

**Beyond Time and Space: The Impact of Autonomy from Politics and Commercialization
Pressure on Mediatization in German and Austrian Newspapers—a Multilevel Approach**

Melanie Magin & Stefan Geiß

Norwegian University of Science and Technology (NTNU), Trondheim

Correspondence concerning this article should be addressed to Melanie Magin,
Department of Sociology and Political Science, Norwegian University of Science and Technology
(NTNU), Dragvoll, Bygg 9, 7491 Trondheim, Norway, Phone: +47-73413277, Email:
melanie.magin@ntnu.no

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Abstract

Theorizing on mediatization of politics stresses the importance of structural conditions on different levels of media systems for explaining the increasing importance of media logic in media coverage. Levels of autonomy of media from politics and the extent of commercialization pressure are considered particularly important. However, most studies investigate differences between countries and the passing of time as proxies and qualitatively infer which structural conditions might account for the level of mediatization. The current study goes beyond these proxies. It reviews and systematizes how structural autonomy from political institutions and extent of commercialization pressure influences the importance of media logic in media coverage and operationalizes these influences in a comparative analysis of election campaign coverage in Germany and Austria over 60 years. A multi-level analysis finds that between-country differences and within-country changes in macro- and meso-level autonomy from politics/commercialization pressure account for a large part of the time/space (campaign/country) variation of the importance of media logic. It complements earlier research (1) by demonstrating that between-country differences and within-country changes in media coverage reflect underlying media structures; (2) by specifying which structural influences (representing the media's autonomy from politics and commercialization pressure) are most important in shaping the importance of media logic in campaign coverage.

Keywords: campaign coverage, comparative research, mediatization of politics, media structures, multilevel modelling, quantitative content analysis, media autonomy, commercialization

Beyond Time and Space: The Impact of Autonomy from Politics and Commercialization Pressure on Mediatization in German and Austrian Newspapers—a Multilevel Approach

In recent decades, political news coverage seems to have been infused by an increasing personalization, negativity, depoliticization and visualization—trends that are often seen as indicators of a hypothesized increasing “mediatization of politics”. Comparative research shows that there is empirical substance behind this “gut feeling”, but also that growth of mediatization is far from uniform, synchronous, steady or irreversible in space and over time (Zeh & Hopmann, 2013; Strömbäck & Esser, 2014). Even though the theoretical literature on mediatization particularly focuses on the question how this long-term process is influenced by structural contexts, comparative studies testing hypotheses on these relationships are still scarce (McLeod & Lee, 2012). The existing studies often use *time* and/or *space* (e.g. analyzed in terms of between-country differences) as independent variables (Mancini & Hallin, 2012): From temporal trends and spatial differences, authors deduct which structural changes over time and cross-national differences account for changes in mediatization of news coverage. However, time and space are not necessarily the best or primary explanations of changes in news coverage. If we want to understand what exactly shapes mediatization of news coverage and make forecasts and extrapolations, we must treat the *structural constellations* themselves (e.g. levels of press-party parallelism, economic pressure on the media market) instead of time and space as independent variables. In doing so, comparative research can move beyond time and space, viewing time and space as a “sampling tool” rather than as the primary variables of interest in their own right. This is the starting point of our study. Using multilevel modelling (MLM), we investigate how structural indicators located on the macro- and meso-level of the media system impact the importance of media logic in German and Austrian elite newspapers’ campaign coverage (1949–2009). Despite repeated appeals (Esser & Strömbäck, 2012; McLeod & Lee, 2012), MLM is still scarcely used in comparative communication research. We focus on two sets of structural influences particularly relevant for mediatization of politics: indicators of (a) the media’s

autonomy from political institutions and (b) commercialization pressure on the media market.

Mediatization of Politics

The umbrella term “mediatization” bundles an enormous range of (partly complementary, partly competitive) understandings and approaches dealing with the (longitudinally increasing) influence of the media on society and on its sub-systems (e.g. Deacon & Stanyer, 2014; Jensen, 2013). We follow an institutional approach to “mediatization of politics” that describes the relationship between politics and media as social systems (Mazzoleni & Schulz, 1999; see Couldry & Hepp, 2013 for alternative conceptions). We focus on where politics and media overlap and are interdependent: political communication in general and political news more specifically. Ideal-typically, both systems operate according to their own, partly contradictory rules—the political logic and the media logic. According to the main axiom of system theory (or theories), the logics of systems ultimately operate to ensure their existence and continuity (Luhmann, 1995). The *political logic* links political actors’ behavior with the political system’s function: solving society’s problems. The driving force for individuals and organizations is their strife to get political support (e.g. win elections). In democracies, they will therefore respond to demands of the citizenry (Easton, 1965; Landerer, 2013). Supports and demands are intertwined as, for instance, winning elections is unlikely without policy visions and policy success, and policies cannot be implemented without political support. The media must fulfill two different demands, which is reflected in two ideal-typical aspects of the *media logic* (here conceived as a news media logic): (a) They must provide society-wide unrestricted access to information of general relevance. This orientation towards the public interest is reflected in the *professional aspects* of media logic (e.g. norms like balance) that justify their existence and privileges. They require and reflect autonomy from political actors, at least to a certain degree. (b) At the same time, media organizations’ existence is tied to media products’ success on audience and advertising markets, which is why they aim at expanding their sales and advertising revenues, for example by strategies to arouse the attention of the largest possible audience (e.g. personalization, negativity,

visualization). These “economically motivated rationales” (Esser, 2013, p. 167) are reflected in the *commercial aspects* of media logic that represents the media’s de-differentiation from the economic system—a development undermining their autonomy (Kriesi, 2013; Landerer, 2013).

We conceive “mediatization of politics” as a long-term process that does not necessarily progress linearly but rather may even recede over time (Strömbäck & Esser, 2014). If it progresses, the media logic gradually gains in importance in politics at the expense of the political logic. Media and politics being closely intertwined, neither of them can follow its own logic independently; both must adapt to the rules of the respective other system to a certain degree. Hence, mediatization—a shift in the balance of power from the political to the media system—does not render the political logic obsolete (Cushion, Thomas, Kilby, Morani, & Sambrook, 2016), but interferes with it, transforms and, to some extent, distorts it. Strömbäck (2008) differentiates four dimensions on which mediatization proceeds: (1) The more important the media are as political information sources, (2) the more autonomous they are from political institutions, (3) the more strongly their content is governed by media logic and (4) the more strongly political actors orient their actions towards the media logic, the stronger is mediatization. Our study focuses on the relationship between dimensions 2 (the media’s autonomy from politics) and 3 (media practices). With greater autonomy from and power over political institutions, however, new dependencies for media organizations emerge: To ensure their economic sustainability, they must succeed at the audience market and/or the correlated advertising market. Professional norms usually constrain to what kinds of (perceived) audience demands media respond. Increasing economic pressure may shift the weight in journalistic decision-making from professional towards commercial considerations, up to the point where professional norms are transgressed, suspended or ignored to reach a larger, more marketable audience.

Media Logic in Campaign Coverage: Conceptualization and Measurement

When speaking of “mediatization of campaign coverage”, we mean the extent to which campaign coverage (and political activities as filtered by the media) is driven by media logic. Established

article-level indicators of the media logic's professional aspect comprise interpretative reporting, balanced reporting, and reduction of quotations, while indicators of its commercial aspect are person-centeredness, negativity, visualization, strategic/game frames (but cf. Cushion et al., 2016) and non-political issues (e.g. Esser, 2013; Takens, van Atteveldt, van Hoof, & Kleinnijenhuis, 2013; Zeh & Hopmann, 2013). "Commercial" does, however, not necessarily mean "tabloid-style", since for example elite newspaper readers are possibly skeptical towards changes directed towards "less substance". In a recent study on elite newspapers by AUTHOR, seven established indicators of media logic were derived from the literature and applied to the same campaign reporting data as used in the current study's empirical part: (1) deauthentication (shorter quotations); (2) interpretive reporting (more evaluative statements originating from journalists); (3) balanced reporting (smaller difference between evaluations of both chancellor candidates); (4) negativity (more negative evaluations); (5) visualization (more pictures of the candidates); (6) person focus (degree of reference to the candidates); and (7) depoliticization (more articles about non-policy issues). These seven indicators were factorized to three empirical components of media logic by use of principal component analysis (PCA) that also underlie the current analysis. These were *negative partisanship* (bundles negativity, imbalanced reporting (= balanced reporting with negative loading), interpretative reporting), *person-centeredness* (bundles person focus, deauthentication, visualization), *detachment from policy* (bundles depoliticization, visualization). Levels of media logic in Germany were mostly constant 1953–1998, with a marked, lasting upward level shift in 1953, and in 2002. One upward outlier in 1961 did not have lasting consequences. Levels of media logic in Austria have increased almost linearly 1949–1981, with a marked, lasting level reduction in 1985 and up and down around the same level since. Negative partisanship developed very similarly as the media logic more generally. Personalization has remained constant in Germany, with erratic ups and downs throughout the period of study, but increased in Austria until the late 1970s and has remained constant (and at level with Germany) since. Both countries have witnessed a slow and erratic increase in the detachment from politics

(Figure A2; AUTHOR). How far these patterns were affected by structural factors, was out of that paper's scope. Since the components proved invariant between the newspapers in both countries over the whole 1949–2009 period (AUTHOR), we assume a single media logic relevant for the outlets we look at. It is likely, however, that the indicators underlying media logic vary between media types, reflecting differences in professional norms and commercialization pressure.

Structural Influences on Mediatization

The reasons of shifts of power between politics and the media discussed in the scholarly literature are structural in nature: Mediatization does not proceed because of the mere passing of time, but because of changing structural constellations. The importance of media logic in coverage has developed erratically instead of growing steadily (Seethaler & Melischek, 2014; Takens et al., 2013) and cross-nationally differently (Umbricht, 2014; AUTHOR; Zeh & Hopmann, 2013), but it is still unclear which structural factors might cause these patterns. Taken together, these results suggests that the societal macro-trends driving mediatization do not gradually increase over time, but take effect indirectly through mediating structural mechanisms. Our study focuses on structural macro- (countries) and meso- (newspapers) factors as actual drivers of mediatization, specifically on those related to the media's (1) *autonomy from politics* (and the often related dependency of newspapers on economic rationales) and (2) *commercialization pressure* (making economic rationales more exigent). Based on the theoretical assumptions of the literature on mediatization of politics, we assume that (H1) *higher autonomy of media from politics* and (H2) *stronger commercialization pressure on the media lead to more pronounced media logic in campaign coverage* (Figure 1). This does not preclude that other factors also impact the level of media logic (e.g., technological developments have extended the possibilities for visualization). But for reasons of (a) comprehensibility, (b) scientific grounding, (c) coherence, and (d) feasibility, we concentrate on (a) a limited number of (b) well-established and theoretically proposed structural factors (c) in the media system for which we (d) could obtain adequate data.

- Figure 1 about here -

(1) Autonomy from Politics

Greater autonomy from politics means that media organizations have more control and freedom about how to report about politics. However, no longer getting subsidies for ideological reasons—one can think of increasing autonomy as the removal of a protective layer—cause a new dependency on the economic success arises for the media organizations. This need to orient towards the (audience and advertising) markets also leads political actors to change their behavior such that reporting about their activities fits the markets' demands. The level of autonomy from politics and dependence on markets is multifaceted, reflected in press-party parallelism, editorial leaning, journalistic professionalization, and staging of political events.

Press-party parallelism (macro-level). The extent of press-party parallelism indicates the media's basic organizational autonomy from (respectively dependency on) politics (Hallin & Mancini, 2004). The stronger the organizational linkages between media and parties, the stronger is media coverage infused with political rather than media logic. In case of high parallelism, many media will orient towards ideologically homogeneous target groups rather than mass audiences. *H1a: The less pronounced a media system's press-party parallelism is, the more pronounced is media logic in campaign coverage.* However, this may not apply to the "negative partisanship" component of media logic since press-party parallelism stimulates partisan coverage.

Editorial leaning (meso-level). The "partisan or ideological leanings of specific media organizations" (Semetko, Blumler, Gurevitch, & Weaver, 1991, p. 178) reflect a lack of autonomy from political influences and (partly) the impact of press-party parallelism on the meso-level. Editorial leanings impair balanced reporting (Esser, 2013), particularly in case of elite newspapers that address an ideologically homogeneous audience (Wilke & Reinemann, 2000). In general, a weaker editorial leaning should push towards a stronger degree of media logic in coverage. *H1b: The less pronounced a newspapers' editorial leaning is, the more pronounced is media logic in its campaign coverage.*

Journalistic professionalization (macro-level). With lessening political control,

journalism typically develops towards a profession. It finds expression, for instance, in professional codes, ethics boards, or systematic professional education. Internally, professionalization creates an identity for the media system, institutionalizing its inherent norms and standards. Externally, it generates legitimacy by linking the media logic with desirable functions such as their relevance for a well-working democracy and protecting journalism from judicial or political intervention. The more professional journalism is, the more autonomous of politics and other social institutions it becomes, and the more does it orient towards its own rules—the media logic (Esser, 2013; Semetko et al., 1991). *H1c: The more professional journalism is, the more pronounced is media logic in campaign coverage.*

Staged campaign events (macro-level). The staging of major campaign events involving important political actors is a strong indicator of the media autonomously imposing their logic on the political system to some extent: political actors are dependent on the media for publicity. Televised debates are an interesting symptom thereof, where top politicians feel the need to present themselves at a staged event that largely follows the media's logic. Televised debates are usually organized by the media, follow their logic (Haßler, Maurer, & Oschatz, 2014), and draw media attention with increasing metacoverage (Esser & D'Angelo, 2006) and personalization (Reinemann & Wilke, 2007), strengthening media logic in news coverage. *H1d: In campaigns with at least one staged TV debate event, media logic is more pronounced in campaign coverage.*

(2) Economic Pressure

Even if media are autonomous from politics and economically depend on market success, the extent of competition and pressure on the audience/advertising markets vary, shifting the salience of economic rationales. While adherence to established success criteria—the professional norms of journalism—is a promising strategy if competition is low or moderate, the need maintain old or find new audiences increases if pressure grows fierce. Commercialization pressure varies with media competition and the media organization's market share.

Media competition (macro-level). With technological developments, the number of

media types that compete on the market for political news has grown, exerting increasing economic pressure on the newspapers. The more fiercely media outlets compete, the more they will orient towards perceived audience interests to prevail on the market (Nielsen, 2013; Semetko et al., 1991). This pressurizes them towards “more sensationalistic or dramatized news coverage of politics” (Benson, 2004, p. 284) and thereby towards media logic. *H2a: The fiercer the competition on the media market is, the more pronounced is media logic in campaign coverage.*

Market share (meso-level). The higher an outlet’s circulation, the higher its ad revenues vis-à-vis their competitors (Björkroth & Grönlund, 2014). Elite newspapers’ business model relies on reaching a small elite audience with high purchasing power rather than reaching the masses (AUTHOR). However, if decreasing market shares threaten their economic sustainability, they might react by more strongly orienting towards the assumed needs of potential new readers outside their core target group—and with it, towards media logic. *H2b: The lower a newspaper’s market share, the more pronounced is media logic in its campaign coverage.*

Article-related controls and moderators

When analyzing the extent of media logic on the article level, we should not disregard the article-level factors shaping the extent of media logic, although this study is primarily concerned with structural influences. Prominently, the front-page placement and length of articles may impact the relation between the structural factors and media logic in two ways: (1) The variables may influence the extent of media logic in the respective article and should therefore be included as *controls*. Front-page stories are more critical for media’s commercial success. To increase sales and draw attention, devices of media logic are more likely to be used on the front-page than elsewhere. Longer articles simply can contain more indicators of media logic, pushing towards stronger media logic; at the same time, they may carry more and longer statements by politicians that follow a political logic. We will control for the length of articles to eliminate these potential artefacts. (2) More consequentially, placement and length of articles may substantially *moderate* the way in which structural factors impact media logic. The effects of structural variables may be

more visible in front-page coverage (where content is more crucial for a newspaper's economic success) and/or in longer articles (where there is more space and the effects of structural variables can surface more clearly): (H3) *The effects of structural variables on media logic in campaign coverage are more pronounced (H3a) in front-page articles and (H3b) in longer articles.*

Germany and Austria in comparison

To test our hypotheses, we must study campaign coverage in varying structural settings while holding constant as many potential confounding variables as possible. A long-term comparison of Germany and Austria (most similar systems design) is well-suited to that end. Both countries show (1) pronounced between-country differences and within-country changes in levels of mediatization (Umbricht, 2014; AUTHOR), (2) pronounced between-country differences and within-country changes in the structural conditions we hypothesize to affect levels of mediatization (see below), (3) strong between-country similarities and within-country stability of many other variables (e.g. wealth, geography, historical and cultural backgrounds, value change). Importantly, both are consensus democracies with multi-party systems and a democratic-corporatist, newspaper-centric media system (Hallin & Mancini, 2004). Both countries have faced societal changes driving mediatization, but with different starting points and pace, allowing us to disentangle effects of time from those of structural changes. For instance, dealignment (Dalton & Wattenberg, 2002) started later and was more pronounced in Austria (AUTHOR). Relatedly, the increasing *autonomy of the media* (Udris & Lucht, 2014) started later and took longer than in Germany. In both countries, *commercialization pressure* on the elite newspapers increased tremendously, but in different ways: The Austrian newspaper market became increasingly dominated by tabloids and much more concentrated from the 1960s onwards. By contrast, inter-media competition through commercial television was stronger in Germany where it was introduced 20 years earlier than in Austria (AUTHOR). Both countries saw rapid diffusion of the Internet since the 1990s (World Bank, 2016), additionally intensifying inter-media competition.

Method

Sample

The current secondary analysis examines campaign coverage on all 17 Bundestag elections in Germany (Reinemann & Wilke, 2007; Wilke & Leidecker, 2010) and all 19 Nationalrat elections in Austria 1949–2009 (Seethaler & Melischek, 2014). The Austrian campaigns 1949–1962 (not included in the original sample) were coded by one of the authors. The data collection in both countries was coordinated to be comparable to the greatest possible extent. The newspaper sample was selected to capture the most influential national elite newspapers and to represent the political spectrum from left to right in a balanced fashion. Germany’s large national newspaper market is represented by four papers per election from 1949 onwards (*Die Welt* [right], *Frankfurter Rundschau* [left], *Süddeutsche Zeitung* [center/left]), *Frankfurter Allgemeine Zeitung* [center/right] (launched only in November 1949 and therefore replaced by *Der Tagesspiegel* in 1949). Austria’s smaller market is represented by two newspapers per election: *Die Presse* [right] and *Arbeiter Zeitung* [left] were analyzed 1949–1987; *Die Presse* [right] and *Der Standard* [left] were analyzed from 1988 onwards. *Der Standard* was established as late as 1988. *Arbeiter Zeitung*, a national party paper with high relevance for the elites, was chosen as replacement for the timespan in that no left-leaning quality paper existed (AUTHOR). The elite status of these newspapers is underlined by their relatively small circulations (Figure A3). The population of interest were all (1) news articles (2) on the title page and in the politics section (3) from the last four weeks of each election campaign (4) that in the headline or first paragraph mentioned the respective campaign and/or at least one of the chancellor candidates of the Christian democrats (DE: CDU/CSU; AT: ÖVP) or the social democrats (DE: SPD; AT: SPÖ). A 50% sample from this population (N=8,076; DE [every second article]: N=5,053; AT [random sample]: N=3,023) was drawn. Due to “the privileged position of the Chancellor in the ‘Chancellor-democracies’ of Austria and Germany” (Kriesi, 2012, p. 828), the data focuses on the chancellor candidates only.

Measurement

Macro-level predictors. *Press-party parallelism* data originates from Udriș and Lucht

(2014) who assessed the share of intermediary-bound outlets in the 30 widest-circulation political print media. Five indicators for *media competition* were factorized: (1) Press concentration, i.e. market share of the four largest newspaper conglomerates with independent national affairs news desks [“publizistische Einheiten”]; (2) newspaper circulation, i.e. circulation per 1,000 population (based on Schütz, 2012; Melischek & Seethaler, n.d.); (3) market share of tabloids in the 30 widest-circulation political print media (Udris & Lucht, 2014); (4) market share of commercial TV broadcasters (based on KEK, n.d.; ORF Medienforschung, n.d.); (5) Internet penetration, i.e. the share of Internet users among the population (World Bank, 2016). A PCA was conducted. The Kaiser criterion, parallel analysis, optimal coordinates criterion, and acceleration factor criterion unequivocally suggested a two-factor solution. After Oblimin rotation, the two factors were labelled “*market concentration*” (indicators: “press concentration” [+0.93], “tabloid press market share” [+0.97]) and “*inter-media competition*” (indicators: “newspaper circulation” (reversed) [+0.72], “commercial TV market share” [+0.79], “Internet penetration” [+0.79]). There were no strong cross-loadings, overall explained variance is .76, the factors are only weakly correlated ($r = -.10$). For *journalistic professionalization*, there are various indicators in the literature (Windahl & Rosengren, 1976). Lacking other reliable data covering the whole period investigated, we use the existence (=1)/non-existence (=0) of a press council (an institution of within-profession supervision and sign of increasing autonomy from external control). Even though this indicator is fairly crude and imprecise, it holds substantial information about professionalization. As the most important type of media-directed staged campaign events, we measured per campaign whether at least one *televised debate* (either a duel or a panel discussion) involving both chancellor candidates was held (=1) or not (=0).

Meso-level predictors. We calculated the *market share* of each newspaper per election campaign based on German Audit Bureau of Circulation (n.d.) and Melischek and Seethaler (n.d.) where the printed circulation of the newspapers was divided by the total circulation of all newspapers in the country combined. Longitudinally, changes in circulation will indicate the

economic performance of the newspaper on the audience and the advertising market. The *editorial leaning* of each newspaper is measured per election campaign based on the content analysis data. For all articles, evaluations of the two major candidates were scored on scales from -2 (very negative) to +2 (very positive). The scores were subtracted, resulting in overall scores from -4 (pro social-democrat/contra Christian democrat) to +4 (pro Christian democrat/contra social democrat). The absolute value of the mean score per outlet per election was computed. This score indicates the strength of editorial leaning in a given campaign, regardless of its direction. The development of the meso- and macro-level structural predictors is displayed in Figure A1.

Controls and moderators. For each article, it was coded if it was *placed* (=1) or *not placed* (=0) on the front-page. The *article length* was measured in standardized lines of 38 characters. The *campaign progress* (not considered in hypotheses) was measured in terms of the distance of time to election day from four weeks (=0) to the last day before election day (=1).

Media Logic. The dependent variable is measured by the importance of three components of media logic in campaign coverage empirically identified by AUTHOR that bundle seven established indicators of mediatization (Figure A2). On the assumption that the three components would form a second-order latent factor together, a confirmatory factor analysis following AUTHOR was designed. On the first level, *Negative Partisanship* (latent factor 1) is measured by the degree to which news items negatively evaluate chancellor candidates (negativity), contain a high number of evaluative statements by journalists (interpretive reporting), and take sides for one of the candidates (imbalanced reporting); *Personalization* (latent factor 2) is measured by candidate quotations (deauthentication), references to candidates, and use of illustrations of the candidates (visualization); *Detachment from policy* (latent factor 3) is measured by the share of articles focus on non-policy issues (depoliticization) and, again, visualization. The higher the values on these components are, the more is coverage driven by media logic. On the second level, the second-order latent factor *media logic* is measured by the three first-order latent factors (= the three components). This model fits the data well (CFA=.952; TLI = .940; RMSEA=.067;

SRMR=.048). Model fit remains acceptable when testing for invariance between countries, between outlets, and over time (AUTHOR); the media logic score is highly correlated with negative partisanship ($r = .90$), personalization ($r = .54$), and detachment ($r = .79$). We proceed by testing the hypotheses using the second-order latent factors only. Separate analyses for each sub-dimension led to similar conclusions, however.

Reliability. Wilke and Reinemann (2000) report inter-coder agreement scores (percent agreement) ranging from .69 (issues) to 1.00 (reference to candidates), but do not report scores for all variables used here. In Austria, Krippendorff's α was calculated by the authors. Scores were .70 (evaluation of candidates), .77 (number of evaluative statements), .84 (depoliticization), .85 (visualization), .98 (person focus), .98 (article length), and .99 (length of quotations).

Data Analysis

To synchronize the time series in both countries, we categorized the 36 elections into 17 electoral periods such that each electoral period holds at least one election per country (the Austrian elections 1970/1971 and 1994/1995 were assigned to the same electoral period, respectively). All resulting electoral periods span over four years (1949-1952, 1953-1956, and so forth), with the exception of one intermitting period 1990 (one year) to re-synchronize with election rhythms that had changed due to several snap elections in both countries. Mathematically, our analysis includes four levels of nesting: Level 4 consists of 17 electoral periods. Level 3 consists of 34 period-country combinations ($=2 \text{ countries} \times 17 \text{ periods}$); this is where the macro-level structural variables are located that vary by country over time. Level 2 consists of 102 period-outlet-combinations ($=(4 \text{ German} + 2 \text{ Austrian newspapers per period}) \times 17 \text{ periods}$); this is where the meso-level structural variables are located, which vary by outlet over time. Level 1 consists of 8,076 news articles (where the importance of media logic, article length, frontpage status, and campaign progress are located). For level 4, 3, and 2 units, we estimate random effects (random intercepts only). With this random effects setup, eight models were fitted. All models except for the null model (M_0) include one or more of the following components: Autonomy from politics indicators

(structural, M_B , M_2 - M_5), commercialization pressure indicators (structural, M_B , M_3 - M_5), time (linear), an autoregressive term (mean media logic score in previous election; in 1949: grand mean; M_A , M_1 - M_5). Article-level controls/moderators (M_1 - M_5) are included as fixed effects. M_4 includes interaction terms between structural predictors and front-page placement, M_5 adds interaction terms between structural predictors and article length. To facilitate estimation and interpretation of interaction terms, we z-standardized the dependent variable and the independent variables, except for variables ranging between 0 and 1 (*front-page publication*, *existence of TV debates*, *existence of press council*, *campaign progress*), which were kept, and *year*, which was centered at 1979 (half-time of our period of study).

Findings

Time and space

The extent of media logic varied with time and outlet (and also: country) beyond chance: the null model (M_0) indicates that the 102 context-specific means differed significantly, showing that the extent of media logic varied between contexts (level 2 random intercepts: $\sigma^2 = .019$; $\chi^2(1) = 39.95$; $p < .001$). The amount of variation *between* contexts is very low compared to the variation *within* election campaigns, however. The intra class correlation (ICC) quantifies this share of variation explained by random effects (i.e. the context variables): $ICC = .062$ (Table 1). Thus, the long-term temporal trends in media logic in the six outlets per election campaign in two countries—even when considering non-linear developments—account for only 6.2% of the variation of media logic on the article level. Meso/macro structural influences do not vary within contexts, that is, they do not change considerably within an election campaign (and: our measurements presume they are constant within elections) and therefore, by definition, cannot explain more than these 6.2% of the total variation (Table 1). These remaining 93.8% of variation to some extent will reflect interesting phenomena such as the shifts in campaign agendas, conflicts, crises, and scandals. A large part of it, however, will be noise, reflecting for example situational specificities of particular journalists, sources, messages, events, and issues.

- Table 1 about here -

Media Structures

Do structures have an effect? Adding structural factors that map autonomy from politics and commercialization pressure significantly improves the model fit, both without (Model 0 to Model B: $\Delta\text{Deviance}=\chi^2(7)=85.4$, $p<.001$) and with control variables (Model 1 to Model 3: $\Delta\text{Deviance} \chi^2(7)=81.5$, $p<.001$) (Table 1). Marginal R^2 (R^2_m) quantifies the share of variance explained by fixed effects (i.e. the predictors). The change in explained variance (ΔR^2_m) when adding the structural variables is .035 (3.5%) without and .027 (2.7%) with controls. The former is the maximum, the latter the minimum share of variance these structural factors account for. Given that only 6.2% of variance is between-context variance that can potentially be explained by structural variables, this means that between $.027/.062 = 44\%$ and $.035/.062 = 56\%$ of between-context variance is explained by the structural predictors. Autonomy from politics (Model 1 to 2: $\Delta\text{Deviance} = \chi^2(4) = 55.4$, $p<.001$) and commercialization pressure (Model 2 to 3: $\Delta\text{Deviance} = \chi^2(3) = 26.0$, $p<.001$) contribute independently to explaining levels of media logic (Table 1).

Structures versus Time/Space. Figure 2 compares how closely the predicted values of three models (M_0 , M_A , M_B) approximate the observed values: The better the prediction, the closer to zero are the random intercepts [y-axis] (which in this case can be interpreted like regression residuals at level 3 [countries-in-periods]). It clearly shows that the model that relies on media structures as predictors (M_B ; dark grey, dashed) is superior to the time-and-space model (M_A ; light grey, solid), and both are superior to the null model (M_0 ; black, dot-dash). The structures can explain variations in media logic better than linear country-specific effects over time. Analogous to computing the range of explanatory power of structures for between-context variation (Level 2 [outlets-in-countries-in-periods]) in media logic (estimated share of explained variance: 44–56%), country-specific linear trends (plus autocorrelation) explain between 7 and 30% of between-context variation; outlet-specific linear trends (plus autocorrelation) explain between 22 and 43% of between-context variation. Venturing beyond time and space seems to pay off.

- Figure 2 about here -

Which structures have what effect (*H1*, *H2*)? Model 3, containing both the control variables from Model 1 and the meso-/macro-level predictors, is used to assess *H1* (autonomy from politics) and *H2* (commercialization pressure) (Table 2). As expected, press-party parallelism significantly inhibits media logic in campaign coverage (*H1a* confirmed). A more extreme editorial leaning of the newspaper leads to less rather than more media logic (*H1b* rejected, reverse direction). Existence of a press council is unrelated to levels of media logic (*H1c* rejected, no effect). Anyway, other aspects of professionalization (not included in this study) may relate to media logic in campaign coverage; it would be premature to dismiss the idea that professionalization impacts media logic (*H1c*) given the rather weak indicator used. Whether televised debates were held or not did not affect the level of media logic (*H1d* rejected, no effect).

Media competition (market concentration and inter-media competition) is associated with significantly higher levels of media logic (*H2a* confirmed). The market share of the newspaper in the election year, hypothesized to inhibit media logic, proves to be unrelated to levels of media logic (*H2b* rejected, no effect). Looking at how macro- (*H1a*, *H1c*, *H1d*, *H2a*) and meso-level structures (*H1b*, *H2b*), we found that factors on both levels affect media logic in election coverage, but the effects of the meso-level structures were not in the predicted direction. *H1* and *H2* received support, but not all of their sub-hypotheses. Only media competition (*H2a*) and press-party parallelism (*H1a*) affected levels of media logic in news coverage as expected.

- Table 2 about here -

Do media structures' effects play out differently in front-page articles (*H3a*)? Front-page articles have higher media logic scores than articles published elsewhere (Table 2). *H3a* predicted that front-page placement would also moderate the impact of structural variables, which turns out to be true: adding the seven front-page×structures interaction terms to Model 3—resulting in Model 4—improves the model significantly: $\Delta\text{Deviance}=\chi^2(7)=25.3$; $p<.001$ (Table 1). However, inspecting the interaction terms one by one shows that there is not much behind this

moderation (Table A3): Only one interaction term reaches statistical significance (editorial leaning $B(SE)=-0.091$ (0.030); $p=.003$), and its effect runs counter to *H3a*. Front-page publication acts as a moderator, but there are no detectable effects in the predicted direction. *H3a* is rejected.

Do media structures' effects play out differently in short vs. long articles (*H3b*)?

Longer articles have higher media logic scores (Table 2). *H3b* predicted interactions between article length and structural variables in influencing media logic. Seven interaction terms were added to Model 4, resulting in Model 5, leading to another significant improvement of model fit: $\Delta\text{Deviance}=\chi^2(7)=191.7$; $p<.001$ (Table 1), in line with *H3b*. Four out of seven interaction terms are significant. Overall, in longer stories, effects of structural predictors on media logic shift into the positive direction: null effects grow into positive effects, positive effects grow more positive. More extreme editorial leaning leads to slight increases in media logic in short articles, but to strong increases in long articles ($B(SE)=0.060$ (0.013); $p<.001$; Figure 3a). The null effect of existence of a press council turns into a (slight) positive effect on media logic when looking at longer articles only ($B(SE)=0.110$ (0.028); $p<.001$; Figure 3b); the same is true for market concentration $B(SE)=0.127$ (0.194); $p<.001$; Figure 3c) and inter-media competition ($B(SE)=0.037$ (0.011); $p=.001$; Figure 3d), where there is a strong positive effect in longer articles but none in shorter articles (see Table A3 for details on Model 5). The added explained variance (R^2_m increases by .015) is considerable (Table 1). *H3b* is supported.

– Figure 3 about here –

Discussion

Applying MLM, we investigated how structural factors (located on macro- and meso-levels) indicating the levels of (1) media's autonomy from politics and (2) commercialization pressure in the media system influence the mediatization of campaign coverage of German and Austrian elite newspapers. Most previous comparative studies used countries and the passing of time as proxies for structural differences between these countries and structural changes over time. Without explicitly testing influences of the variables of interest, inferences were ambiguous regarding what

structures exactly had what effect. Our study, for instance, does not show a consistent and continuous pattern of increase in extent of media logic over time, neither across countries nor in one single country (Figures 2, A2). However, even a state of stability or “dynamic equilibrium” lends itself to being explained by the nonlinear development of underlying structural factors. The current study goes beyond analyzing effects of time and space and focuses the effects of the structural constellations (per their variation between countries and over time) directly. The results show that structural factors indicating (1) autonomy from politics and (2) commercialization pressure on the macro- and meso-level shape the extent of media logic in campaign coverage. Contextual factors shape content systematically across elections. The importance of situational influences that develop erratically over time may help explain why previous long-term studies often reveal volatile developments rather than a longitudinal linear increase of mediatization (AUTHOR; Takens et al., 2013; Zeh & Hopmann, 2013). This calls for a future inclusion of situational factors as reliable, autonomous sources of influence both in empirical analyses (e.g. major campaign events, changing issue agendas, conflicts, scandals; articles’ length, type, salience, author) and in the theoretical framework.

Concerning the indicators for *autonomy from politics*, press–party parallelism (macro-level) inhibited media logic in campaign coverage as expected (*H1a*). *Greater autonomy of media organization from parties boosted media logic as visible in campaign coverage. A less pronounced editorial leaning on the meso-level did not mediate that effect; quite to the contrary, the more pronounced editorial leaning is, the more does media logic surface, in contrast to H1b*. The special nature of elite newspapers may account for this surprising finding: With their focus on facts, broad and diverse information and in-depth analyses of politics, their media logic may be more compatible with the political logic than other media types’ logic. A strong editorial leaning here does not indicate a lack of autonomy from politics, but orientation towards an ideologically homogeneous, politicized audience. This orientation towards a highly educated but ideologically segmented audience finds expression in the professional norms of “broadsheet” newspapers,

emphasizing external pluralism, strong policy orientation and rejection of “tabloid” journalism. This points to nuances in media logic of different media types, fitting the “hybrid” component of media logic in elite newspapers, “negative partisanship” (AUTHOR). To learn more about media types’ specificities, future studies should include e.g. TV news and tabloid newspapers, for which we would expect a negative relationship between editorial leaning and importance of media logic, and probably a different factor structure of media logic. Contrary to *H1c* and *H1d*, the extent of media logic did not respond to the staging of televised debates and (non-)existence of a press council (both macro-level). However, this may in part reflect weaknesses of the indicators we used, and the hypotheses should not be abandoned prematurely.

Concerning the indicators of *commercialization pressure*, we find that both market concentration and inter-media competition (macro level) boost media logic in campaign coverage. The more competition the newspapers face, the more strongly do they adopt the characteristics of media logic (*H2a* confirmed), independent of whether the pressure is exerted by other newspapers or by alternative information channels. We did not find any significant influences of the individual outlet’s market share, contrary to *H2b*. Furthermore, the analyses revealed that article length both increases and moderates the effect of several structural factors. The expected effects of structural factors on media logic surfaced more clearly the longer an article was (supporting *H3b*): In long articles, media logic was more strongly influenced by editorial leaning, professionalization, market concentration, and inter-media competition, which informs the design of future studies on mediatization of (elite) newspapers: The clearest signs of media logic will probably be found in longer articles with more space for media logic to unfold. In contrast, the interactions between structural factors and front-page placement were ambiguous (against *H3a*).

Admittedly, our study has limitations: The change in the Austrian sample from *AZ* (party paper, 1949-1987) to *Der Standard* (quality paper, 1988-2009) may have distorted the results. However, the *AZ* as a leading elite paper was the best choice to keep the sample politically balanced and equivalent. Some limitations stem from the original data this secondary analysis

builds upon: The seven indicators were not designed to investigate media logic and do not depict it in its entirety. The focus on campaign coverage of elite newspapers limits the generalizability of the results to routine coverage and other media types. Media logic may be less pronounced in elite newspapers due to their typically more politically interested audience. In that sense, our study is a strict test of structural influences on mediatization of campaign coverage, but we think it is plausible that media's autonomy from politics and commercialization pressure affect all media similarly. We could only analyze coverage on two main parties, but other parties have gained in significance since the 1980s (Kriesi et al., 2006), creating "blind spots" in our analysis. Even though coverage of the major parties reflects increased party competition, future studies should consider more parties. Other shortcomings stem from limited availability of data on structural factors: Some of the structural data do not fully capture the underlying constructs (e.g. journalistic professionalization measured by existence of a press council). However, we decided to work with such proxies, leading up to an innovative analysis that has provided unique, but certainly not yet definitive insights into structural influences on campaign coverage beyond time and space.

After all, our study makes clear that even though structural factors vary related to time and space, we should reconsider the use of time and space as independent variables if they are used as mere proxies for underlying structural changes. Rather, we should consider them as sources of structural variation so that comparative research can tap its full potential. At least in our study, using structural factors on the macro-/meso-level proved to be superior—more powerful and more flexible—than using time, country, or outlet to make more qualitative inferences regarding the factors that may account for differences between countries or changes over time. We are sure that pursuing that path will reveal and discover important factors shaping media coverage that we have overlooked yet. Therefore, future research should include more countries and structural factors (e.g. political factors like party competition, political polarization, campaign duration, spending) (Esser & Strömbäck, 2012; AUTHOR) and study different dependent variables to better understand how structures affect media coverage beyond time and space.

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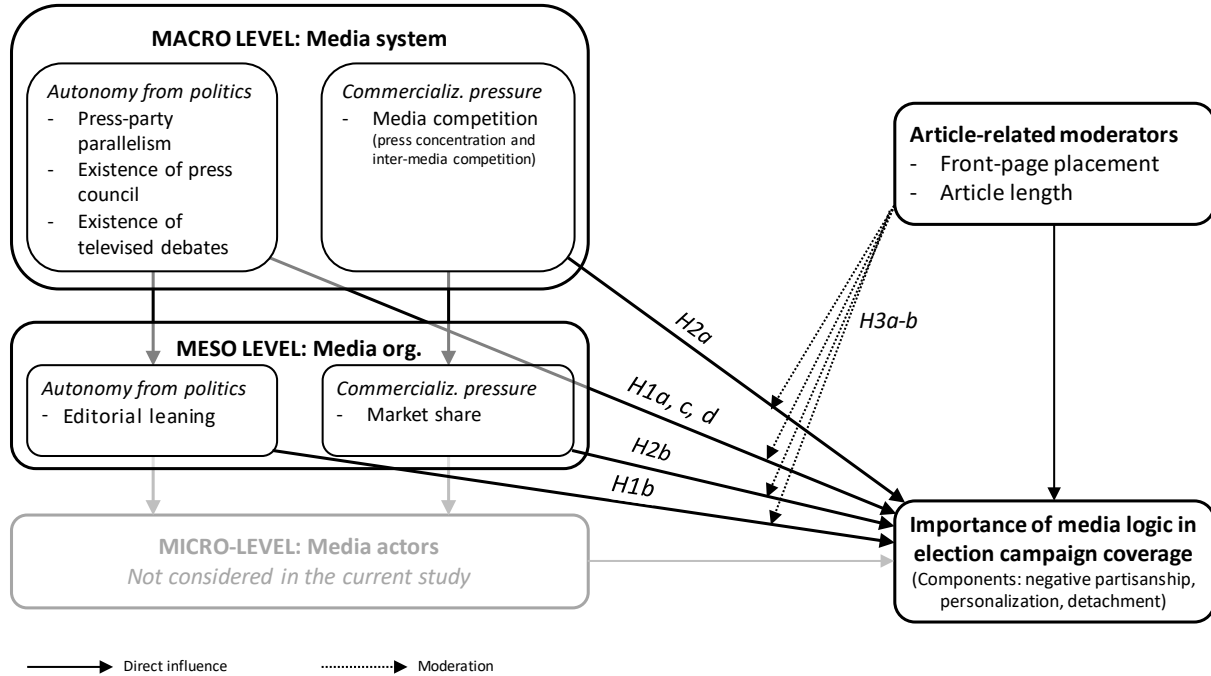
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Figures and Tables

Figure 1: A multilevel approach to mediatization of campaign coverage



Note. Black arrows (boxes) represent influences (constructs) analyzed in the current study. Grey arrows represent influences not analyzed in the current study.

This model was inspired by the multilevel model of the process of election news production within political communication systems as proposed by Esser and Strömbäck (2012, p. 317).

Table 1: Model Fit and Improvement When Adding Meso- and Macro-Level Predictors

Model <i>Comparison</i>	Predictors added	df	Dev.	Δ Dev.	AIC	BIC	R ² _m	R ² _c
Model 0	Intercept	5	22652	---	22662	22697	.000	.060 (=ICC)
Model A <i>Model 0 → A</i>	Time, Space	9	22634	18.6 (4) ***	22652	22715	.019	.062
Model B <i>Model 0 → B</i>	Structures	12	22567	85.4 (7) ***	22591	22675	.035	.050
Model 1 <i>Model 0 → 1</i>	Controls (Time, Article-level)	9	22218	433.8 (4) ***	22236	22299	.062	.110
Model 2 <i>Model 1 → 2</i>	Structures I: Autonomy from Politics	13	22163	55.4 (4) ***	22189	22280	.084	.108
Model 3 <i>Model 2 → 3</i> <i>Model 1 → 3</i>	Structures II: Commercialization pressure	16	22137	26.0 (3) *** 81.5 (7) ***	22169	22281	.089	.103
Model 4 <i>Model 3 → 4</i>	Frontpage × Structures	23	22112	25.3 (7) ***	22158	22319	.092	.105
Model 5 <i>Model 4 → 5</i>	Length × Structures	30	21960	152.1 (7) ***	22020	22229	.107	.122

Note. Mixed effects models, ML (refitted REML) estimation. Level 1: 8,076 articles. Level 2

Election by country by outlet random effects (n = 102, random intercepts). Level 3 Election by

country random effects (n = 34, random intercepts); Level 4 Election random effects (n = 17,

random intercepts); R²_c: Conditional R²; R²_m: Marginal R²; ICC: Intra class correlation; df:

degrees of freedom; Dev: Deviance = -2*Log-Likelihood; Δ Dev: Change in deviance; AIC:

Akaike's Information Criterion; BIC: Schwarz' Bayesian Information Criterion. ICC and R²_c of

the null model are the same: ICC is the share of variance attributed to the random effects; R²_c is

the share of variance attributed to random and fixed effects combined; as the null model includes

no fixed effects, ICC and R²_c are the same in the null model.

† p < .10; * p < .05; ** p < .01; *** p < .001

Table 2: Predictors of Extent of Media Logic

Predictors (fixed part)	Media Logic Score							
	Model 0 (M ₀)		Model A (M _A)		Model B (M _B)		Model 3 (M ₃)	
	Empty		Time and Space		Structures		Structures & Controls	
			<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
(Intercept)	-0.031	(0.049)	0.023	(0.045)	-0.060	(0.054)	-0.098 †	(0.056)
<i>Time and Space</i>		(<i>df</i> ~34)						
Year	---		0.005 †	(0.003)	---		---	
Country	---		-0.071	(0.064)	---		---	
Year × Country	---		0.036	(0.039)	---		---	
Autoregression	---		0.003	(0.004)	---		-0.037	(0.025)
<i>Article</i>		(<i>df</i> ~8076)						
Front-page placement	---		---		---		0.129 ***	(0.027)
Article length	---		---		---		0.225 ***	(0.011)
Campaign Progress	---		---		---		0.031	(0.033)
<i>Media's relation to politics</i>								
<i>Macro level</i>		(<i>df</i> ~ 34)						
Press-party Parallelism	---		---		-0.097 **	(0.029)	-0.077 *	(0.030)
Existence of Televised Debates	---		---		0.048	(0.058)	0.005	(0.050)
Existence of Press Council	---		---		0.040	(0.049)	0.070	(0.048)
<i>Meso level</i>		(<i>df</i> ~ 102)						
Editorial Leaning	---		---		0.146 ***	(0.017)	0.151 ***	(0.017)
<i>Media's relation to markets</i>								
<i>Macro level</i>		(<i>df</i> ~ 34)						
Market Concentration	---		---		0.082 **	(0.027)	0.144 ***	(0.029)
Inter-Media Competition	---		---		0.073 *	(0.027)	0.098 **	(0.024)
<i>Meso level</i>		(<i>df</i> ~ 102)						
Market Share	---		---		-0.033	(0.025)	-0.047 †	(0.025)
Variance components (random part)	Var(M ₀)	$\chi^2(1)$	Var(M _A)	$\chi^2(1)$	Var(M _B)	$\chi^2(1)$	Var(M ₃)	$\chi^2(1)$
Level 4: Election Period	0.019	2.07	0.004	0.14	0.004	0.86	0.002	0.26
Level 3: Elec. P. by Country	0.024	9.18 **	0.021	6.62 *	0.002	0.19	0.001	0.06
Level 2: Elec. P. by Ctry by Outlet	0.019	39.95 ***	0.019	40.77 ***	0.009	13.89 ***	0.011	22.76 ***
(Residual)	0.951	---	0.950	---	0.950	---	0.901	---
Total	1.013	---	0.994	---	0.965	---	0.915	---
Model fit/Explained Variance								
Deviance	22673		22608		22535 ***		21991 ***	
Δ Deviance	---		19.9 (4) ***		92.5 (7) ***		92.9 (7) ***	
Compared to...	---		M ₀		M ₀		M ₁	
Marginal R ²	.000		.023		.039		.106	
Conditional R ²	.062		.064		.053		.119	

Note. REML estimation. N = 8,076 articles (level 1). Level 2: 102 election-period–outlet-

combinations; level 3: 34 Election-period–country combinations; level 4: 17 Election periods. R

packages: “lme4”, “lmerTest”, “piecewiseSEM”. Models 1, 2, 4, and 5 omitted.

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

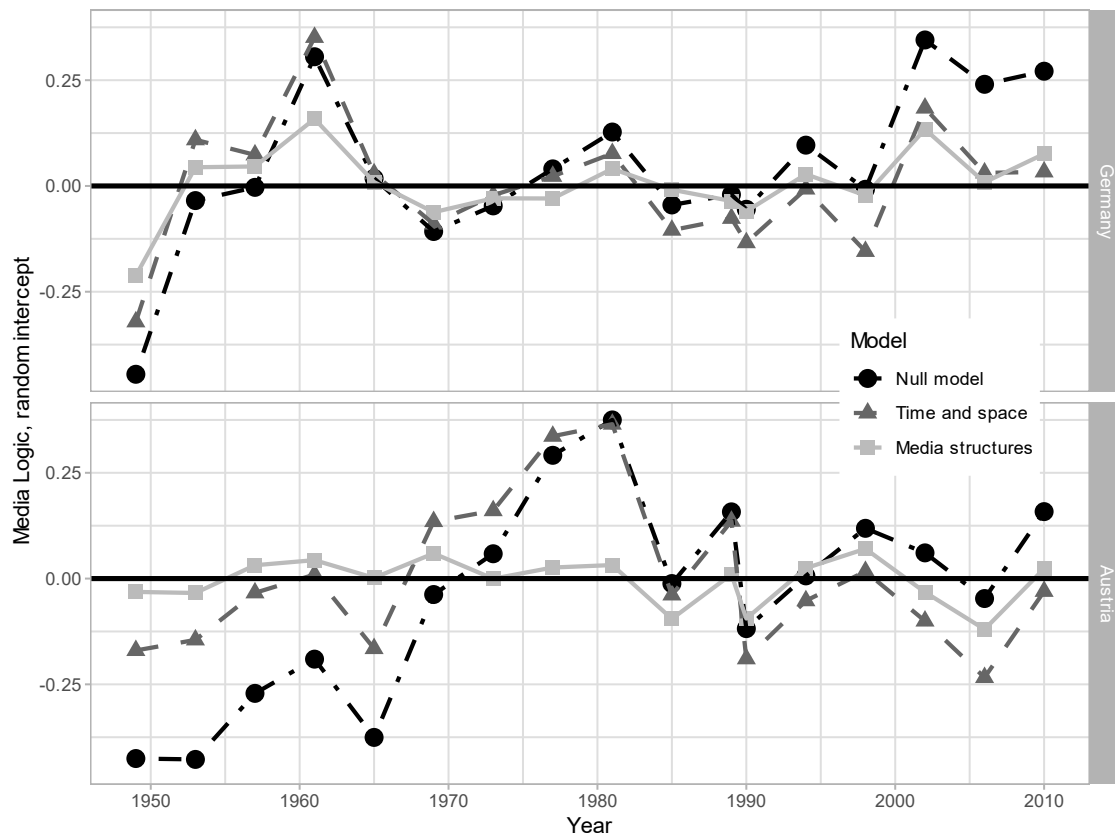


Figure 2: Comparison of Model Performance.

The Null model displays the original deviations of media logic from the grand mean per election period in the two countries. Its shape therefore reflects the raw country-specific time series.

Model A (Time and Space: Year [linear], Country, Year [linear] \times Country, Autoregression);

Model B (Media Structures: Editorial Leaning; Market Share; Press-party Parallelism; Televised Debated; Press Council; Market Concentration; Inter-Media Competition); Model 0 (Null Model)

serves as baseline, showing the raw time series of extent of media logic without predictors. The

more random intercepts (rndm icpt) differ from 0, the worse do the fixed effects predict the level of media logic. Model 0 and Model A have significant random variation, whereas there is no significant random variation in Model B (see Table 2, Variance components, L3 and L4).

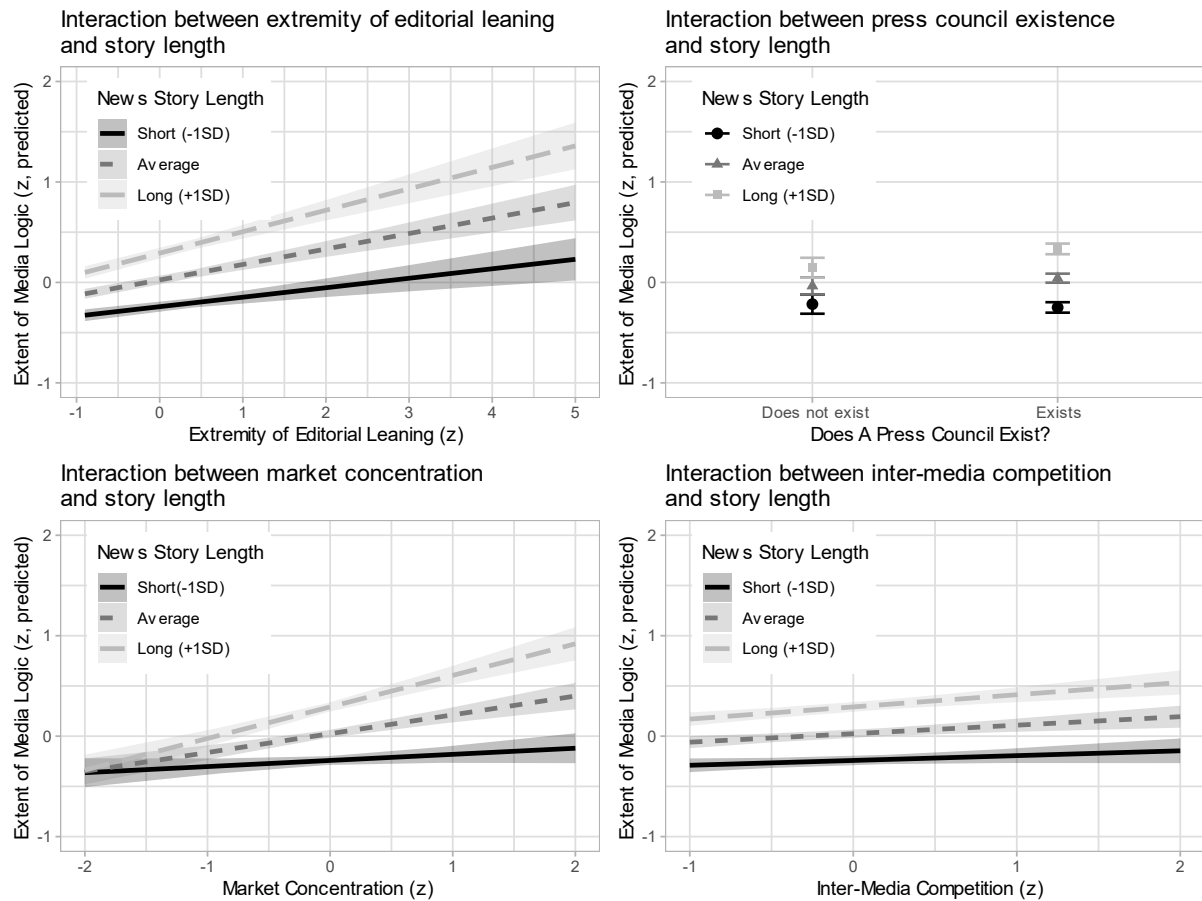


Figure 3: Illustration of Interaction Effects.

Example: c) If articles are short (-1SD, black, solid line), there is only little increase in media logic if market concentration goes up. If articles have average length (M, dark grey, short-dashed line), there is a moderate increase in media logic if market concentration goes up. If articles are long (+1SD, light grey, long-dashed line), there is a strong increase in media logic if market concentration goes up.

Online Appendix

Table A1: Zero-order and partial correlation matrix and collinearity diagnostics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Partisan	—	.00	.00	.09	.00	.11	.00	.13	-.01	-.02	.09	.05	.08	.00
2 Person	-.03	—	.00	.03	.16	.14	-.01	.04	-.09	-.10	.03	.05	.01	-.04
3 Dtchmnt	-.03	.00	—	.12	-.13	.17	.07	-.03	.00	-.03	.07	.00	.03	.11
4 Time	.01	.02	.01	—	-.07	.08	-.03	-.14	-.09	-.34	.60	.12	.50	.35
5 Frnt	.01	.16	-.11	.01	—	-.04	.00	.05	-.08	-.07	-.06	.01	-.12	-.04
6 Lngth	.12	.15	.16	.10	-.06	—	.04	-.04	-.12	-.17	.01	.07	-.10	-.01
7 Cmpgn	-.00	-.01	.07	.01	.00	.03	—	.03	-.01	.01	-.02	-.09	-.01	.01
8 Edt Plcy	.13	.04	.01	-.08	.06	-.02	.06	—	.09	.20	.10	.28	.13	-.31
9 MrktShr	-.01	-.01	-.01	.26	-.01	.01	-.03	-.06	—	.80	.02	-.26	.33	.15
10 Prll	-.02	-.05	.01	-.60	-.01	-.00	.01	.15	.74	—	-.08	-.26	.32	.03
11 Dbt	.00	-.01	.02	.29	.01	.01	-.02	.13	-.03	-.03	—	.09	.62	-.03
12 Cncl	.01	.01	.04	.43	-.04	-.02	-.10	.24	-.10	.12	-.08	—	-.02	-.46
13 Cnct	.05	.06	.01	.66	-.07	-.14	.00	.02	-.11	.53	.29	-.31	—	-.10
14 Cmpt	.04	.02	.09	.69	-.03	-.09	-.03	-.08	-.05	.34	-.13	-.56	-.54	—
VIF	---	---	---	5.60	1.03	1.05	1.02	1.28	3.30	5.46	2.11	2.07	3.94	3.87
R ²	---	---	---	.82	.03	.05	.02	.22	.67	.82	.53	.52	.75	.74

Note. Partisan=Negative Partisanship; Person=Person-centeredness; Dtchmnt=Detachment from Policy; Frnt=Front-page Placement; Lngth=Article Length; Cmpgn=Campaign Progress; Edt Plcy=Editorial Policy; MrktShr=Market Share; Prll=Press-party Parallelism; Dbt=Televised Debates; Cncl=Existence of Press Council; Cnct=Market Concentration; Comp=Inter-Media Competition; All correlations above .037 [.022] / below -.037 [-.022] are significantly different from zero with $p < .001$ [$p < .05$]. Correlations $> .50$ bold and italicized. Correlations $> .30$ bold.

Table A2: Assignment of elections to electoral periods

<u>Austria</u>			<u>Germany</u>			
Year	Period	Newspaper	Year	Period	Newspaper	Period No.
1949	1946-49	AZ, DP	1949	1946-49	DT, WELT, FR, SZ,	I
1953	1950-53	—	1953	1950-53	WELT, FAZ, FR, SZ	II
1956	1954-57	—	1957	1954-57	—	III
1959	1958-61	—	1961	1958-61	—	IV
1962	1962-65	—	1965	1962-65	—	V
1966	1966-69	—	1969	1966-69	—	VI
1970	1970-73	—				VII
1971	1970-73	—	1972	1970-73	—	VII
1975	1974-77	—	1976	1974-77	—	VIII
1979	1978-81	—	1980	1978-81	—	IX
1983	1982-85	—	1983	1982-85	—	X
1986	1986-89	—	1987	1986-89	—	XI
1990	1990	DP, DS	1990	1990	—	XII
1994	1991-94	—	1994	1991-94	—	XIII
1995	1995-98	—	1998	1995-98	—	XIV
1999	1999-02	—				XV
2002	1999-02	—	2002	1999-02	—	XV
2006	2003-06	—	2005	2003-06	—	XVI
2008	2007-10	—	2009	2007-10	—	XVII

Note. AZ=Arbeiter Zeitung; DP=Die Presse; DS=Der Standard; DT= Der Tagesspiegel;

FAZ=Frankfurter Allgemeine Zeitung; FR=Frankfurter Rundschau; SZ=Süddeutsche Zeitung;

WELT= Die Welt;

Table A3: Change in Structural Predictors' Effects on Media Logic Depending on Front-page publication and Article Length

Predictors (fixed part)	Media logic score (Model 5)					
	Main effects		Interaction with...			
	<i>B</i>	<i>SE</i>	× Front-page placement		× Article length	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
(Intercept)	-0.054	(0.059)				
<i>Time</i> (df~34)						
Autoregression	-0.042	(0.025)				
<i>Article/Campaign</i> (df~8076)						
Front-page placement	0.084	(0.081)				
Article length	0.184 ***	(0.032)				
Campaign progress	0.020	(0.033)				
<i>Media's relation to politics</i>						
<i>Macro level</i> (df~ 34)						
Press-party Parallelism	-0.104 **	(0.033)	0.052	(0.054)	-0.006	(0.023)
Existence of Telev. Debates	-0.023	(0.057)	0.038	(0.072)	-0.004	(0.029)
Existence of Press Council	0.062	(0.053)	0.075	(0.077)	0.110 ***	(0.028)
<i>Meso level</i> (df~ 102)						
Editorial leaning	0.172 ***	(0.019)	-0.091 **	(0.030)	0.060 ***	(0.013)
<i>Media's relation to markets</i>						
<i>Macro level</i> (df~ 34)						
Market Concentration	0.177 ***	(0.032)	0.050	(0.044)	0.127 ***	(0.019)
Inter-Media Competition	0.082 **	(0.026)	0.014	(0.032)	0.037 **	(0.011)
<i>Meso level</i> (df~ 102)						
Market Share	-0.043	(0.027)	0.078	(0.050)	0.029	(0.022)
Variance components (rndm part)	Var(M ₀)	χ ² (1)				
Level 4: Election Period	.000	0.01				
Level 3: Elec. P. by Country	.003	0.52				
Level 2: Elec. P. by Ctry by	.011	24.24 ***				
Outlet						
(Residual)	.882	---				
Total	.896	---				
Model improvement						
Adding interactions in two steps	---		20.7 (7) ** a)		191.7 (7) *** b)	
Adding all interactions at once	---		212.4 (14) *** c)			

Note. REML estimation. N = 8,076 articles (level 1). Level 2: 102 election-period-outlet-combinations; level 3: 34 Election-period-country combinations; level 4: 17 Election periods. R packages: "lme4", "lmerTest", "piecewiseSEM". a) Comparing to model 3 to model 4 (Table 1); b) Comparing to model 4 to model 5 (Table 1); c) Comparing model 3 to model 5 (Table 1).

† p < .10; * p < .05; ** p < .01; *** p < .001

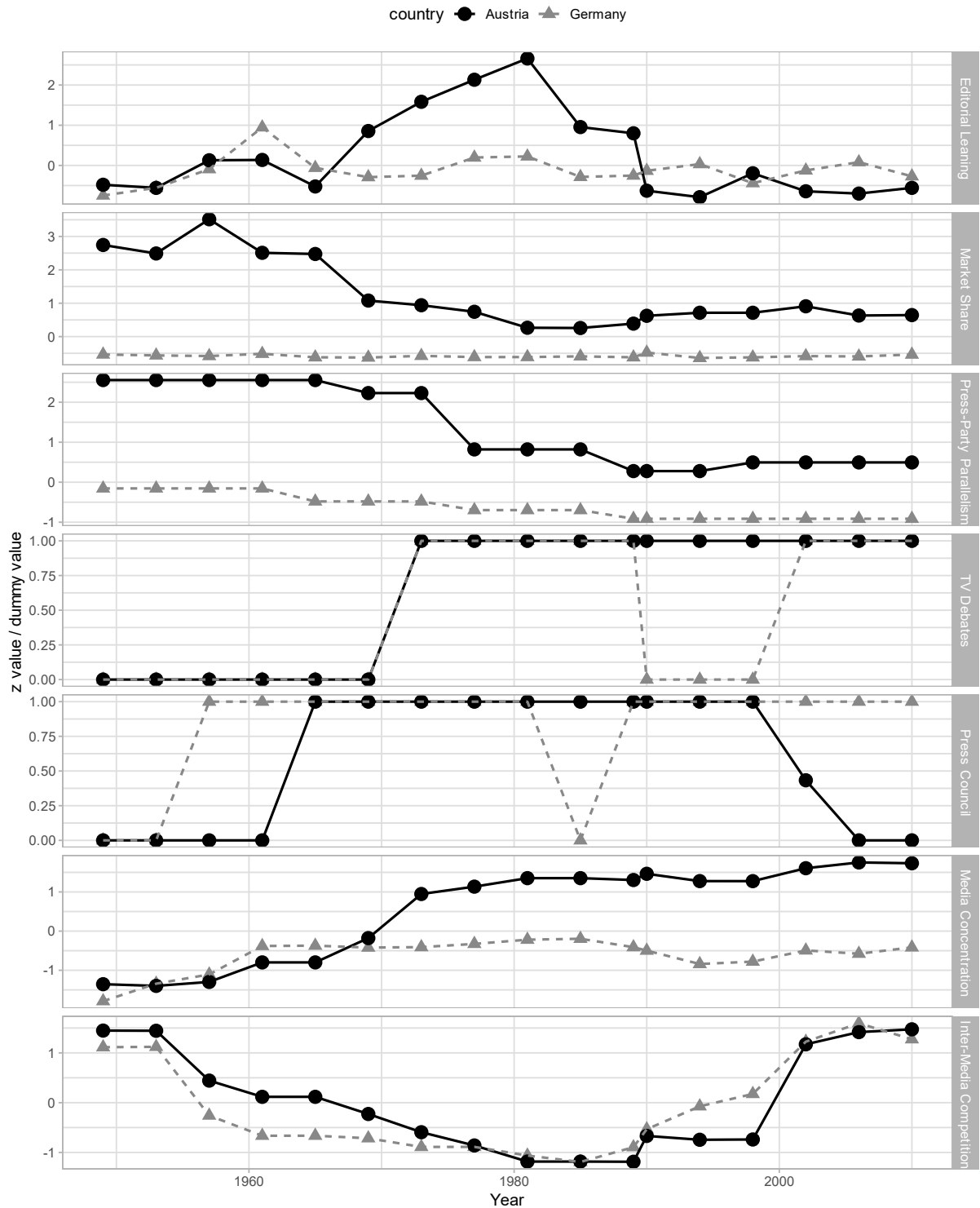


Figure A1: Development of Structural Predictors 1949-2010. Editorial Leaning, Inter-Media Competition, Market Concentration, Market Share, Press-Party Parallelism were all z-standardized. Press Council and TV Debates are dummy variables. DE=Germany; AT=Austria

Political parallelism has been very low in Germany throughout the period of study, and the very high initial parallelism in Austria has reduced gradually, but remains well above the level in Germany. *Editorial leanings* have been very similar in Germany and Austria with the exception of very strong polarized newspapers in Austria in the 1970s. *Press councils* were established in 1957 (Germany) and 1961 (Austria), but both discontinued their activities temporarily (Germany:

1982-1985, Austria: 2002-2010). *TV debates* were introduced in 1970 (Austria) respectively 1972 (Germany), but were temporarily discontinued in Germany 1989-2002. *Inter-media competition* rose in both countries with the popularization of the Internet after the year 2000. The increase had already begun in Germany after the introduction of commercial TV stations in the 1980s (with only moderate repercussions in Austria where commercial TV was introduced at the beginning of the 21st century). *Concentration on the newspaper market* has been increasing in both countries after 1949; after 1961, concentration stabilized in Germany whereas it continued to increase in Austria over the whole period of study, with accelerated growth between 1962 and 1971 when the market leader, the tabloid *Kronen-Zeitung*, gained immense market shares. The *market shares* of the German elite newspapers remained low and constant throughout the period of study, whereas the Austrian newspapers started out with very high market shares and lost market shares until 1981 after which they stabilized well-above the level observed in Germany.

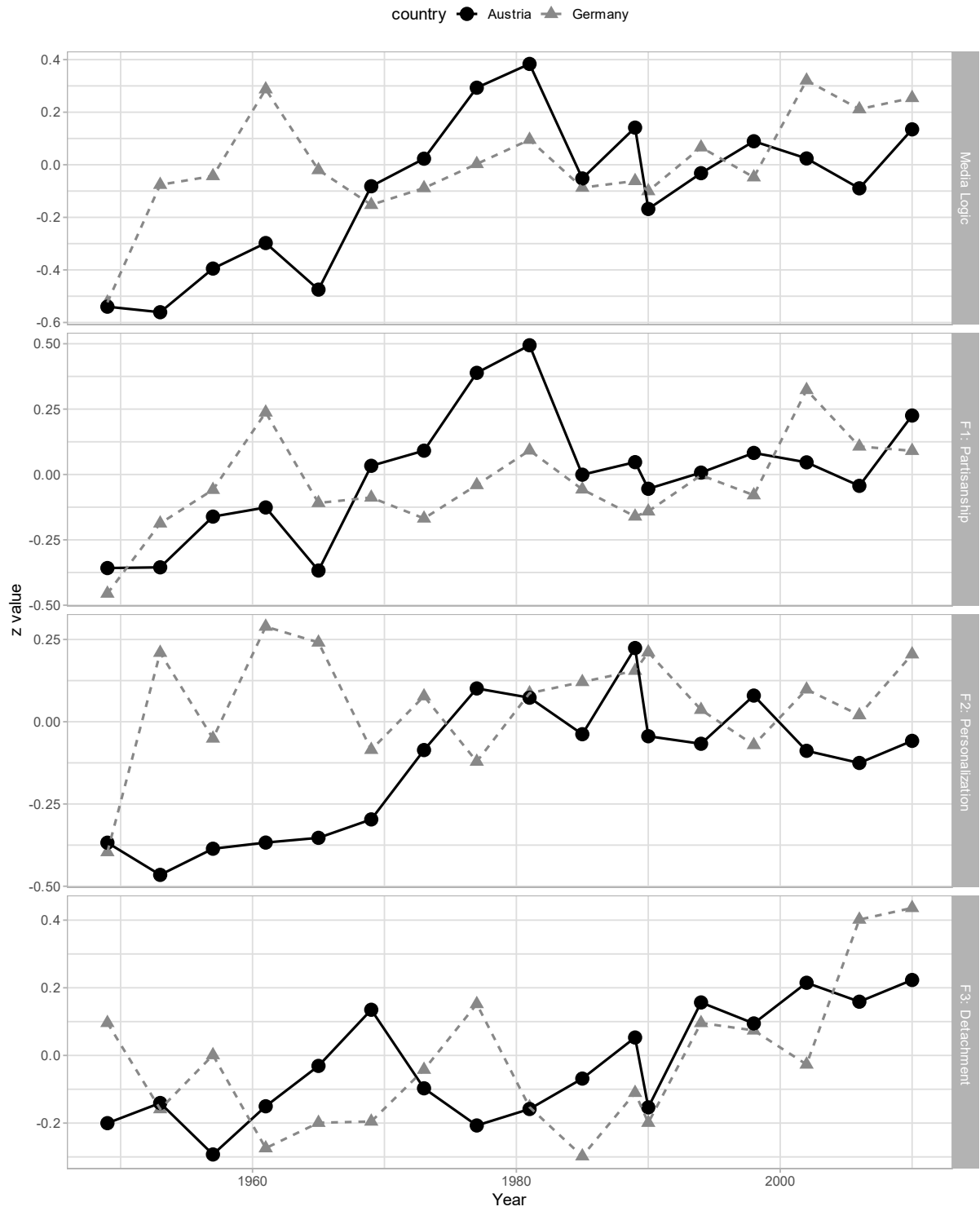


Figure A2: Development of Media Logic and its Components 1949-2010. All z-standardized. DE=Germany; AT=Austria.

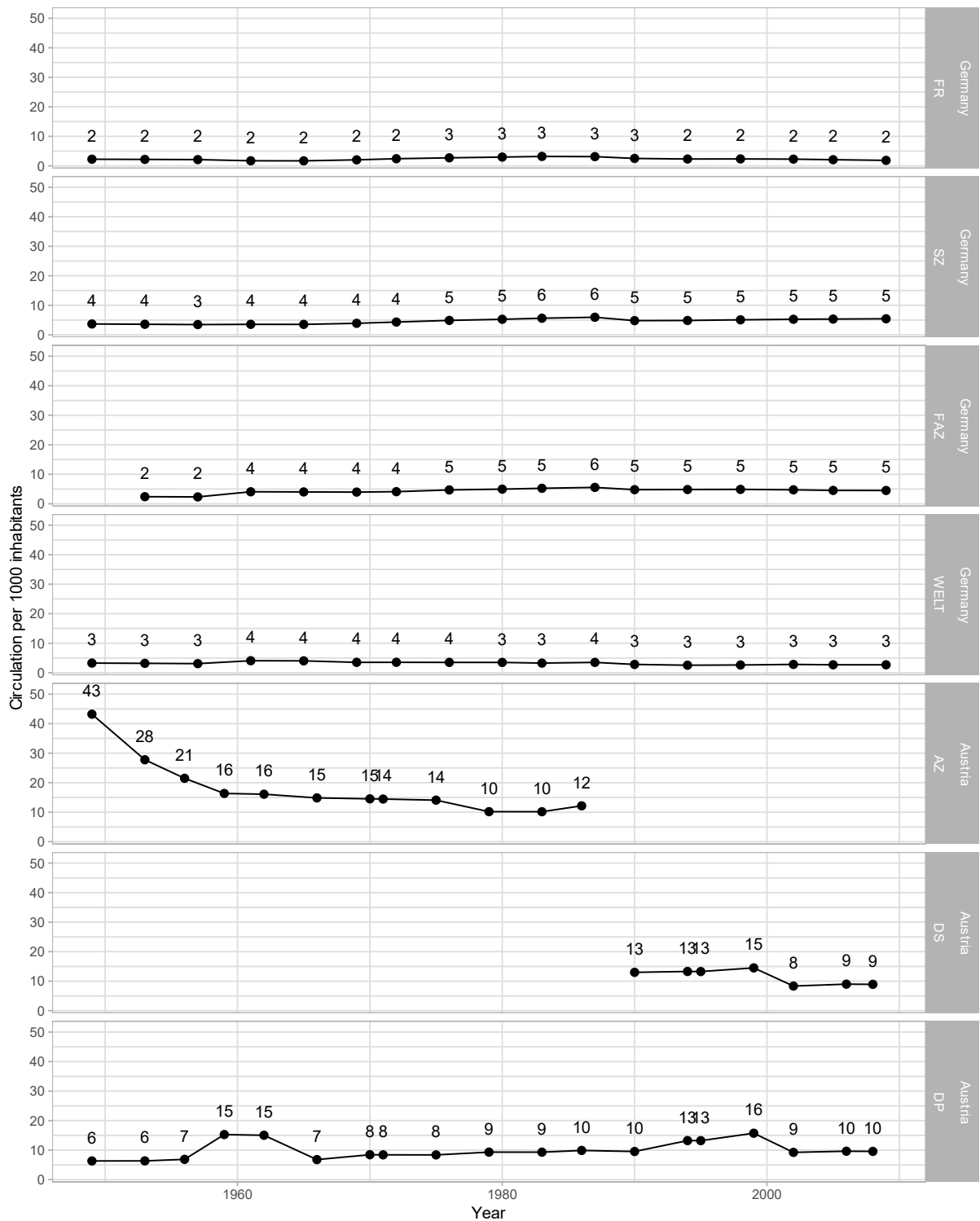


Figure A3: Circulation per 1000 population of elite newspapers (1949-2009)

Note. Own calculations. Sources for newspaper circulation: German Audit Bureau of Circulation (n.d.) and Melischek & Seethaler, n.d.; Sources for population sizes: Federal Statistical Office, 2018; Statistics Austria, 2018.

AZ=Arbeiter Zeitung; DP=Die Presse; DS=Der Standard; FAZ=Frankfurter Allgemeine Zeitung; FR=Frankfurter Rundschau; SZ=Süddeutsche Zeitung; WELT=Die Welt; at=Austria; de=Germany. As each printed newspaper can be read by several people, the actual reach of a single newspaper edition will be higher than the shares provided in this graphic; the numbers represent lowest estimates (in 2010, readership was approximately 2 to 4 times as high as the circulation).