it the polarized-pluralist model to highlight this cluster's similarity with the original model.

The last cluster is situated between the two extremes of the democratic-corporatist and the polarized-pluralist cluster. The countries in this cluster show lower state support and journalistic professionalism than countries in the democratic-corporatists cluster and slightly lower levels of political parallelism. Moreover, the inclusiveness of their media market is significantly weaker compared to countries in the democratic-corporatist cluster. The cluster consists of countries that have been assigned to the liberal media system model (the US, the UK, and Ireland), the polarized-pluralist model (France, Italy, and Portugal), and the democratic-corporatist model (Belgium) by Hallin and Mancini (2004). In addition, the cluster includes three Eastern European countries (the Czech Republic, Estonia, and Lithuania). The cluster's composition is similar to the Western model of Brüggemann et al. (2014), with France and Italy as exceptions.

In summary, our analysis showed that original and new indicators of media system dimensions can be combined into a meaningful framework. Moreover, comparing a broader country sample using the extended framework resulted in three media system clusters. Two of the clusters identified in our analysis largely correspond to models identified by Hallin and Mancini (2004), namely the polarized-pluralist and democratic-corporative media system

models. However, the hybrid cluster includes a range of countries that have been assigned to other system types before but were described in the literature as borderline cases.

Discussion

The results of our study provide a multifaceted picture of how media systems vary in the digital age. To better understand how different media systems may have evolved in recent years, we discuss our clusters and compare them with the typology by Brüggemann et al. (2014). Although our analysis does not allow for a direct comparison due to divergent measurements, we can draw conclusions about which countries show greater similarities and formulate assumptions on which countries are likely to have converged due to recent developments. That said, we emphasize that quantitative approaches such as cluster analysis do not allow us to describe media systems in their entirety. Therefore, the choice of indicators and countries strongly affects the cluster solution.

The first important observation is that the countries in the so-called Northern model of Brüggemann et al. (2014), which comprises Denmark, Finland, Norway, and Sweden, seem to have stable media systems with strong media organizations. They all fall into the democratic-corporatist model in our analysis. Second, from the so-called Central model of Brüggemann et al. (2014), the UK is split from Austria, Germany, and Switzerland in our extended and more current comparison between countries. As our analysis shows, the German-speaking countries show greater similarities to the Nordic countries and fall into the democratic-corporatist cluster. The UK, in contrast, shares more characteristics of countries such as Ireland, Belgium, Portugal, and the US, which Brüggemann et al. (2014) refer to as the Western model. The media system of the UK differs from the media systems of the German-speaking and Nordic countries in particular because of the lower inclusiveness of the media market. Third, the media systems of Southern European countries seem to vary with regard to state support and political parallelism, splitting the so-called Southern model of Brüggemann et al. (2014), which comprises France, Spain, Greece, and Italy. Italy, for example, falls into the

hybrid cluster but is ranked rather low regarding journalistic professionalism and high in political parallelism, thus representing a borderline case to the polarized-pluralist cluster. Fourth, Eastern European media systems are not homogenous but divided between the polarized-pluralist and the hybrid cluster. The media systems of the Southeastern European countries—Hungary, Romania, Bulgaria, Montenegro, Croatia, Slovenia, and Slovakia—seem to be similar to the media systems of Southwestern European countries, such as Spain, Greece, and Cyprus. In contrast, the media systems of the northeastern European countries Estonia and Lithuania share more similarities with the US or the UK.

Finally, we find a cluster of hybrid countries that share features of Brüggemann et al.'s (2014) Western model, including Ireland, Belgium, Portugal, and the US. This cluster is situated between the extremes of the democratic-corporatist and the polarized-pluralist clusters and is characterized by medium values on all four media system dimensions. Several authors have argued that countries such as Belgium, France, Italy, Portugal, the UK, and the US do not correspond to the ideal types defined by Hallin and Mancini and that they are "border" or "mixed" cases regarding their media systems (Büchel et al., 2016; Hallin & Mancini, 2004). This is the rationale for labeling this cluster hybrid. For example, the US show similarities to certain European countries in several aspects (Nechushtai, 2018) regarding its level of political parallelism. Previous studies also showed that France, Italy, and Portugal are less similar to other Southern European countries, such as Spain and Greece, and more similar to, for example, Belgium or the UK, particularly regarding state support for the media sector (Büchel et al., 2016; Hallin & Mancini, 2004). The hybrid cluster includes, among others, countries whose media systems have been described in the literature as contrasting, for example, France and the US (e.g., Benson et al., 2012). Indeed, our analysis shows differences between these two countries, especially regarding the state's role and political parallelism. The analysis also reveals that the US remains quite unique (grouped only with Lithuania in the first step of clustering). The three Eastern European countries in this

cluster also seem to show lower levels of political parallelism and higher levels of press freedom than many of their neighbors in the region (Castro Herrero et al., 2017) that fall into the polarized-pluralist category.

Moreover, the fact that the countries in the hybrid cluster form one group may be due in part to the greater variance caused by the inclusion of additional countries from Central and Eastern Europe in the equation. In earlier work on Eastern European media systems, the term "hybrid" was used to describe a mixture of the liberal model and the polarized-pluralist model, especially with regard to the commercialization of journalism and the instrumentalization of media by political actors (Dobek-Ostrowska & Glowacki, 2016; Peruško, 2021). With regard to media systems in Central and Eastern Europe, Peruško (2021; p. 42) argues that "hybridity can be seen as a sensitizing concept that brings attention to the shifting environment of media systems and the new institutional arrangements coming about with the integration of values, norms and practices, and procedures and genres (logics) from different media eras." Our analysis shows that the combination of lower journalistic professionalization, non-inclusive media market, and little state support unites several Eastern as well as Western European countries and the US. For example, the US and France as different as those countries may be, have more in common with the Czech Republic or Lithuania than they have with many countries in Northern or Southern Europe. This comparison also underscores how crucial the country selection is for the study of media systems. Our study constitutes a small step forward beyond the study of Western Europe and the US.

Which broader implication can be drawn from our study? First, it can be assumed that the clustering of the US with Southern and Eastern European countries reflects the outcome of an increasing polarization that has been observed in some of these countries in recent years (Mancini, 2020). Second, our findings also seem to confirm a trend that was already visible in Brüggemann et al. (2014) compared to Hallin and Mancini (2004): the demise of the liberal

media system. Following previous studies, we do not find empirical evidence for a configuration of low state support for free media and high journalistic professionalism, broad news reach, and low parallelism as envisaged by the ideal type of the liberal system. This may be due to the increased need for state support for strong free media in times of digital media change, where elite newspapers, as the traditional backbone of professionalism, suffer from an enduring revenue crisis. Journalistic professionalism and broader news reach are, on the contrary, fairly stable in the Nordic and German-speaking countries. In this regard, the findings from previous typologies, such as those of Brüggemann et al. (2014) and Büchel et al. (2016), seem robust.

Overall, our findings confirm many of the assumptions and observations that have been expressed in recent research in the field (Hallin, 2020; Liu et al., 2020; Mancini, 2020). However, the current lack of up-to-date typologies, including aspects of digital media technologies, demonstrates the need to assess how digital communication is structured within different societal settings. By providing an operationalized framework and an empirical analysis of an expanded country sample, we hope to stimulate future research in comparative communication science and inspire theoretical work on the current transformation of various media systems.

Naturally, this study has limitations that are related to data availability and operationalization. For example, due to availability constraints, we could not collect updated data for some of the original indicators used by Brüggemann et al. (2014). This applies particularly to the "separation of news and commentary" indicator of the political parallelism dimension. As argued before, however, the separation between news and commentary seems to be declining in online information environments; hence, this indicator may have lost some of its significance. Furthermore, for the dimension of the state's role, we had to rely on a data source other than the one used by Brüggemann et al. (2014) because the World Press Trends report did not cover all countries in our sample. Therefore, we had to rely on a recent policy

report by the Center for Media Pluralism and Media Freedom, European University Institute (Brogi et al., 2018).

Moreover, in three cases, missing values had to be replaced with other data sources, and we had to use a nominal scale that resulted in lower variance. However, we are confident that the applied data sources represent our theoretical assumptions. We also find that the data from various sources are highly correlated.

Another limitation of our study is that our data sources represent only one or a few points in time. However, the underlying theoretical considerations are related to processes of change, such as digitalization. Therefore, comparing our typology against previous studies provides a first approximation of the extent of such changes (e.g., countries closer to models other than those Hallin and Mancini originally associated them with). Nevertheless, to examine these processes more accurately, long-term studies are necessary. Finally, we want to point out that the data and results for individual countries should not be over-interpreted, as they only allow for approximations.

As we have already mentioned, the results of quantitative typology building depend on the countries and indicators chosen. If we were to perform the same analysis with a larger, more diverse sample of countries, including, for example, countries under authoritarian rule, other differences or commonalities (e.g., the existence of independent media) might be more pronounced. Thus, qualitative analyses are needed to make more in-depth statements about individual countries. Therefore, we agree with Hallin (2020) that digitalization and recent social and political systems changes should prompt researchers to "conceptualize both change and complexity in media systems."

That said, with our expanded sample and the new indicators that take into account the digitalization of media environments, our study extends and complements Hallin and Mancini's (2004) framework. Our study also provides several points of departure for further research. For instance, our newly developed indicators and dimensions can be used in future

studies to explain differences between media systems regarding news content or media use. Such cross-national comparisons may be of particular interest regarding the media systems we have assigned to the hybrid cluster. In addition, future longitudinal research should seek to understand why political parallelism has increased in some countries and what role media organizations and state institutions play in this regard. We hope that the framework will be extended to other countries. Such an expansion would allow researchers to identify additional dimensions that may be relevant for comparing media systems. Also, even though we have already used an expanded sample, the underlying theoretical assumptions are largely based on European and North American literature. Therefore, further studies are needed to extend this knowledge, especially in Asia, Africa, and Latin America.

Finally, challenges remain in identifying the relevant factors that shape different media systems in recent years. The development of ICTs has not only changed media production and media use in many ways. It also shapes the way politicians communicate, for example, by addressing citizens directly through social media and enabling the dissemination of sometimes misleading information through alternative news providers. Therefore, comparative research is fundamental to understanding how well different media systems are equipped to tackle these challenges.

References

Aalberg, T., Blekesaune, A., & Elvestad, E. (2013). Media Choice and Informed Democracy: Toward Increasing News Consumption Gaps in Europe? *The International Journal of Press/Politics*, *18*(3), 281–303. https://doi.org/10.1177/1940161213485990

Anagnostou, D., Avădani, I., Craufurd Smith, R., Docquir, P.-F., Gusy, C., Harro-Loit, H., Kuutti, H., Lauk, E., Loit, U., Sánchez, J. L. M., Müller, S., Psychogiopoulou, E., Smilov, D., Stolte, Y., Školkay, A., & Van Besien, B. (2012). *Media freedom and independence in 14 European countries: A comparative perspective*. https://www.rcmediafreedom.eu/Publications/Reports/Media-freedom-and-independence-in-14-European-countries-A-comparative-perspective

Anderson, A., Brossard, D., Scheufele, D., Xenos, M. a., & Ladwig, P. (2014). The "Nasty Effect:" Online Incivility and Risk Perceptions of Emerging Technologies. *Journal of Computer-Mediated Communication*, 19, 373–387. https://doi.org/10.1111/jcc4.12009

Anderson, A., Yeo, S. K., Brossard, D., Scheufele, D., & Xenos, M. A. (2016). Toxic Talk: How Online Incivility Can Undermine Perceptions of Media. *International Journal of Public Opinion Research*, August 20, 1–13. https://doi.org/10.1093/ijpor/edw022

Benson, R., Blach-Ørsten, M., Powers, M., Willig, I., & Zambrano, S. V. (2012). Media Systems Online and Off: Comparing the Form of News in the United States, Denmark, and France. *Journal of Communication*, 62(1), 21–38. https://doi.org/10.1111/j.1460-2466.2011.01625.x

Boukes, M., Boomgaarden, H. G., Moorman, M., & De Vreese, C. H. (2014). News With an Attitude: Assessing the Mechanisms Underlying the Effects of Opinionated News. *Mass Communication and Society*, *17*(3), 354–378. https://doi.org/10.1080/15205436.2014.891136

Brants, K., & Voltmer, K. K. B. and K. (2011). *Political Communication in Postmodern Democracy*. Palgrave Macmillan. https://doi.org/10.1057/9780230294783

Brogi, A. E., Nenadic, I., Parcu, P. L., Viola, M., & Cunha, D. A. (2018). *Monitoring Media Pluralism in Europe : Application of the Media Pluralism Monitor in the European Union, FYROM, Serbia & Turkey.* https://op.europa.eu/en/publication-detail/-/publication/23cd564b-efd6-11e9-a32c-01aa75ed71a1

Brüggemann, M., Engesser, S., Büchel, F., Humprecht, E., & Castro, L. (2014). Hallin and Mancini Revisited: Four Empirical Types of Western Media Systems. *Journal of Communication*, *64*(6), 1037–1065. https://doi.org/10.1111/jcom.12127

Büchel, F., Humprecht, E., Castro-Herrero, L., Engesser, S., & Brüggemann, M. (2016). Building Empirical Typologies with QCA. *The International Journal of Press/Politics*, *21*(2), 209–232. https://doi.org/10.1177/1940161215626567

Castro Herrero, L., Humprecht, E., Brüggemann, M., Büchel, F., & Engesser, S. (2017). Rethinking Hallin and Mancini Beyond the West: An Analysis of Media Systems in Central and Eastern Europe. *International Journal of Communication*, *11*(0), 4797–4823. https://doi.org/1932–8036/20170005

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Alizada, N., Altman, D., Bernhard, M., Cornell, A., Fish, M. S., Gastaldi, L., Gjerløw, H., Glynn, A., Hicken, A., Hindle, G., Ilchenko, N., Krusell, J., Luhrmann, A., Maerz, S. F., … Röm, J. von. (2021). *V-Dem [Country–Year/Country–Date] Dataset v11.1*. https://doi.org/10.23696/vdemds21

Dobek-Ostrowska, Boguslawa, & Glowacki, M. (2016). *Democracy and Media in Central and Eastern Europe 25 Years On* (Bogusława Dobek-Ostrowska & M. Głowacki (eds.)). Peter Lang. https://doi.org/10.3726/978-3-653-04452-2

DeVellis, R. F. (2003). *Scale development: Theory and applications* (Vol. 26). SAGE Publications.

Egelhofer, J. L., & Lecheler, S. (2019). Fake News As A Two-Dimensional Phenomenon: A Framework and Research Agenda. *Annals of the International Communication*

Association, *43*(2), 97–116. https://doi.org/10.1080/23808985.2019.1602782

Eurobarometer. (2017). *Public opinion in the European Union*. https://doi.org/10.4232/1.13007

European Audiovisual Observatory. (2017). *Yearbook: Key Trends*. https://rm.coe.int/yearbook-keytrends-2017-2018-en/16807b567e

Fawzi, N., & Mothes, C. (2020). *Perceptions of Media Performance: Expectation – Evaluation Discrepancies and Their Relationship with Media-Related and Populist Attitudes*. *8*(3), 335–347. https://doi.org/10.17645/mac.v8i3.3142

Figenschou, T. U., & Ihlebæk, K. A. (2019). Challenging Journalistic Authority: Media criticism in far-right alternative media. *Journalism Studies*, *20*(9), 1221–1237. https://doi.org/10.1080/1461670X.2018.1500868

Flensburg, S., & Lai, S. S. (2020). Comparing Digital Communication Systems. *Nordicom Review*, *41*(2), 127–145. https://doi.org/10.2478/nor-2020-0019

Fletcher, R., Cornia, A., & Nielsen, R. K. (2020). How Polarized Are Online and Offline News Audiences? A Comparative Analysis of Twelve Countries. The International Journal of Press/Politics, 25(2), 169–195. https://doi.org/10.1177/1940161219892768

Freedom House. (2017). *Freedom of the press research methodology*. https://freedomhouse.org/sites/default/files/2020-02/FOTP_2017_booklet_FINAL_April28_1.pdf

Frischlich, L., Boberg, S., & Quandt, T. (2019). Comment Sections as Targets of Dark Participation? Journalists' Evaluation and Moderation of Deviant User Comments. *Journalism Studies*, *0*(0), 1–20. https://doi.org/10.1080/1461670x.2018.1556320

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. Englewood Cliffs, NJ: Prentice Hall International.

Hallin, D. C. (2020). Comparative Research, System Change, and the Complexity of Media Systems. *International Journal of Communication*, *14*(0), 12.

https://ijoc.org/index.php/ijoc/article/view/14550

Hallin, D. C., & Mancini, P. (2004). *Comparing Media Systems. Three Models of Media and Politics*. Cambrige University Press.

Hallin, D. C., & Mancini, P. (2017). Ten Years After Comparing Media Systems : What Have We Learned? *Political Communication*, *34*(2), 155–171. https://doi.org/10.1080/10584609.2016.1233158

Haggart, B. and Keller, C. I. (2021) Democratic Legitimacy In Global Platform Governance, *Telecommunications Policy*. Elsevier Ltd, 45(6), p. 102152. doi: 10.1016/j.telpol.2021.102152.

Kaye, D. (2019). Speech police: *The Global Struggle To Govern The Internet*. Columbia Global Reports.

Lawrence, R. G., Radcliffe, D., & Schmidt, T. R. (2018). Practicing Engagement: Participatory Journalism In The Web 2.0 Ara. *Journalism Practice*, *12*(10), 1220–1240. https://doi.org/10.1080/17512786.2017.1391712

Lecheler, S., & Kruikemeier, S. (2016). Re-Evaluating Journalistic Routines In A Digital Age: A Review Of Research on The Use of Online Sources. *New Media & Society*, *18*, 156–171. https://doi.org/10.1177/1461444815600412

Liu, J., Liu, X., & Jensen, K. B. (2020). Comparative Media Studies in the Digital Age: Taking Stock, Looking Ahead. *International Journal of Communication*, *14*(0), 7. https://ijoc.org/index.php/ijoc/article/view/14548

Magin, M. (2019). Attention, please! Structural Influences on Tabloidization of Campaign Coverage in German and Austrian Elite Newspapers (1949–2009). *Journalism*, *20*(12), 1704–1724. https://doi.org/10.1177/1464884917707843

Mancini, P. (2020). Comparing Media Systems and the Digital Age. *International Journal of Communication*, *14*, 5761–5774. https://ijoc.org/index.php/ijoc/article/view/14553

Masullo, G. M., Riedl, M. J., & Elyse Huang, Q. (2020). Engagement Moderation: What

Journalists Should Say to Improve Online Discussions. *Journalism Practice*, 0(0), 1–17. https://doi.org/10.1080/17512786.2020.1808858

Mattoni, A., & Ceccobelli, D. (2018). Comparing Hybrid Media Systems in the digital age: A Theoretical Framework for Analysis. *European Journal of Communication*, *33*(5), 540–557. https://doi.org/10.1177/0267323118784831

Milligan, G., & Sokal, L. M. (1980). A two-stage clustering algorithm with robust recovery characteristics. *Educational and Psychological Measurement*, *40*, 755–759.

Nechushtai, E. (2018). From Liberal to Polarized Liberal? Contemporary U.S. News in Hallin and Mancini's Typology of News Systems. *International Journal of Press/Politics*, *23*(2), 183–201. https://doi.org/10.1177/1940161218771902

Newman, N., Fletcher, R., Kalogeropoulos, A., Nielsen, R. K., Levy, D., & Nielsen, R. K. (2018). *Reuters Institute Digital News Report 2018*. https://doi.org/10.2139/ssrn.2619576

Newman, N., Fletcher, R., Schulz, A., Andı, S., Robertson, C. & Nielsen, R. K. (2021). *Reuters Institute Digital News Report 2021*. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2021-06/Digital_News_Report_2021_FINAL.pdf

Nielsen, R. K. (2013). "Frozen" media subsidies during a time of media change: A comparative analysis of media policy drift in six Western democracies. *Global Media and Communication*. https://doi.org/10.1177/1742766513504203

Nielsen, R. K., & Selva, M. (2018). *More Important, But Less Robust? Five Things Everybody Needs to Know about the Future of Journalism*. *January*, 24. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2019-01/Nielsen_and_Selva_FINAL_0.pdf

Norris, P. (2009). Comparative Political Communications: Common Frameworks or Babelian Confusion? *Government and Opposition*, *44*(03), 321–340. https://doi.org/10.1111/j.1477-7053.2009.01290.x

Perusko, Z., Vozab, D., & Cuvalo, A. (2015). Media audiences, digital mediascapes, institutional frameworks, and audience practices across Europe. *International Journal of Communication*, 9, 23. https://ijoc.org/index.php/ijoc/article/viewFile/3447/1307

Peruško, Z. (2021). Public Sphere in Hybrid Media Systems in Central and Eastern Europe. *Javnost*, *28*(1), 36–52. https://doi.org/10.1080/13183222.2021.1861405

Phillips, A. (2010). Transparency and the New Ethics of Journalism. *Journalism Practice*, *4*(3), 373–382. https://doi.org/10.1080/17512781003642972

Popescu, M., Buzarnescu, B., Czikora, E., Gosselin, T., Marincea, A., Pereira, J. S., & Toka, G. (2013). *European Media Systems Survey 2013. Dataset*. www.mediasystemsineurope.org

Prior, M. (2005). News vs. entertainment: How increasing media choice widens gaps in political knowledge and turnout. *American Journal of Political Science*, *49*(3), 577–592. https://doi.org/10.1111/j.1540-5907.2005.00143.x

Quandt, T. (2018). Dark participation. *Media and Communication*, *6*(4), 36–48. https://doi.org/10.17645/mac.v6i4.1519

Shehata, A., & Strömbäck, J. (2011). A matter of context: A comparative study of media environments and news consumption gaps in Europe. *Political Communication*, 28(1), 110–134. http://dx.doi.org/10.1080/10584609.2010.543006

Singer, J. B. (2010). Norms and the Network: Journalistic Ethics in a Shared Media Space. In C. Meyers (Ed.), *Journalism Ethics: A Philosophical Approach* (pp. 117–129). Oxford University Press.

Sirkkunen, E., & Cook, C. (2012). *Chasing Sustainability on the Net. International Research on 69 Journalistic Pure Players and Their Business Models*. Juvenes Print.

Suzor, N., Van Geelen, T., & Myers West, S. (2018). Evaluating the legitimacy of platform governance: A review of research and a shared research agenda. *International Communication Gazette*, 80(4), 385–400. https://doi.org/10.1177/1748048518757142

Tandoc, E. C., Cabañes, J. V. A., & Cayabyab, Y. M. (2018). Bridging the Gap: Journalists' role orientation and role performance on Twitter. *Journalism Studies*, *9699*, 1–15. https://doi.org/10.1080/1461670X.2018.1463168

Van Aelst, P., Strömbäck, J., Aalberg, T., Esser, F., de Vreese, C. H., Matthes, J., Hopmann, D. N., Salgado, S., Hubé, N., Stępińska, A., Papathanassopoulos, S., Berganza, R., Legnante, G., Reinemann, C., Sheafer, T., & 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. https://doi.org/10.1080/23808985.2017.1288551

Voltmer, K. (2012). How far can media systems travel. In D. C. Hallin & P. Mancini (Eds.), *Comparing media systems beyond the Western world* (pp. 224–245). Cambridge University Press.

Voltmer, K., & Wasserman, H. (2014). Journalistic norms between universality and domestication: Journalists' interpretations of press freedom in six new democracies. *Global Media and Communication*, *10*(2). https://doi.org/10.1177/1742766514540073

Waisbord, S. (2018). Truth is What Happens to News: On journalism, fake news, and post-truth. *Journalism Studies*, 19(13), 1866–1878. https://doi.org/10.1080/1461670X.2018.1492881

Worlds of Journalism Association. (2016). *Worlds of Journalism 2012-2016 dataset*. https://worldsofjournalism.org/data-d79/data-and-key-tables-2012-2016/

Table 1: Dimensions, indicators, and data sources

Dimension	Indicators	Data source	Cronbach's α
Media Market	daily newspaper reach working class newspaper reach women newspaper reach online news reach	EB88.3 2017 DNR 2018	.86
Political Parallelism	Partisan influence & policy advocacy political orientation of journalists media party parallelism political bias PSB dependence	EMSS 2013 WJS 2012-2016 V-Dem 2021 Media Pluralism Monitor 2017	.86
Journalistic Professionalism	external autonomy and internal autonomy professional guidelines criteria for excellence media credibility public service orientation online audience responsiveness	EMSS 2013 WJS 2012-2016	.67
State Support	market share of public TV support to the media sector media freedom	EAO 2017 Media Pluralism Monitor 2017 Freedom House 2017	.82

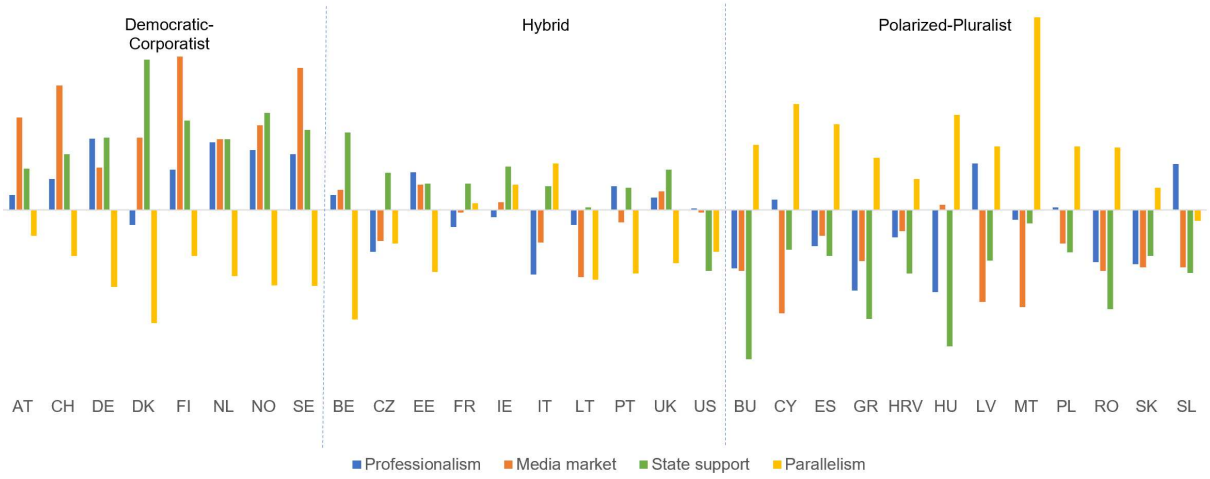
Note. Indicators apply to online and offline media.

Table 2: Cluster profiles

	Media Market		Journalistic Professionalism		Political Parallelism		State Support	
Democratic-Corporatist	1.11	high	0.46	high	-0.62	low	0.93	high
Hybrid	-0.09	medium	-0.06	medium	-0.44	medium	0.27	medium
Polarized-Pluralist	-0.62	low	-0.28	low	0.68	high	-0.81	low

Note. Values are means of z-standardized dimension indices.

Figure 1: Cluster memberships and dimensions scores per country



Online Appendix

Table I: Data sources and operationalization of the media market dimension

Indicator	Measure	Scale	Source
Daily newspaper reach	Could you tell me to what extent you read the written press?	1 to 9	EB88.3 2017
Working class newspaper reach	Could you tell me to what extent you read the written press?	1 to 9	EB88.3 2017
Women newspaper reach	Could you tell me to what extent you read the written press?	1 to 9	EB88.3 2017
Online news reach	How often do use news online?	%	DNR 2018

Table II: Data sources and operationalization of the political parallelism dimension

Indicator	Measure	Scale	Source
Partisan influence & policy advocacy	How far is the political coverage of each of the following media outlets influenced by a party to whom it's close? (1) To what extent does each media outlet advocate particular views and policies? (2) On a scale from 1 to 5, how influential are politicians in your work? (3) How important is it to set the political agenda, influence public opinion, advocate for social change in your work? (4) US: "Please tell me on a scale from 1 to 5 how influential are politicians in your work" (1) "Please tell me how important is to set the political agenda, to influence public opinion, and to advocate for social change in your work" (2)	1 to 10 Additive index (1 & 2) 1 to 5 Additive index for the US (3 & 4)	EMSS 2013 WJS 2012-2016
Political orientation of journalists	The political orientation of the most prominent journalists is	0 to 10	EMSS 2013

	well-known to the public.		
Media party parallelism	In a typical week, how many days do you read the following newspapers? (1) How probable is it that you will ever vote for the following parties on a scale from 0 to 10? (2)	1 to 10	EMSS 2013
Political bias	To what extent does each media outlet present equally well the arguments of all sides in political debates? US: "Do the major print and broadcast media represent a wide range of political perspectives?"	1 to 10 Inverted scale 0-3, re-scaled 0-10	EMSS 2013 V-Dem, 2021
PSB dependence	Independence of PSM regarding governance and funding	1 = low; 2 = medium, 3 = high	Media Pluralism Monitor 2017*

Table III: Data sources and operationalization of journalistic professionalism dimension

Indicator	Measure	Scale	Source
Internal autonomy	Thinking of your work overall, how much freedom do you personally have in selecting news stories you work on, deciding which aspects of a story should be emphasized?	5 = complete freedom, 4 = a great deal of freedom, 3 = some freedom, 2 = little freedom, 1 = no freedom at all.	WJS 2012-2016
	How often do you participate in editorial and newsroom coordination, such as attending editorial meetings or assigning reporters?	5 = always, 4 = very often, 3 = sometimes, 2 = rarely, 1 = almost never	WJS 2012-2016
	Here is a list of potential sources of influence. Please tell me how much influence each of the following has on your work: Your personal values and beliefs; Your peers on the staff; Your editorial supervisors and higher editors; The managers of your news organization; The owners of your news organization; editorial policy; advertising considerations; Profit-Expectations; Audience research and data; Availability of news-gathering resources; Time limits, journalism ethics, religious considerations	1 to 5	WJS 2012-2016

External autonomy	Again, please tell me on a scale of 5 to 1 how influential each of the following is in your work. Your friends, acquaintances and family; Colleagues in other media; Feedback from the audience; Competing news organizations; Media laws and regulation; Information access; Censorship; Government officials; Politicians; Pressure groups; businesspeople, public relations; relationships with news sources; the military, police and state security	1 to 5	WJS 2012-2016
Professional guidelines	Ethical orientations: journalists should always adhere to codes of professional ethics, regardless of situation and context	1 to 5	WJS 2012-2016
Criteria for excellence	Journalists agree on the criteria for judging excellence in their profession regardless of their political orientations.	1 to 10	EMSS 2013
Media credibility	News media enjoy a lot of credibility.	1 to 10	EMSS 2013
	Please tell me on a scale of 1 to 5 how much you personally trust each of the following institutions: The news media	1 to 5	WJS 2012-2016
Public service orientation	Journalists are motivated by an ethic of serving the public interest.	1 to 10	EMSS 2013
	Journalistic roles: provide information people need to make political decisions.	1 to 5	WJS 2012-2016

Online audience responsiveness	The importance of some influences on journalism may have changed over time. Please tell me to what extent these influences have become stronger or weaker during the past five years in [add country]: User-generated contents, such as blogs; Audience involvement in news production; Audience Feedback The internet has made journalism more responsive to the public.	1 to 100 1 to 5	WJS 2012-2016 EMSS 2013

Table IV: Data sources and operationalization of state support dimension

Indicator	Measure	Scale	Source
Market share of public TV	Market Share of Public TV	0 to 100 (%)	EAO 2017
Support of the media sector	State regulation of resources and support to media sector (spectrum allocation, government subsidies, and rules on state advertising)	1 = low; 2 = medium, 3 = high Inverted scale	Media Pluralism Monitor 2017
Media freedom	Freedom of the Press Index 1) legal environment: laws and regulations influencing media content (e.g., freedom of expression, independence of judiciary and official regulatory bodies, registration requirements for news outlets and journalists, and ability of journalists' organizations to operate freely); 2) political environment: degree of political influence in the content of news media (e.g., editorial independence of state-owned and private news outlets, access to information and sources, official censorship and self-censorship, diversity of news available, obstacles or harassment of journalists); 3) economic environment: economic influence on the media sector (e.g., structure of media ownership, transparency and concentration of ownership, the costs of news production and distribution, advertising or	Global rank (1 – 198) Inverted scale	Freedom House 2017

	subsidies by the state or other actors, corruption and bribery on content, degree to which economic situation affects development and sustainability of the media).

Table V: Dimension index values and country ranking

Media Market			Political Parallelism			Journalistic Professionalism			State Support		
	M	*Rank*		*M*	*Rank*		*M*	*Rank*		*M*	*Rank*
FI	1.74	1	MT	2.18	1	DE	0.81	1	DK	1.7	1
SE	1.61	2	CY	1.2	2	NL	0.77	2	NO	1.1	2
CH	1.41	3	HU	1.08	3	NO	0.68	3	FI	1.01	3
AT	1.05	4	ES	0.97	4	SE	0.63	4	SE	0.91	4
NO	0.96	5	BU	0.74	5	LV	0.53	5	BE	0.88	5
DK	0.82	6	LV	0.72	7	DK	0.52	6	DE	0.82	6
NL	0.8	7	PL	0.72	6	FI	0.46	7	NL	0.8	7
DE	0.48	8	RO	0.71	8	EE	0.43	8	CH	0.63	8
EE	0.29	9	GR	0.59	9	CH	0.35	9	IE	0.49	9
BE	0.23	10	IT	0.53	10	PT	0.27	10	AT	0.47	10
UK	0.21	11	HRV	0.35	11	AT	0.17	11	UK	0.46	11
IE	0.09	12	IE	0.29	12	BE	0.17	12	CZ	0.42	12
HU	0.06	13	SK	0.25	13	UK	0.14	13	EE	0.3	13
FR	-0.03	14	FR	0.08	14	CY	0.12	14	FR	0.3	14
US	-0.03	15	SL	-0.12	15	PL	0.03	15	IT	0.27	15
PT	-0.14	16	AT	-0.29	16	US	0.02	16	PT	0.25	16
HRV	-0.24	17	CZ	-0.38	17	IE	-0.08	17	LT	0.03	17
ES	-0.29	18	US	-0.47	18	MT	-0.11	18	MT	-0.15	18
CZ	-0.35	19	CH	-0.52	20	SL	-0.17	19	CY	-0.45	19
IT	-0.37	20	FI	-0.52	19	LT	-0.17	20	PL	-0.48	20
PL	-0.38	21	UK	-0.6	21	FR	-0.19	21	ES	-0.52	22
GR	-0.58	22	EE	-0.7	22	HRV	-0.31	22	SK	-0.52	21
SK	-0.65	23	PT	-0.72	23	ES	-0.41	23	LV	-0.57	23
SL	-0.65	24	NL	-0.75	24	CZ	-0.47	24	US	-0.69	24
BU	-0.69	25	LT	-0.79	25	RO	-0.59	25	SL	-0.71	25
RO	-0.69	26	NO	-0.85	26	SK	-0.61	26	HRV	-0.72	26
LT	-0.76	27	SE	-0.86	27	BU	-0.66	27	RO	-1.12	27
LV	-1.04	28	DE	-0.87	28	IT	-0.73	28	GR	-1.23	28
MT	-1.1	29	BE	-1.24	29	GR	-0.91	29	HU	-1.54	29
CY	-1.17	30	DK	-1.28	30	HU	-0.93	30	BU	-1.69	30

Note. Values are z-standardized dimension indices.