Do Constitutional Courts Write Their Opinions Differently Under Public Scrutiny?

Working paper

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Abstract How does public scrutiny affect the opinion-formation of highest courts? Established scholarship shows that public opinion impacts the outcome of judicial decision-making. However, while the focus of judicial politics research rests with outcomes of decisions, the impact of public scrutiny on the whole opinion-formation remains puzzling. I present a novel approach to assess the effects of public scrutiny on opinion writing and the quality of decisions taking judicial opinion-formation seriously. In particular, I analyze judicial argumentation structures, applying natural language processing approaches to judicial politics. I argue that oral hearings increase public attention and moderate the interaction of judges with external actors involved in court procedures. The broader public attention brought to proceedings by oral hearings incentivizes judges to improve the responsiveness of written opinions to arguments presented by external actors. I expect courts to argue each point of the legal discussion in greater detail, by addressing briefs presented to them more closely. I apply my approach to the whole text of decisions published by the German Federal Constitutional Court between 1972 and 2019. The court is a role-model for many highest courts with constitutional review powers and hearings are a common feature of courts' decision-making.

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1 Open doors: When the public comes to the court

People behave differently when observed by others. They do so to create the best image of themselves. When judges make decisions in a transparent environment monitored by the media and the public, then this alters their decision-making compared to when public attention to court proceeding is low. Publicity to their decision-making alters judicial output. Lacking any tools to directly enforce their decisions (Hamilton 1788, Federalist No. 78), judges should be especially attentive to the perception by others, as they rely on their reputation as the main source of power (cf. Baum, 2006; Caldeira, 1987; Caldeira and Gibson, 1992, 1995; Clark, 2009; Carrubba, 2009; Epstein and Knight, 1998; Ginsburg, 2004; Hansford and Spriggs, 2006; Hausegger and Baum, 1999; Powell, 1990; Rogers, 2001; Staton, 2006, 2010; Stephenson, 2004; Vanberg, 2001, 2005). Constitutional courts are special legal entities who are particular powerful reviewing the most salient cases and they can nullify laws that they deem to be in opposition to the constitution. Understanding the impact of public scrutiny on constitutional courts is important beyond the inherent importance of constitutional law. The degree to which public scrutiny alters a court's behaviour allows one to assess to what extent constitutional courts are responsive to the public and how courts engage with public scrutiny to increase their power. This leads to the question:

How does public scrutiny impact the quality and responsiveness of judicial decision-making?

I assume that courts behave differently under the eyes of the public and the judges alter their opinion-writing which effects the content of decisions. In particular, oral hearings increase the public awareness of decision-making and this incentivizes the court to present a more thorough opinion-writing. To assess my argument, I estimate word embeddings to analyze how courts react to arguments presented in amici curiae briefs once they write their

opinions. The word embeddings allow to measure the similarity of judicial opinion-writing to briefs presented by external actors.

Oral hearings often introduce a larger audience to a court's proceeding. For the German Federal Constitutional Court (GFCC), oral hearings allow public audiences, including reporters, to the court procedure. The latter report on what they have seen and heard in court. Such media reports are likely to be followed up by additional reports after a final verdict is published.

Oral hearings allow actors to directly exchange arguments. I will examine the extent to which public scrutiny expands the deliberative quality of written opinions of highest courts. The deliberative quality is the extent to which the judges pick up on the arguments voiced by other actors, e.g. governments. As transcripts of oral hearings are not publicly available, I will introduce written briefs to proxy measure the arguments voiced by other actors in oral hearings. I assume that being watched by the public pushes judges to deal with arguments introduced by other actors and embed or dismantle them to safeguard the judicial verdict. In essence, judges should be more responsive to the voice of other actors, among them governments, parties and lobby groups, when they are being monitored by public agents, such as reporters.

The assessment of my argument has two major implications: First, the predominantly output-centric analysis of judicial decision-making does not account for the substantive information provided in written decisions. Instead, analyzes using outcome-measures omit valuable information which leads to - among others - two key disadvantages: (a) We do not account for variance beyond the often dichotomous or ordinal measures of judicial output, which do not successfully account for the actual implications of decisions, just like a parliamentary vote does not inform us about the actual application of bills in practice. (b) With

dichotomous or categorical measures, we cannot explore the mechanisms that occur at any step in the sequence of a court proceeding. While we can hypothesize that some institutional rule may be correlated with an outcome, we cannot derive evidence-based assumptions on how they do so. Herein, I explore the direct impact of oral hearings on the judicial opinion-formation.

Second, written decisions are a cross-country feature of any democratic system. Thus, the impact of briefs and oral hearings on opinion-writing can be assessed comparatively to understand judicial responsiveness more general (cf. Brouard and Hönnige, 2017; Engst, forthcoming; Garoupa, Gomez-Pomar and Grembi, 2011; Hönnige, 2009; Staton, 2006; Vanberg, 2001). In this study, I evaluate my argument using the German Federal Constitutional Courts as an example. The court grants political actors ample opportunities to file amici curiae, which allows those actors to present their arguments on a proceeding. Moreover, the media is allowed to observe and report on the hearings.

2 Strategic considerations on opinion-writing

In this section I review the key literature on why and how judges alter their opinion-writing. This will help to clarify the different strategic incentives presented to judges and how we can analyze opinion-writing to identify when judges respond to their environment.

Judges can choose their style of writing, so they can choose in which terms they present their opinion, complex or not. Diffuse written law gives judges room for interpretation (Kranenpohl, 2010: 336-341). Some scholars have already approached the analysis of opinion writing - some theoretical, others empirical - especially of the Supreme Court of the United States (SCOTUS), but recently for the French and German constitutional courts as well.

Vagueness is one way courts can alter their opinion writing to cover their lack of enforcement power or hide non-compliance (Staton and Vanberg, 2008; Sternberg, 2019). This is not captured by dichotomous measures of judicial output.

Judges can vary the degree of vagueness in their decision-writing to reduce visibility and accountability of non-compliant actors and do so to manage their reputation (Staton and Vanberg, 2008). Owens, Wedeking and Wohlfarth (2013) study under which conditions the USSC obfuscates their opinion, measured by readability indexes. They find that opinions "become less readable when justices face an increasingly distant Congress" (Owens, Wedeking and Wohlfarth, 2013: 47). Their readability measures "do not directly address the complexity of legal doctrine or the nuances involved with legal writing" (Owens, Wedeking and Wohlfarth, 2013: 36). Readability may also be highly correlated with the issue at hand, and by extension, some legal domain or policy area beyond case complexity, which is simplistically operationalized as "the number of amicus curiae briefs filed in the case" (Owens, Wedeking and Wohlfarth, 2013: 47). Vanberg (2005), and subsequently Krehbiel (2016), categorize procedures by complex and non-complex issue areas. "The complexity of an issue area determines, in part, how easily citizens, with the help of opinion leaders, can monitor legislative responses" (Vanberg, 2005: 14). Simple issues are more tangible for the public, and enjoy more attention due to the fact that they are easier to understand. Complex issues involve all things financial, whereas simple issues involve "institutional disputes, family law, judicial process, individual rights, asylum rights, and military conscription" (Krehbiel, 2016: 997).

I assume that the complexity of an issue is best idenitified for each case instead of relying on a dichotomous issue categorization. The idea is that while some issue areas may be more complex than others, the complexity of any case still varies within and across issue

areas. Even if we assume issue areas influence the baseline complexity a decision has, the judges can still vary in their opinion-writing and choose to keep it as simple as possible. They may intentionally overcomplicate their style of writing. This variation in complexity within any issue area is ignored by a dichotomous measure.

This section gave a brief overview of how judges can alter their opinion-writing and why they choose to do so. I seek to analyze the observable impact of oral hearings on opinion-writing to understand whether the transparency and attention measured by oral hearings (cf. Vanberg, 2005: 103) impacts the substantive decisions of constitutional courts. The following section will summarize approaches to analyze the impact of oral hearings on judicial decision-making, and how oral hearings can alter the strategic action of judges.

3 Oral hearings and their strategic use

Vanberg (2005: 91) and Krehbiel (2016) focus on the set of cases where the GFCC has authority on the decision to hold oral hearings, which "includes constitutional complaints, concrete review, public law disputes, election disputes involving the constitutionality of an electoral law, constitutional disputes between the national and state governments, and constitutional disputes within a state" (Krehbiel, 2016: 997). This categorization of cases does not account for the formal law on the GFFC, the Bundesverfassungsgerichtsgesetz (BVerfGG). Vanberg (2005: 91) acknowledges that a variety of actors are generally permitted to file amicus briefs, including the involved parties in a case. If a constitutional complaint addresses the constitutionality of a law, then involved parties, including federal and state governments and parliaments, are permitted to file briefs (BVerfGG §77). The set of actors eligible to file amicus curiae are also entitled to an oral hearing. Only if they surrender their right to an oral

hearing, according to formal law, can the court forgo the oral hearing (BVerfGG §94). BVerfGG §94 is in effect since 1986. Accounting for formal law, oral hearings are not merely a tool of power to the court. It is an institutional feature that can be introduced by involved actors of a court procedure in constitutional complaints (cf. Kranenpohl, 2010: 100-103). While this does not apply to all procedure types, the formal rule of procedure is that oral hearings are to be held unless all involved parties explicitly pass on an oral hearing (BVerfGG §25).

Krehbiel (2016) finds that when the federal government files a brief in defence of the statute, oral hearings are significantly more likely for constitutional complaints than for other proceeding types. I am explicitly not stating that oral hearings cannot be a strategic tool for the court. Instead, oral hearings can be a strategic tool to all involved actors of constitutional complaints.

Other scholars have presented oral hearings as a tool to reduce uncertainty, which can be used by judges to "test the waters" for the acceptance of their perspective (Engst, forthcoming: 122; cf. Johnson, 2001; Kranenpohl, 2010: 101-102, 315). Either way, oral hearings change the conditions of the procedure. As Vanberg (2005) describes in more detail, and is apparent from the BVerfGG, oral hearings are not only likely to proxy issue salience and thus signal higher public attention, they also allow the media to get important imagery and information to report on. In sum, oral hearings put judges under increased public monitoring.

Further evidence that oral hearings impact judges is presented by Johnson, Wahlbeck and Spriggs (2006), who investigate the impact of oral arguments on judicial decision-making. The quality of arguments may to some extent sway "the justices' votes on the merits" (Johnson, Wahlbeck and Spriggs, 2006: 109-111). Quality is proxied by the experience of lawyers at the SCOTUS (Johnson, Wahlbeck and Spriggs, 2006: 101). Expectedly, amici curiae and oral arguments should be the most professionally curated when curated by the federal govern-

ment. Thus I assume that the court should respond to the federal government the strongest, should it decide to directly respond to any brief.

In this section and the last, I summarized two important bits of evidence presented by other scholars: First, judges alter their opinion-writing. Opinion-writing is a strategic action and strategy changes in response to the action of external actors. Second, oral hearings change the strategic choice of judges. As such, oral hearings should impact constitutional court opinion-writing. In the next section, I outline my theoretic argument how and why judges respond to oral hearings in their opinion-writing. I argue that oral hearings provide signalling opportunities to judges. As strategic actors (e.g. Epstein and Knight, 1998; Hammond, Bonneau and Sheehan, 2005; Parcelle Jr., Curry and Marshall, 2011: 39-49), judges should capitalize on this opportunity to strengthen their reputation.

4 Theory

Courts are interested in sustaining an image of expertise and impartiality. It has been long-standing wisdom that courts cannot enforce their decisions: They wield neither the force nor the resources to do so (Hamilton 1788, Federalist No. 78; cf. Kranenpohl, 2010: 428-413; Staton and Vanberg, 2008; Staton, 2010: 22; Wittig, 2016: 8-10). Instead, they rely on other actors to enforce their rulings (cf. Krehbiel, 2016, 2019; Vanberg, 2001, 2005; Staton, 2010). Prominently, an attentive public can hold political actors accountable who do not comply with constitutional court decisions, e.g. by votes or protest. Legitimacy becomes the main source of power, and constitutional courts seek to sustain their power (cf. Baum, 2006; Caldeira, 1987; Caldeira and Gibson, 1992, 1995; Clark, 2009; Carrubba, 2009; Epstein and

Knight, 1998; Ginsburg, 2004; Hansford and Spriggs, 2006; Hausegger and Baum, 1999; Powell, 1990; Rogers, 2001; Staton, 2006, 2010; Stephenson, 2004; Vanberg, 2001, 2005).

To advance upon this, I introduce the following modification: To sustain their reputation, courts should signal the desirable characteristics of impartiality and expertise (e.g. Kranenpohl, 2010) through their opinion-writing. Publicity allows the court to send signals to a broader audience. Thus, courts should alter their opinion-writing in response to publicity.

Opinion-writing contains the substantive argumentation of a judicial decision and contains information that is not measured by vote outcomes. It is in their written opinion where judges develop law with references to formal law and previous decisions to shape their legal doctrine. Compare for example the analysis of policy output. The initial construction of policy scores and the assessment of policy output builds upon analysing the text content of party manifestos, instead of legislative votes. Scholars have already presented some compelling evidence that judges strategically choose their written language with the concepts of vagueness and opinion obfuscation. Judges can respond to hostile environments by altering their language. They can opt to make their opinion-writing more vague, hiding non-compliance from the public due to the difficulty of pinpointing accountable deviations (Staton and Vanberg, 2008; Sternberg, 2019; on directives cf. Engst, forthcoming). Alternatively, opinion-writing can be obfuscated: Judges increase the complexity of their written language to increase the costs of review by another pivotal actor (Owens, Wedeking and Wohlfarth, 2013).

As judges appear to make strategic choices on their opinion-writing, I assume that public monitoring provide constitutional courts with an opportunity to send signals in an effort to sustain their perception of legitimacy on the side of the public, or put simply, to sustain their power. A thoroughly written opinion signals legal expertise and impartiality through well-substantiated arguments. The intuition is that, the more public attention a court procedure

receives, the higher the benefits and, thus, incentives to signal impartiality and expertise for the constitutional court by thorough opinion-writing.

Given that citizens prefer impartial candidates to become judges (cf. Engst, Gschwend and Sternberg, 2020), and courts rely on legitimacy, a reputational source of power, judges should be interested in sustaining their impartial image and as a result the impartial image of the court. Note that judges dissent quite rarely from the collective opinion-writing and, if they do, they do not always do so because they deviate from the judicial choice, but may simply disagree on the argumentation that led to the choice. For now, I assume judges to behave collectively as the constitutional court, which is of course an oversimplification, but one that is hard to overcome given the inherent covertness of many judicial steps of action that lies in its institutional design. As such, I assume that the court sustains its impartiality through its opinion-writing. As previously argued, that is their main instrument of power.

One aspect of a thorough opinion-writing is that all legal claims are considered and discussed, including arguments presented by external actors. In that way, all actors are granted an open ear by justices and their arguments are considered equally. Equal consideration does not imply anything as to whether judges are favourable of an argument or not, but simply that each presented legal argument is discussed by the judges. By picking up presented arguments, the court can either use them as support or present specific arguments against these to safeguard their decisions. In essence, the court should respond to the presented arguments of external actors whether they are in support or not, as it is beneficial either way: To support or to protect and raise acceptance. And they should do so increasingly as attention by the public increases because the opportunity to send signals increases. Oral hearings allow public monitoring agents to attend the court procedure, which I assume increases attention by the public and thus the signalling opportunity of courts. I derive the following hypothesis:

If oral hearings occur, then written opinions are more simlar to amici curiae, compared to when oral hearings do not occur.

Oral hearings are a rather rare occurrence, but a very important one. Oral hearings increase the public monitoring capacity by introducing monitoring agents, namely reporters, to the court procedure. This allows the monitoring agents to observe the exchange arguments at oral hearings. Furthermore, while they are not allowed to record the actual oral hearing, they are allowed to record some footage beforehand, which can be well complemented with a comment on what has been observed in the oral hearing and thus make reports more attractive, especially for television and online channels, where visual material is vital to attract viewers.

In sum, my argument is that courts use publicity to send signals. They do so to sustain their reputation as highly legitimate, expertized and impartial actors in democratic systems. As publicity increases, so does the audience for signals. In the next section I present the data and measures to generate empirical evidence on how public monitoring increases the impartiality of courts towards all presented legal arguments.

5 Research Design

To test my hypothesis, I estimate word embeddings to measure the cosine similarity of amici curiae briefs to the opinion-writing of courts. A word embedding is a vector representation of the semantic meaning of the corresponding word, estimated on the co-occurrence of any word with any other word in the whole text corpus, using the unsupervised learning algorithm GloVe. Intuitively, words that co-occur with the very same words may have a similar meaning or relate to a similar issue. The higher the correlation in co-occurrence with other words, the higher the similarity between two words. Essentially, very similar tokens

can be understood as synonyms. Word-embeddings provide a resource-friendly way to analyze complex legal issues and large corpora of legal text, where manual coding often burdens researchers with a cost-intensive workload.

In detail, I make use of a varied set of German text. I conduct my analysis for the German Federal Constitutional Court (GFCC), because it is a role-model for many Central and Eastern European Constitutional Court designs (Hönnige, 2008: 526; Hönnige and Gschwend, 2010: 508), and its similarity to other constitutional courts in Europe, e.g. the Austrian Verfassungsgerichtshof and the Spanish Tribunal Constitucional (Engst, forthcoming: 85-86; Garoupa, Gomez-Pomar and Grembi, 2011: 517; Kelsen, 2008).

The construction of word-embeddings is conducted on the full corpus of 3324 senate decisions published by the German Federal Constitutional Court (Entscheidungen der amtlichen Sammlung; abbr.: BVerfGE) from 1951-2010.[1] Using all decisions to construct word-embeddings is highly beneficial as the court constructs and develops their legal doctrine through their decisions. The fundamentals of constitutional law are likely constructed early on, and then developed over time.

The word-embeddings are enriched with other sources of information to construct two corpora. To assess the robustness of all results, both corpora are used in the analysis.

For the first corpus, the corpus of all decision texts is combined with a corpus of political speeches published by German political institutions, namely the federal government, the president of the federal republic of Germany, the president of the Bundestag, the lower chamber of federal legislature and the Federal Foreign Office (Barbaresi, 2018). Training on highly specialized language, and legal language definitely is a highly specialized one, may be best done on a coherent corpus. Intuitively, the finer grained differences in contexts is best

[1] Decisions after 2010 will be introduced in a later version of this paper.

captured with a coherent corpus, otherwise finer notions within a specific jargon may be lost in the stark differences between the use of language in different text sources. The choice for compiling legal text with political speeches was intuitive, as not only do judges speak in the written decision, but amici curiae briefs are presented as well. As political actors, especially the government, are one of the most common writers of amici curiae, I argue it is important to understand the semantic meaning of their shared jargon in both the legal and political context, while retaining a somewhat coherently stylized sample of text for each, the political and the legal domain.

On the other hand, a large corpus provides a lot more information in the first place. By sampling from ten million random sentences from German news outlets and two million from the German Wikipedia Page, collected by Wortschatz Uni Leipzig[2], the second corpus is compiled to explore the benefits of additional information. Rich corpora give more opportunities to learn various meanings of a word by different sets of co-occurrences. This corpus should allow us to estimate the vocabulary used in decision text within a broader sample of words in the German language, in various contexts.

Both corpora are then processed equally. In a first step, the text is cleaned, all hyphens are collapsed, all symbols and unwanted artifacts, such as page numbers, are removed. The text is then tokenized by words, or uni-grams, split on spaces. Hyphenated words constitute a single token as well.

Subsequently, all stop words are removed from the corpus. Traditionally, stop words consists of a set of words that occur in high frequency, but carry no valuable semantic information, such as articles. These stop words do not help to identify the issue a text speaks to and are therefore omitted. However, I argue that a second set of stop words should be

[2]©Abteilung Automatische Sprachverarbeitung, Universität Leipzig (accessed June 13th, 2020)

accounted for in the legal context. When judges argue their decision, they do so using a specific set of legal vocabulary, e.g. when they decide whether a claim is merited or not. I want to identify whether issues and arguments expressed by external actors are reflected in the court's opinion-writing. To avoid correlation between issue areas and judicial outcomes, it is important to omit this set of legal jargon as well. This allows me to identify the substantive issues and arguments a written text expressed, by both external actors and the court, instead of estimating the similarity of written text upon its degree of agreement on the ruling or correlation of issue areas and decision outcomes.

To arrive at document embeddings for written opinions and amici curiae, a simple, yet established baseline approach is to simply average over all word embeddings of all tokens contained in the document (cf. e.g. Kenter, Borisov and de Rijke, 2016).[3] The cosine similarity between amici curiae and opinion-writing are then measured on the corresponding document embeddings. The cosine similarity signals the similarity of the vocabulary between two document vector representations after omitting legal sentiment words that signal whether an actor supports or rejects a claim. It is a measure of the similarity of issues and arguments addressed in writing by two actors, accounting for synonyms and relatedness of issue vocabulary within and between issues.

The preliminary analysis conducted in the next section is conducted on a subset of 552 written opinions in which external actors have filed a brief. In sum, I identify a total of 1158 amici curiae presented in the corresponding court procedures. To identify the impact of oral hearings on the similarity between amici curiae and opinion-writing, I extract each brief and opinion-writing separately from the decision texts. To arrive at a vector representation of the semantic meaning of each extracted piece of text, the vector representation of each word

[3] However, I want to move to a more sophisticated approach in later iterations of this work.

in the text is averaged. As the cosine similarities between briefs and opinion-writings are roughly normally distributed, linear regression analysis is conducted to identify the effect of oral hearings on cosine similarity of each brief to the corresponding opinion-writing. Several control variables are accounted for, including (a) the length of opinion-writing; (b) dichotomous measure of the decision on the merits; (c) whether the amicus curiae has been filed by the federal government or not; (d) whether an amicus curiae is in opposition to the final decision of the court or not.

To arrive at empirical evidence that informs us about how the GFCC responds to external actors, the final analysis will be conducted on all senate decisions since 1972. I exclude all written decisions before 1972 as the institutional set of rules and setting for the constitutional court were frequently changed in the early stages, but have been rather stable since 1972 onward.

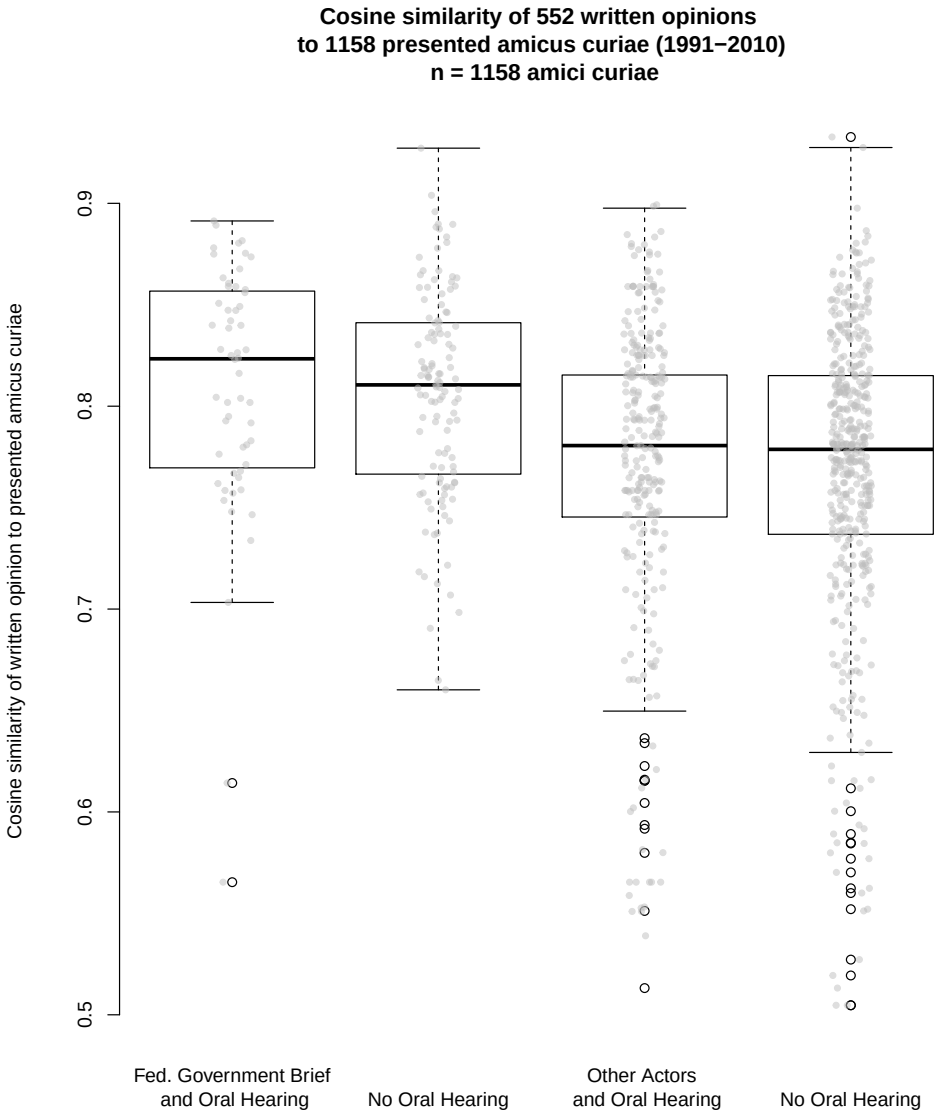
6 Results

Recall that I assume that a constitutional court's opinion-writing is more similar to amici curiae briefs when oral hearings occur, as oral hearings increase public monitoring capacity and exposes all involved actors to each other's argumentation. The observable implication would be a positive effect of oral hearings on the cosine similarity between amici curiae and opinion-writing.

My preliminary finding, however, suggests there is no change in the cosine similarity between amici curiae briefs and written opinions that can be attributed to the occurrence of oral-hearings. A view of some descriptive visualizations already reveals what is essentially a non-relationship. From left to right, the boxplots in Figure 1 depict the cosine similarity of

amici curiae briefs to the corresponding opinion-writing, written by (a) the federal government, followed by an oral hearing; (b) the federal government, but not followed by an oral hearing; (c) all actors other then the federal government, followed by an oral hearing; (d) all actors other then the federal government, but not followed by an oral hearing. Essentially, the variance in cosine similarity for each set of actors cannot be attributed to oral hearings. Some further regression analysis, not reported herein, supports what the descriptive data suggests.

FIGURE 1. Cosine similarity of amici curiae to opinion text



It appears that the government's argumentation is almost always taken rather seriously. The variance for actors other than the federal government is higher. The scatter points that reveal unique amici curiae briefs by their similarity to the corresponding opinion-writing show that the additional variance stems from a higher frequency of observations attributed with lower values of cosine similarity.

First and foremost, I was concerned about the validity of the estimated word embeddings. Are the word embeddings measuring what they are supposed to measure? They do correctly identify semantic relations and synonyms can be found among the most similar tokens, but the similarity estimates between tokens appear unprecise. In line with expectation, the expertise and importance of federal government briefs induces a high similarity, judges generally respond to governmental amici curiae (cf. Johnson, Wahlbeck and Spriggs, 2006).

It is very well possible that the oral hearings do not present the judges with a strategic game under public scrutiny, but a chance to signal. Oral hearings may be used like channel to broadcast: the court prepares their audiences for their ruling; they share their argumentation with other actors.[4]

Further, I want to employ matching strategies to match cases on various features. I seek to identify matching decisions which vary by the occurrence of oral hearings, but match as close as possible in regard to substantive issue addressed, political support and issue salience. This is required as a causal interpretation of the presented results is limited when accounting for the fact that oral hearings do not occur randomly. Whether an oral hearing is held or not is a choice by the court and eligible actors involved in a proceeding as discussed before.

[4]Further tests are necessary to validate this assumption.

7 Discussion

In sum, I find that oral hearings do not increase the cosine similarity between amici curiae briefs and opinion-writing. Apparently, an increase in public monitoring and an oral exchange of arguments does not prompt the judges to be more or less thorough in their discussion of legal arguments presented by external actors. It appears that variation in cosine similarities stems from other influences. Arguably, one is advised to account not for oral hearings, but for the issue salience itself. The effect of public monitoring may very well depend on the salience of an issue among the public. Word embeddings could be used to identify media reports that address the issues found in a decision text. We could then compare the issue salience its media presence before the court procedure as an alternative measure for public scrutiny.

Oral hearings may not be optimal for another reason: The exchange of arguments during oral hearings is not publicly accessible. Thus, I have to rely on written briefs to relate to the legal argumentation of external actors. The argumentation of written briefs is sometimes not the final position taken by actors after oral hearings. In these cases, the court sometimes reports that an actor has changed their opinion in the corresponding hearing.

Instead of oral hearings, I seek to employ an approach to capture the salience of the underlying issue in a court procedure instead of relying on oral hearings.[5] To do so, I will construct embeddings for german news media content and compare them to the court decision. I will define a threshold of similarity upon which I will regard news as addressing the same substantive issue as a court procedure. [6] The more of these news I find to occur previ-

[5] I want to thank Michael A. Bailey (Georgetown University, Washington, United States) who prompted this idea in his feedback to my presentation at EPSA 2020.

[6] As an alternative approach, I envision to construct topic models on all news and decision text and compare the similarity of 'topic embeddings', which will be constructed from the word embeddings of the most important keywords for each topic. This allows me to identify corresponding substantive issues at much lower computational demand by similarity of bags of keywords resulting from topic models.

ous to a court procedure, the higher the salience of the issue discussed. As salience increases, so should the opportunity of courts to send signals. I assume that an increase in salience leads to an increase in the similarity of opinion-writing to amici curiae briefs.

The analysis of opinion-writing provides prospects for further research. Not only does opinion-writing contain information beyond dichotomous or categorical judicial outcomes, as has been outlined with the concept of vagueness (Staton and Vanberg, 2008; Sternberg, 2019) and opinion obfuscation (cf. Owens, Wedeking and Wohlfarth, 2013). Opinion-writing also is a comparable feature of courts, allowing to compare judicial opinion-making across various contexts. Individual votes of judges are not overt at many constitutional courts, thus analyzing impacts on judicial outcomes alone does not help us to understand the political influences around constitutional courts.

To improve the presented analysis, in a first step I want to follow a more-of-the-same strategy to construct a coherent text corpus and compare the performance of a corpus consisting of legal text only to a corpus of legal and political text sources. The idea is that while several types of actors speak at the court, they often do so in legal language already. To better identify the fine-grained differences in legal text, I seek to expand the sample of legal text with two possible strategies. Both aim to improve the estimation of word embeddings by analyzing a coherent corpus over the biggest available one, but the scope of the current corpus of legal text used herein is too small. One can use constitutional court decisions written in other languages. Existing literature has already established that word embeddings can successfully be estimated and compared in multilingual contexts (e.g. Glavaš, Nanni and Ponzetto, 2017). This enables the use of plenty of new sources to enrich the legal text corpus and will be a necessary step for any comparative analysis. Alternatively, and my first strategy of choice, I will use lower court decision text to enrich the legal text corpus. This allows me to esti-

mate the meaning of legal vocabulary in a more expansive legal context. At constitutional court procedures, legal issues are discussed regarding their constitutionality at constitutional court procedures. Lower court decision text should help to create better word embeddings by building on richer information on how legal vocabulary relate to various substantive issues.

To summarize, I outline two possible approaches to capture public scrutiny: (1) Oral hearings which I assume to increase public monitoring capacity on court's decision-making, but require to account for the non-random selection on whether an oral hearing is held or not. (2) Media reporting frequency prior to a court's decision on corresponding issue areas to measure issue salience, where higher issue salience should lead to higher public scrutiny on the court's decision-making as attention on the issue is higher. The latter approach avoids the issue of non-random occurrence of oral hearings.

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