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Analysing Policy Proximity through media reporting

Abstract

Policy changes in one subsystem can easily spill over to other subsystems. An approach that addresses these interconnections is the concept of 'policy proximity'. This concept posits that different policy issues share common features that make them more or less likely to change together. However, we unfortunately have no systematic knowledge of the proximity between policy areas. In this article, we address this shortcoming by proposing a novel measurement concept of policy proximity that captures the proximity between different policy issues based on their joint appearance in media reporting. To do so, we conduct a relational content analysis of all media reports aired by the German news broadcast 'Tagesschau' between 2013 and 2021. We show that policy issues substantially differ in their connectivity with other subjects and identify for each subsystem the closest 'neighbors'. We conclude by discussing our results in light of existing policy change theories.

Keywords: policy proximity; policy change; relational content analysis

Zusammenfassung

Eine Analyse von 'Policy Proximity' durch Medienberichterstattung

Veränderungen in einem Policy-Subsystem können sich leicht auf andere Subsysteme auswirken. Ein Ansatz, der sich mit diesen Zusammenhängen befasst, ist das Konzept der 'Policy Proximity'. Dieses Konzept geht davon aus, dass verschiedene politische Themen gemeinsame Merkmale aufweisen, die es wahrscheinlicher oder unwahrscheinlicher machen, dass diese sich gemeinsam verändern. Leider haben wir bisher keine systematischen Kenntnisse über die exakte Nähe zwischen verschiedenen Politikbereichen. Dieser Artikel adressiert diese Forschungslücke, indem wir ein neuartiges Messkonzept der politischen Nähe vorschlagen, welches die Nähe zwischen verschiedenen politischen Themen auf der Grundlage ihres gemeinsamen Auftretens in der Medienberichterstattung erfasst. Dazu führen wir eine relationale Inhaltsanalyse aller Medienberichte durch, die von der deutschen Tagesschau zwischen 2013 und 2021 ausgestrahlt wurden. Wir zeigen, dass sich politische Themen in ihrer Verknüpfung mit anderen Themen deutlich unterscheiden und identifizieren für jedes Teilsystem die engsten „Nachbarn“. Abschließend diskutieren wir unsere Ergebnisse mithilfe bestehender Theorien zum Politikwandel.

Schlagworte: Policy Proximity; Politikwandel; relationale Inhaltsanalyse

1 Introduction

In response to the pandemic, governments have developed bundles of new policy measures and reforms (Goyal & Howlett, 2021). What started as a public health issue, has quickly cascaded into policy reforms in all kinds of areas. The public health measures

required a shutdown of the economy and public life. The shutdown, in turn, required compensatory measures for both businesses and employees as well as massive investments into the digital infrastructure to facilitate home-schooling and distance learning.

This simple observation indicates that patterns of policy change and stability do not occur *independently* across different policy subsystems: Policy development in one policy subsystem might directly or indirectly affect the patterns of policy change in other domains. Yet, existing theories of policy change are strikingly silent when it comes to the analysis of this phenomenon. This is due to the ‘subsystem bias’ that characterizes the existing policy change scholarship. Policy changes are studied with a strong focus on *individual* policy subsystems. These fields are the central analytical point of reference. Everything that happens in fields other than the one under investigation is deliberately neglected.

One of the few public policy concepts that takes account of the interdependencies across different policy subsystems is the concept of *policy proximity* developed by Nohrstedt and Weible (2010). Policy proximity captures the similarity of policies with regard to their “statutes, laws, and policies, including the instruments, ideas, and symbols therein” (p. 20). As a result of this policy proximity, some policy subsystems are more likely than others to change together in response to common crisis events and other political developments. The concept of policy proximity has become widely used in empirical (mostly qualitative) studies. Unfortunately, however, the proximity of different policy issues is typically determined in an *ex-post* assessment. In other words: policy subsystems are said to be proximate because they had changed together – not because scholars had a pre-existing knowledge about policy subsystems’ interconnections and commonalities (but see May, Jochim & Sapotichne, 2013).

In this article, we address this shortcoming and propose a novel measurement concept of policy proximity that captures the ‘distance’ between different policy subsystems based on their joint appearance in media reporting. To do so, we conduct a relational content analysis of 27.000 media reports aired by the German news broadcast ‘Tagesschau’ between 2013 and 2021. We show that policy issues differ in their connectivity to other issue areas. Moreover, we identify the ‘closest neighbours’ to each policy subsystem and briefly discuss our findings in light of the dominant theories on policy change.

Our contribution is a first step towards improving our scientific capacities in predicting and explaining policy change events within and across different policy subsystems. The remainder of this article is structured as follows. In the next section, we briefly discuss the existing literature on policy change and the ‘subsystem bias’ characterizing the existing literature (section 2). Thereafter, we introduce our novel measurement approach of policy proximity and specify the context of analysis (media outlets) as well as the policy issues under scrutiny (section 3). In section 4 we present the empirical patterns of policy proximity. Moreover, we check how our findings are influenced by the occurrence of major crisis events such as the 2015 and 2016 refugee crises and the 2020 and 2021 COVID-19 pandemic. Section 5 discusses how we can theoretically account for different degrees of policy proximity across subsystems, building on central theoretical frameworks of policy change. The last section concludes with a broader discussion of how our measures of policy proximity can help to improve the study of policy change.

2 Existing accounts of policy change and the ‘Subsystem Bias’

The literature knows several theoretical frameworks for the analysis of policy change (for an overview see Weible & Sabatier, 2017). According to the seminal piece by Capano (2009) on “Understanding Policy Change As An Epistemological and Theoretical Problem”, the most important ones are the Advocacy Coalition Framework (ACF) (Sabatier & Weible, 2007), the Multiple Streams Approach (MSA) (Kingdon, 2003), and the Punctuated Equilibrium Theory (PET) (Baumgartner & Jones, 1993; Baumgartner et al., 2009).¹ The frameworks consider different factors as particularly relevant for the explanation of policy change (for an overview see Capano, 2009).

Despite these differences, all three theoretical frameworks consider so-called ‘policy subsystems’ as the central unit of analysis (Fernández-i-Marín, Hurka, Knill & Steinebach, 2020; Knill & Steinebach, 2022). Policy subsystems are defined by a substantive issue area (domain), a geographical scope, and a relatively stable set of actors that interact within well-defined institutional boundaries (Cairney & Weible, 2015). The rationale behind this strong subsystem focus is that the typical mode of policy-making is considered to be driven by dynamics that are *endogenous* to the subsystem under scrutiny. The policy agenda is usually controlled by stable networks of politicians, bureaucrats, and interest group representatives operating in a given domain (Burstein, 1991). As a result, policies display high stability over time and undergo only incremental change. It is only rarely the case that this isolated everyday life of policy subsystems is distorted.

Yet, regardless of the prevalence of stability or punctuations, the crucial point of reference in all policy studies is the subsystem level (Jochim & May, 2010). Anything that happens in other subsystems is considered analytically irrelevant as long as there are no straightforward spill-over effects between policy subsystems (May, Jochim & Sapotichne, 2011). In short, the hardly challenged assumption in the studies of policy change is that policy subsystems ‘live next to each other’ and hardly meet and influence each other in practice. The possibility that policy developments across subsystems are connected has largely been neglected in public policy research (but see Fernández-i-Marín et al., 2019; May, Jochim, & Pump, 2013). Considering this state of the literature, McGee and Jones (2019) emphasize that the focus on policy subsystems is “sorely in need of updating in light of current developments in the policymaking process (...). Issues have become more complex as governments address more problems and these problems interact with one another” (p. 139).

A promising starting point for such a perspective is the concept of policy proximity (Nohrstedt & Weible, 2010). The authors posit three aspects. They assume that (1) “[s]ubsystem boundaries are artificial constructs” (Nohrstedt & Weible, 2010, p. 8); that (2) “policy subsystems are interdependent” (ibid, p. 8); and (3) that they jointly change in response to common stimuli such as crisis events (ibid, p. 9). The extent to which policy subsystems are connected, in turn, depends on the degree of policy proximity, i.e. “the degree that policy subsystems share policy design components—such as a subsystem’s statutes, laws, and policies, including the instruments, ideas, and symbols therein” (ibid, p. 20). Put simply, environmental policies, for instance, will always be more likely to involve and trigger reforms in energy policy than in the subsystem of migration or defence.

The concept of policy proximity has become widely used in empirical (mostly qualitative) studies (see e.g. Chui, Feng & Jordan, 2014; Sichling, 2020; Hurka, 2017). Yet, the (level of) proximity is not assessed based on subsystem features. Rather, sub-

systems are assessed as proximate because they had changed together. Given these problems of endogeneity, the explanatory and predictive potentials of the concept are limited in practice. To improve the applicability of the concept of policy proximity, we need (1) a broader and more general understanding of the interconnections between different policy subsystems and (2) one that goes beyond the assessment of individual policy change events. In the following, we propose a novel measurement concept of policy proximity that captures the ‘distance’ between different policy subsystems based on their joint appearance in media reporting.

3 Measuring Policy Proximity

There are multiple ways to assess (thematic) proximity and relations (Armbrorst, 2017). In this article, we determine proximity by analysing the frequency and patterns of thematic joint appearances. This approach assumes that issues that are frequently and regularly mentioned in the same thematic and temporal context share common features. Our underlying measuring approach is thus a “relational content analysis” (Bos & Tarnai, 1999; Armbrorst, 2017). A relational content analysis involves (1) the definition of ‘objects’ and (2) an assessment of their connections. A relational content analysis is *not* a mixed methodology (in the strict sense of the term) as it does not necessarily require the collection of both quantitative and qualitative data (Creswell & Plano Clark, 2011). Yet, the ‘mixed’ part comes in as it requires the detection and interpretation of qualitative information and its transformation into values, i.e. the numeric indication of the co-occurrence of different ‘objects’.

For the qualitative assessment, it is necessary to make two analytical decisions: First, we must specify the exact context in which to assess the (co-)occurrence of different policy issues. Second, we need to decide which policy subsystems the analysis focuses on and how these issues can be systematically distinguished from one another.

3.1 Data Source

In the abstract, there are multiple possibilities in which the thematic (co-)occurrence of different policy issues can be studied, ranging from speeches in parliament to reports in media outlets. A potential challenge posed by the first option is that speakers (Members of Parliament) from varying party backgrounds might differ in the way they discuss and thus connect different policy issues. This is not a problem per se but can create difficulties (biases) for the analysis if the speaking time on the floor is *not* equally distributed across the different parties in parliament (Proksch & Slapin, 2012; Döring, 1995). In the context of this analysis, we thus decided to focus on reports in media outlets. Here, we concentrate on TV news. A key benefit of reports in TV news – compared to newspaper articles – is that they are usually quite concise and of comparable length.

This study analyses news items from the main German public-service news bulletin, the ARD’s Tagesschau. The main edition of the Tagesschau is shown at 08:00 p.m., lasts fifteen minutes, and typically involves about ten individual reports. From the beginning, the Tagesschau was considered the German news program that pays particular attention to political topics. In comparison to other German TV news, the

Tagesschau (still) has the highest percentage of political topics among its reports (Krüger & Zapf-Schramm, 2017, S. 65). This makes the Tagesschau the most appropriate news outlet for our analysis.

Our initial idea was to access the individual reports via the online media library of the Tagesschau. Yet, this approach has proven difficult given that (1) the online media library is slightly incomplete and (2) *watching* all news reports turned out to be a very time-consuming activity. In consequence, we contacted the scientific department of the ARD and asked for their support. The department gratefully shared different datasets containing information on each show and report for the years 2013 to 2021. These datasets contain information on, amongst others, the date and length as well as a short description of the content of each report. This way, we have been able to access and assess a total of about 27.000 news reports.

We deem our investigation period appropriate for two reasons. First, we cover a total of nine years. This allows us to get a comprehensive picture that goes beyond some short-time co-occurrences. Second, we cover the most recent time period. As discussed in more detail below, the interpretation of policy issues might change over time and in response to varying contextual conditions. Focusing on the years 2013 to 2021 thus gives us an impression of the ‘current’ connections between issues and issue areas.

We are aware that Tagesschau reports are not a completely objective source and measure of policy proximity given that the ARD editors obviously might have their own (political) incentives to present policy issues in a certain way. However, we think that the relatively short length of the individual reports limits the editors’ ability to frame issues in their own sense. In other words, while the interconnection observed (see below) might indeed reflect the editors’ own interpretations of policy issues, these interpretations must focus on the most straightforward and obvious connections to other policy issues.

3.2 Identifying Relevant Policy Subsystems

Overall, we focus on a list of 20 policy issues. We rely on the main issue categories used in the Comparative Agenda Project (CAP) codebook developed by Bevan (2019). This ensures the compatibility of our approach with other scholarly contributions and thus the later applicability. *Table 1* provides a list of all policy issues under scrutiny as well as a short description and an example.

Table 1: List of all policy issues under scrutiny including a short description and an example.

Policy Subsystem	Description (Subfields)	Example
<i>Agriculture</i>	Reports on agricultural trade, subsidies to Farmers, food inspection & safety, marketing & promotion, animal and crop disease, fisheries & fishing, R&D on agriculture	Nitrate pollution in groundwater and slurry regulations of the Minister of Agriculture (03.01.2017)
<i>Civil Rights</i>	Reports on minority/gender/age/handicap discrimination, age discrimination, voting rights, freedom of speech, right to privacy, anti-government	Tightening state COVID-19 measures in the area of contact restrictions due to rising caseloads (16.10.2020)

Policy Subsystem	Description (Subfields)	Example
<i>Culture</i>	Reports on culture-related aspect (e.g. reports on museums, exhibitions, etc), religious celebrations (e.g. Hajj), and commemoration ceremonies	First newly built mosque in Thuringia (13.11.2018)
<i>Defence</i>	Reports on alliances, intelligence, nuclear arms, military aid, personnel issues, procurement, installations & land, reserve forces, civilian personnel, contractors, foreign operations, claims against, military	Taliban invasion of Kabul and evacuation of personnel by Western states (15.08.2021)
<i>Domestic commerce</i>	Reports on banking, securities & commodities, consumer finance, insurance regulation, bankruptcy, corporate management, small businesses, copyrights and patents, disaster relief, tourism, consumer safety, sports regulation	Lufthansa Executive Board approves conditions for government financial aid (30.05.2020)
<i>Education</i>	Reports on higher education, student loans and education finance, elementary and primary schools, school reform, safety in schools, efforts to generally improve educational standards and outcomes, education of underprivileged students, vocational education for children and adults and their impact, special education and education for the physically or mentally handicapped, education excellence, including efforts to increase the quality of specific areas, such as math, science or foreign language skills.	Promotion and expansion of state education projects for illiterate people (28.11.2016)
<i>Energy</i>	Reports on nuclear, electricity, natural gas & oil, coal, alternative & renewable, energy conservation, R&D on energy	Approval of the reform of the Renewable Energies Act by the Bundesrat and Bundestag (08.07.2016)
<i>Environment</i>	Reports on drinking water, waste disposal, hazardous waste, air pollution, recycling, indoor hazards, species & forest, conservation, climate change	Community of nations adopts climate agreement at Paris climate summit (12.12.2015)
<i>Health</i>	Reports on health care reform, insurance, drug industry, medical facilities, insurance providers, medical liability, manpower, disease prevention, infants and children, mental, long-term care, drug coverage and cost, tobacco abuse, drug and alcohol abuse, R&D	COVID-19 infection incidence in Germany and government hygiene measures (18.08.2020)
<i>Housing</i>	Reports on community development, urban development, rural housing, rural development, low-income assistance, elderly homeless	Decrease in social housing with fixed prices in Germany and expansion of subsidies for them (04.08.2018)
<i>International Affairs</i>	Reports on foreign aid, resources exploitation, developing countries, international finance specific country, human rights treaties, conventions and violations, human rights, organizations terrorism, and diplomats	European Union heads of government discuss future relationship with the United Kingdom after Brexit (15.10.2020)
<i>Labour</i>	Reports on worker safety, employment training, employee benefits, pensions, and retirement accounts, including government-provided unemployment insurance, labour unions, fair labour Standards, youth employment, child labour and job training for youths, migrant and seasonal workers	Labour market figures, unemployment rate and measures to boost employment (07.01.2014)
<i>Law & Crime</i>	Reports on agencies, white collar crime, illegal drugs, court administration, prisons, juvenile crime, child abuse, family issues, civil code, crime control, police	Differences in the federal government with regard to an application for a ban on the NPD (26.02.2013)

Policy Subsystem	Description (Subfields)	Example
<i>Macroeconomics</i>	Reports on interest rates, unemployment rate, monetary policy, national budget, tax code, industrial policy, price control	The Federal Constitutional Court rules that the European Central Bank did not disregard European law when creating the European Banking Union (30.07.2019)
<i>Migration</i>	Reports on migration, refugees, and citizenship	Discussion on internal security and migration as well as deportation of convicted refugees (27.07.2016)
<i>Public</i>	Reports on national parks, forest management, water resources, territorial and dependency issues and devolution	Search for suitable areas for nuclear waste disposal sites (28.09.2020)
<i>Social</i>	Reports on low-income assistance, elderly assistance, disabled assistance, volunteer associations and childcare	Ministers' assessment of the family support program "Elterngeld Plus" (10.01.2018)
<i>Technology</i>	Reports on space, commercial use of space, science transfer, telecommunication, broadcast, weather forecasting, computers	Government strategy for artificial intelligence at the digital summit (04.12.2018)
<i>Trade</i>	Reports on trade agreements, exports, private investments, competitiveness, tariff & imports, exchange rates	Merkel's trip to Beijing to enforce German interests in Sino-German trade relations (06.2016)
<i>Transportation</i>	Reports on mass transport, highways, air travel, railroad travel, maritime, infrastructure, R&D on new means of transportation	The Bundestag approves a toll law revised in response to pressure from the EU (24.03.2017)

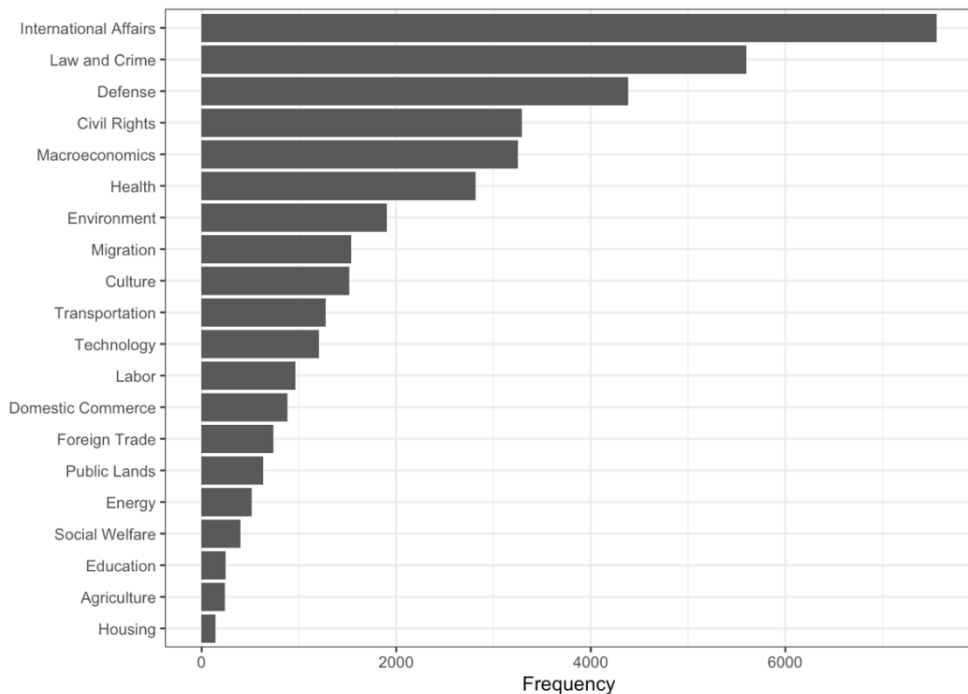
Source: Own descriptions and examples based on Bevan (2019).

Our final coding approach was thus to go through all 27.000 news reports and to manually assign them to one or more of the thematic issues identified. We have split the high workload among the authors to make it manageable. This process comes with two challenges. The first one is that different coders may assign the same report to different policy issues. To address this issue, we randomly selected 50 news reports and coded them independently by different coders. We then checked for intercoder reliability. Overall, 87% of the issues were assigned consistently, indicating a high to a very high level of agreement. Please note that a single report might address multiple issues. In consequence, inconsistencies might also occur if, for instance, coders only assigned two out of three policy issues correctly. The second challenge is that the short summaries provided by the Tagesschau might give a wrong impression about the full content of the news report. In consequence, we randomly selected five news reports, accessed them through the Tagesschau media library, fully transcribed these reports, and coded them based on our transcription. In the last step, we compared this coding with our initial one based on the short summaries. Based on the full transcription, we identified 13 different issue areas. 11 of these 13 issue areas (85%) have already been captured by our initial coding based on the summaries. In essence, this implies that the short summaries give a fairly good impression of the full content of the news reports.

Overall, the policy issue most present in news reports is the issue of "International Affairs". The policy issue with the lowest frequency in news reports is "Housing" (see Figure 1 for an overview). 6875 (25.2%) of the reports assessed concerned a single policy subsystem, 6733 (24.6%) two policy subsystems, 3464 (12.7%) three policy subsystems, and 4051 (7%) four or more subsystems. In the case of 8411 reports (30%), no policy subsystem could be identified (mostly sports news or daily events without direct political relevance). A good example of multiple coding is the report on

“Lockdown of the Economy due to COVID-19” shown on 10th January 2021. It is coded as “Macroeconomics”, “Civil Rights”, “Health”, and “Domestic Commerce”. The report discusses restrictions on the personal freedoms of all citizens due to the outbreak of COVID-19 as well as support measures for the economy. Due to the restrictions of personal freedoms, which are introduced with the explicit justification to contain the COVID-19 pandemic, the report falls into the categories of “Health” and “Civil Rights”. The issues of “Macroeconomics” and “Domestic Commerce” are included as the article also reports on additional government borrowing (“Macroeconomic”) as well as on compensatory measures for national enterprises (“Domestic Commerce”).

Figure 1: Total number of occurrences of different policy issues in media reports



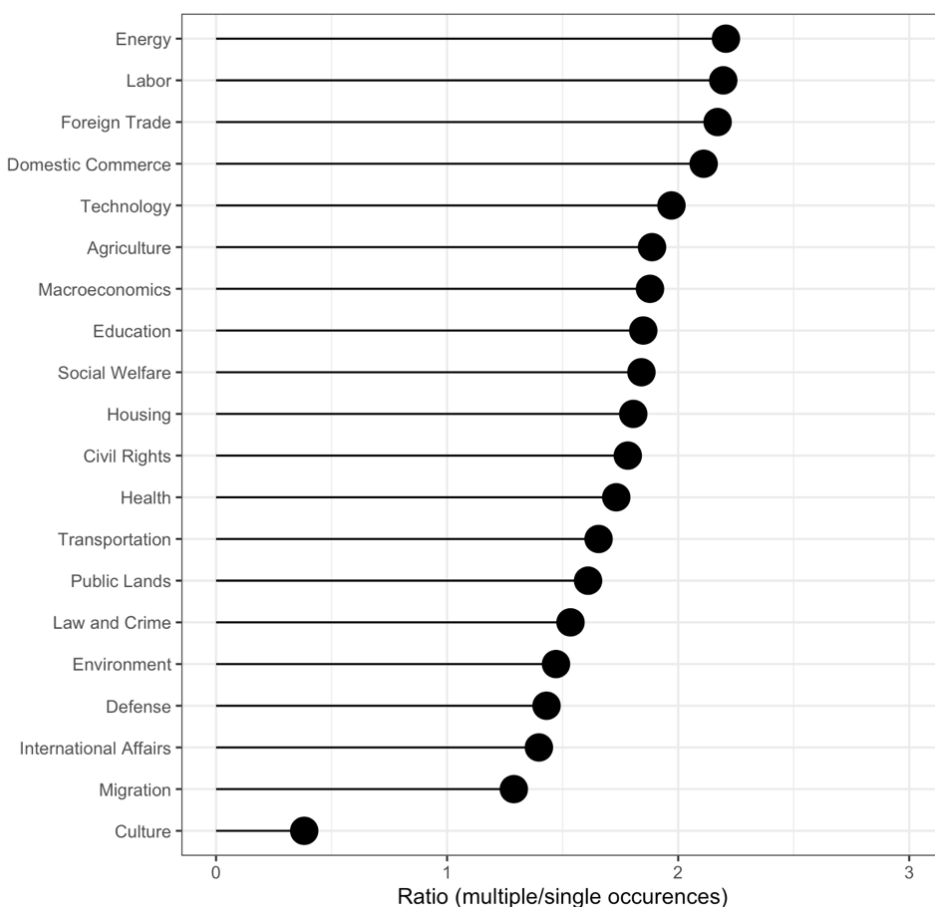
Source: Own data.

4 Empirical Patterns of Policy Proximity

In the previous section, we briefly described how often certain policy issues are mentioned in media reports and whether they generally tend to be discussed alone or in combination with others. The next analytical step is to combine this information and check whether policy issues vary in their connectivity to other subsystems. To assess this relationship, we count all combinations in which a policy subsystem has been mentioned together with another issue area and divide it by the number of single occurrences, i.e. reports in which only a single policy subsystem was discussed. This latter step is necessary to avoid issues that exhibit a higher level of connectivity simply be-

cause they are generally mentioned more frequently in news reports (for the differences in the frequency of occurrences see *Figure 1*). *Figure 2* shows the respective results. Here, a value greater than 1 indicates that issues of a given policy subsystem occur more often in combination with others than alone. For values smaller than 1 the opposite is true.

Figure 2: Total connectivity per policy subsystem



Source: Own data.

Using a visual inspection, we can roughly identify four groups of policy subsystems based on their total connectivity score, i.e. the ratio between multiple and single occurrences. The first group with the greatest connectivity are “Energy” (2.21), “Labour” (2.19), “Foreign Trade” (2.17), and “Domestic Commerce” (2.11). This group is followed by a second, larger group that comprises “Technology” (1.97), “Agriculture” (1.88), “Macroeconomics” (1.88), “Education” (1.85), “Social Welfare” (1.84), “Housing” (1.81), “Civil Rights” (1.78) and “Health” (1.73). At the lower end, we find a third group that includes “Transportation” (1.65), “Public Lands” (1.61), “Law and Crime” (1.53), “Environment” (1.47), “Defense” (1.43), “International Affairs” (1.40), and

“Migration” (1.28). Remarkably, however, it is only “Culture” (0.38) that is mentioned substantially more often alone than in combination with issues from other policy subsystems. For all other issue areas, the ratio between pairwise and single occurrences is constantly greater than 1.

While *Figure 2* provides us with information on the *general* connectivity of different policy subsystems, it tells us little about which exact (pairs of) policy subsystems can be considered proximate to one another. *Table 2* thus lists the ‘Best’, ‘2nd Best’ and ‘3rd Best Buddies’ of each policy subsystem, i.e., the policy subsystems with the first, second, and the third greatest number of joint appearances in news reports. A brief look at *Table 2* reveals that ‘International Affairs’ and ‘Law and Crime’ have the most joint appearances with issues of other policy subsystems. Remarkably, however, these two fields only rank in midfield when it comes to their total connectivity (see again *Figure 2*). These diverging observations essentially indicate that these policy subsystems typically emerge only in combination with one (or some) rather than multiple policy subsystems.

While the proximity of some subsystems is intuitive, it is less clear why others occur as “best buddies”. While no *general* answer can be given on why some areas are connected, a more detailed view of less straightforward cases might allow controlling for the general plausibility of our approach. A connection that does not seem very plausible at first sight, for instance, is the connection between “*Social Welfare*” and “*International Affairs*”. This is especially the case as welfare state programs are typically not considered a matter of international concern (in contrast to, for instance, “Energy”, “Foreign Trade”, “Macroeconomics”, and “Migration”). When looking at the respective connections, however, it becomes clear that the majority of connections between “*Social Welfare*” and “*International Affairs*” have occurred in the context of EU cooperation programs on youth unemployment² as well as in the context of the international negotiations involving the European Commission (EC), the European Central Bank (ECB) and the International Monetary Fund (IMF) on the austerity measures in Spain, Portugal and especially Greece.³ Overall, this finding highlights that special circumstances can easily link otherwise rather disparate policy areas.

A potential critique of our measurement approach could be that our results are driven by single crisis events and that, in consequence, the observed interconnections presented in *Table 2* only hold true for parts of the observation period. The dominance of the COVID-19 pandemic in the years 2020 and 2021, for instance, might bias the interconnections between “Health” and other policy issues. In other words, the occurrence of the COVID-19 pandemic might give the impression that “Health” is *generally* connected to “Law and Crime”, “International Affairs” and “Civil Rights”, while, in reality, these findings are primarily driven by the peculiarities of the COVID-19 pandemic as an international health crisis that had strong repercussion on individual civil liberties. The same can be said about the issue of “Migration” for the refugee crisis in the years 2015 and 2016. We thus decided to replicate our analysis by dropping all occurrences of issues of “Migration” in the years 2015 and 2016 and issues of “Health” in the years between 2020 and 2021. In total, we excluded about 2200 observations (about 8% of our total observations).

Table 2: Policy proximity per policy issue

Subsystem	Best Buddy	2nd Best Buddy	3rd Best Buddy
<i>Agriculture</i>	Health (107)	International Affairs (82)	Environment (52)
<i>Civil Rights</i>	Law and Crime (1715)	International Affairs (936)	Defense (572)
<i>Culture</i>	International Affairs (97)	Law and Crime (96)	Civil Rights (90)
<i>Defense</i>	International Affairs (2689)	Law and Crime (1564)	Civil Rights (572)
<i>Domestic Commerce</i>	Macroeconomics (496)	Law and Crime (228)	Health (216)
<i>Education</i>	Health (87)	Civil Rights (80)	Macroeconomics (68)
<i>Energy</i>	Environment (295)	International Affairs (172)	Macroeconomics (158)
<i>Environment</i>	Macroeconomics (458)	Public Lands (434)	Health (400)
<i>Foreign Trade</i>	International Affairs (650)	Macroeconomics (362)	Defense (155)
<i>Health</i>	Law and Crime (855)	International Affairs (683)	Civil Rights (552)
<i>Housing</i>	Macroeconomics (68)	Law and Crime (52)	Civil rights (19)
<i>International Affairs</i>	Defense (2689)	Law and Crime (1649)	Macroeconomics (1093)
<i>Labor</i>	Macroeconomics (670)	Civil Rights (378)	Domestic Commerce (201)
<i>Law and Crime</i>	Civil Rights (1715)	International Affairs (1649)	Defense (1564)
<i>Macroeconomics</i>	International Affairs (1093)	Labor (670)	Health (535)
<i>Migration</i>	International Affairs (895)	Law and Crime (405)	Civil Rights (181)
<i>Public Lands</i>	Environment (434)	International Affairs (118)	Macroeconomics (105)
<i>Social Welfare</i>	Macroeconomics (277)	Labor (135)	International Affairs (110)
<i>Technology</i>	International Affairs (534)	Law and Crime (451)	Defense (390)
<i>Transport</i>	Macroeconomics (394)	Law and Crime (310)	Health (231)

Source: Own illustration.

Remarkably, this process has *no* influence on the policy subsystems considered most closely connected to migration matters. Yet, it alters our findings about health issues. When dropping the years 2020 and 2021, “Education” is no longer linked to “Health” but to “Labour”. Likewise, “Health” is less discussed in the context of “Civil Rights” and “International Affairs” but as a matter of “Environment” and “Macroeconomics”. Moreover, “Domestic Commerce” is no longer linked to “Health” but to “Law and Crime”. These changes essentially reveal two aspects: On the one hand, they demonstrate the plausibility of our approach as the COVID-19 pandemic has significantly affected the education sector due to the closing of schools and – during the lockdowns – the citizens’ civil liberties and national enterprises. On the other hand, the changes also demonstrate that the connections between policy subsystems can be influenced by distinct crisis events and thus might change and vary over time. Any assessment of policy proximity must thus take account of or control for the temporal embeddedness and context (see discussion section).

A potential criticism of the approach could be that entirely dropping “Migration” and “Health” might exclude issues in the respective years that are *not* crisis-related but still relevant. In consequence, we checked again all Migration and Health occurrences in the years 2015 and 2016, and 2020 and 2021 respectively, and coded whether the respective issues have been discussed in the context of either the COVID-19 pandemic or the refugee crisis using a simple dummy variable. This procedure leaves our previous results unchanged. In the years 2015 and 2016, 85% (1251 out of 1481 mentions) of all issues on “Migration” occurred in the context of the refugee crisis. For health matters, this observation is even more pronounced for the years 2020 and 2021. Here, 94% (749 out of 798) of all “Health” issues were discussed in the context of the COVID-19 pandemic.

In sum, the findings correspond quite well to the starting point of this paper, namely that boundary-spanning policy problems and change events are the rule rather than the exception. At the same time, however, we also see policy subsystems substantially differ in their connectivity to other subsystems (see again *Figure 2*) and that policy issues align with some issues more than with others (see again *Table 2*). Because of these findings, we can expect that some areas are more prone to cause changes in other areas or to change with others in response to a common stimulus. Following the above analysis, changes in “Energy” and “Labour”, for instance, are just far more likely to involve broader policy changes than culture-related aspects. Moreover, our findings provide some indications about where exactly we can expect subsystems’ interconnections. Based on our findings, scholarly contributions that intend to explain changes in “Agriculture” policy, for instance, might find it helpful to check for the latest developments in “Health”, “International Affairs”, and the “Environment” and consider policy dynamics in these areas as a potential explanation.

5 Theoretical Explanations of Policy Proximity

As discussed above, the connectivity of policy subsystems constitutes a blind spot of conventional theories of policy change, such as the ACF, the MSA, or the PET. This is simply because these frameworks are deeply rooted in a subsystem perspective. Yet, despite their analytical neglect of policy proximity, it might still be possible to ‘distil’ potential factors from these frameworks that serve as a starting point for developing a more systematic theoretical understanding of the determinants of policy proximity. This exercise might help us to (1) discuss our empirical findings in light of the dominant change theories as well as to (2) complement the respective approaches to explicitly consider interconnections across policy subsystems.

As discussed in more detail in the following, we can expect that subsystem proximity generally increases with four factors: (1) the presence of actors adhering to similar professional norms (*ACF*); (2) the presence of actors with similar institutional or organizational affiliations (*ACF*, *partially MSA*); (3) the resonance of policy problems with similar political cleavages (*ACF*); and (4) the functional need to solve an underlying problem in different policy subsystems simultaneously (*PET*). In short, subsystem proximity – at least from the interpretation of existing theories of policy change – is a matter of factors rooted in actor characteristics, institutions, politics, as well as policies.

5.1 Policy proximity from the ACF perspective

In the ACF, the central theoretical gateway for cross-subsystem influences is the composition of advocacy coalitions. Depending on the extent to which advocacy coalitions consist of members whose interests and beliefs are related to a broader spectrum of policy subsystems, interconnections of change across subsystems might be more or less likely.

In this context, Bandelow (2015) argues that especially in parliamentary systems, party leaders and parliamentary group leaders often exert a lasting impact on decisions in policy subsystems. These ‘generalists’ have the ability to combine issues from dif-

ferent policy subsystems. Moreover, the formation of coalitions does not necessarily have to be oriented along lines of conflict within a subsystem. Party-political coalitions might follow their own rules, which cannot be limited to the content of a single policy issue or field (Bandelow, 2015, S. 308). Based on these considerations, one can argue that policy areas become interconnected when they are subject to broader political interests and conflicts. This is particularly the case if policy areas ‘fall’ on the same similar party-political cleavages. This insight might explain why we find strong interconnections in our analysis between those policy areas that are typically referenced in the context of the left-right divide such as labor, social welfare, and macroeconomics.

Another factor that might explain cross-subsystem interdependencies within the ACF is the role of policy brokers. Policy brokers are considered well-connected actors that seek stability and “can be identified as a path to learning processes across coalitions in conflict situations” (Ingold & Varone, 2012, p. 3). While policy brokers are typically considered subsystem actors, it is well possible that they also try to find compromises across subsystem boundaries. As highlighted by Leifeld, Henrichsen, Buckton, Fergie and Hilton (2021), cross-sectoral advocacy and engagement provide actors with an informational advantage to position themselves strategically in different debates. A key prerequisite for engaging in cross-sectoral advocacy is that policy brokers have access to multiple policy subsystems at the same time. We can expect that ‘common’ subsystem membership of policy brokers becomes more likely when subsystems share *similar professional norms*. For instance, there are several policy subsystems in which economic experts play a pronounced role. This might, for instance, explain the strong connections that we can observe in our data between the field of macroeconomics on the one hand, and domestic commerce, environment, labor, social welfare, and transport on the other.

Second, we can expect that cross-sectoral policy brokerage is facilitated by *common institutional or organizational affiliations*. This is the case, for instance, when competencies for different policy subsystems are bundled in one ministry or agency. In Germany, for instance, competencies of social issues and labor are traditionally organized under the same ‘roof’, except in the 2002 to 2005 period when labor was part of the ‘Federal Ministry for Economic Affairs and Labour’ while social issues were located in the ‘Federal Ministry for Health and Social Security’. Moreover, in the German context, energy – especially the issue of nuclear safety – has always been organized in the same ministry (‘Federal Ministry for the Environment, Nature Conservation, Nuclear Safety’). These strong institutional links are also reflected in our ‘best buddy’ pairs observed above.

5.2 Policy proximity from the MSA perspective

Contrary to the ACF, which at least provides a basis for developing arguments about interconnections between policy subsystems, the MSA framework offers less leverage for developing such expectations. The reason for this lies in the fact that – contrary to all other theories of policy change – the main assumption of the MSA is that policy change is contingent, and the perception and interpretation of political decision-making are generally ambiguous (Herweg, 2015). The emphasis placed on contingency and ambiguity at the same time implies that from an MSA perspective any potential inter-

connections between policy subsystems are similarly random and might be perceived differently by different actors involved.

According to this basic conception, the main conclusion is that, by definition, there should be *no systematic* patterns in which policy subsystems are linked. Policy proximity is subject to random variation. This implies that there should be no “best buddies” of policy subsystems, nor should we find any systematic patterns in the degree to which subsystems vary in their connection to other subsystems. Although Kingdon (2003) refers to spill-over effects, he essentially refers to such effects *within* rather than between policy subsystems. For him, such effects describe the phenomenon that a policy change that has already taken place can have an impact on the policy status of issues that are interpreted as problematic based on the same assessment criterion (Herweg, 2015, S. 334).

At the same time, however, the MSA implicitly emphasizes that the opening of the famous policy window is facilitated or even presupposes the cross-sectoral framing of policy issues. On the one hand, policy entrepreneurs might engage in coupling problem and policy streams by selectively emphasising aspects of an ambiguously perceived problem (Kingdon, 2003; Zahariadis, 2008). On the other hand, policy entrepreneurs may seek to couple the politics and policy streams, attempting to exploit changing political opportunity structures by advocating their favoured policy as a solution for a given problem. Both strategies – problem-focused advocacy and problem-surfing (Boscarino, 2009) – might entail the cross-sectoral framing of policy issues. In this regard, frame bundling and cross-subsystem involvement have been characterized as essential elements of policy entrepreneurship (Faling, Biesbroek, Karlsson-Vinkhuyzen & Termeer, 2019). In sum, from an MSA perspective, we can derive two main conclusions about subsystem interconnections. First, there should be no systematic pattern of interconnections. Second, such interconnection should be observed very frequently and might even be the rule rather than the exception.

Our data only partially support these considerations. While we cannot exclude the possibility that the observed connections are sometimes ‘random’, the simple fact that we see strong variation across the policy subsystems suggests that there are systematic differences between the areas and that these differences go beyond mere chance. A possible explanation for this (unexpected) finding could be the existence of so-called “policy communities” (for broader discussion see Herweg, 2016). According to Kingdon (2003, p. 123) “[p]olicy communities are composed of specialists in a given policy area (...) scattered both through and outside of government”. In other words: although policy processes might be highly contingent, the policy solutions, alternatives and thus interconnections considered might still be ‘structured’ around rather established and constant ties both within and across different issue networks.

5.3 Policy proximity from the PET perspective

Departing from the PET perspective, the main source of potential cross-sectoral interconnections is the subsystem competition for macrolevel attention. The theoretical argument of PET rests on the idea that, while the segmentation of policies into policy subsystems promotes routine decision-making and incrementalism, major policy changes (punctuations) require political attention at the level of the entire political system. Yet, since the

attention space at the system level and the cognitive capacities of policymakers to process incoming information are limited (Jones & Baumgartner, 2005), trade-offs in attention are an inevitable consequence (May, Jochim & Sapotichne, 2011; Fernández-í-Marín, Hurka, Knill & Steinebach, 2020). In view of these considerations, trade-offs in political attention at the system level should be most pronounced when an external shock hits the political system. Such external shocks can be of a rather short-term nature and come in the form of a single focusing event (Kingdon, 2003), or they can exert their impact over a longer period, like in the case of economic crises.

Consequently, external shocks will affect the relative position of subsystem demands in the competition for political attention at the system level. When an external shock hits a political system, the system should react by channeling its resources into the fight against the causes of the shock or at least into the alleviation of its most severe consequences. This entails that political systems experience pressure to redirect their focus of attention toward those policy subsystems that are closely associated with and proximate to the shock at the expense of other policy subsystems that are regarded as more remote. Policy proximity across subsystems hence emerges from the fact that different policy subsystems share the characteristic of being affected or relevant for the design of policy responses to the external shock experience. These subsystems display a higher probability of receiving attention at the system level. While political systems hardly ever devote the same amount of attention to all policy subsystems even without the presence of an external shock, these external shocks should incentivize a pronounced redistribution of political attention at the system level.

Yet, while PET scholars only very recently have begun to systematically analyze such cross-system interdependencies (Knill & Steinebach, 2022), PET is rather silent, when it comes to the question of why some subsystems might gain in the advent of external shocks while others lose. We argue that one potential explanation is that different areas are *functionally interlinked*, i.e. they all must be addressed simultaneously to deal with a common underlying problem. In this context, Fernández-í-Marín, Hurka, Knill and Steinebach (2020), for instance, highlight “that political systems experience pressure to redirect their focus of attention toward those policy subsystems” and that the policy subsystems are “relevant for the design of policy responses to the external shock experience a higher probability of receiving attention at the system level” (pp. 4–5). This insight might explain why – during our investigation and given the impact of the COVID-19 pandemic – health matters have coupled with otherwise rather ‘remote’ buddies such as “Education”, “Civil Rights”, and “International Affairs”.

6 Conclusion: Policy Proximity and the study of policy change

The central aim of this article was to propose a novel measurement concept of policy proximity that captures the ‘distance’ between different policy subsystems based on their joint appearance in media reporting. By analysing 27.000 media reports aired by the German news broadcast ‘Tagesschau’, we show that (1) policy subsystems differ in their connectivity to other subsystems and (2) identify for each subsystem the most closely connected subsystems. In addition, we reviewed the dominant theories on policy changes to identify aspects that help to explain our empirical findings and to further theorize the level of connectivity between different policy subsystems.

Despite these insights, this paper is only a first attempt at assessing and discussing policy proximity empirically. Future analyses might check whether our findings also hold in other contexts and media outlets such as newspaper articles. Moreover, it is worth analysing whether the patterns observed vary across countries and over time based on, for instance, the (re)allocation of responsibilities within and across state departments (Bertels & Schulze-Gabrechten, 2021) and the emergence of new societal cleavages (Ford & Jennings, 2020). Moreover, studying policy proximity through media reporting is a valid strategy to avoid endogeneity problems. However, the final analytical interest is on explaining and predicting *observed* policy changes across different policy subsystems based on proximity measures. When do we observe major policy changes in different policy subsystems at the same time? In this context, a promising starting point might be to formulate expectations based on the insights gained in this paper and then to test whether the presumed interconnections also hold for data on policy outputs (for the German context see Breunig & Schnatterer, 2019).

Notes

- 1 Capano (2009) also discusses path dependence but admits that “it does not strictly belong to the specific literature on policy change” (p. 19).
- 2 See e.g. report on “German-Spanish agreement against youth unemployment” (21st May 2013); report on “EU Brussels: Youth Unemployment Summit” (27th June 2013)
- 3 See e.g. report on “Greece: Austerity measures and aid package” (6th March 2015); report on “German reactions to the failure of negotiations with Greece” (27th June 2015).

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