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The Role of Precedent at the European Court of Human Rights: A Network Analysis of Case Citations

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Abstract

While political scientists have become increasingly interested in the output of international courts, they have paid little attention to the manner by which these courts justify their decisions and develop legal norms. We address these issues through a network analysis of European Court of Human Rights (ECtHR) citations. We argue that, like domestic review courts, the ECtHR uses its legal justifications at least in part to convince "lower" (domestic) courts of the legitimacy of its judgments. Several empirical observations are consistent with this view. First, country-specific factors do not determine the case-law on which the Court relies. Instead, it cites precedent based on the legal issues in the case. Second, the Court is more careful to embed judgments in its existing case law with respect to the more politically sensitive decisions. Third, the court embeds its judgments in case-law more when the respondent government is from a common law legal system where the courts traditionally rely more on similar justifications. In all, we conclude that the ECtHR by and large uses case law to justify its decisions in a way that is similar to domestic review courts. Finally, we highlight the utility of applying network analysis to further study the development of international legal norms.

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The Role of Precedent at the European Court of Human Rights: A Network Analysis of Case Citations

How do international courts justify decisions with citations to their own case law? This question is interesting for at least two reasons. First, in 'normal' courts, judgments establish principles that the court and lower courts rely on when evaluating subsequent cases. International courts are delegated the authority to resolve specific disputes rather than to develop legal principles. There is no norm of *stare decisis*. Yet, international courts do *de facto* use precedent and their judgments have become a significant source of nonconsensual international law making (e.g., Helfer 2008). We know very little, however, about how the process of building on past case law works on these courts. Do theoretical and empirical findings from the study of how domestic courts use case law extend to the international arena or does the international character of the court also determine how the network of case law is constructed? Do international courts develop a network of case law that is blind to national differences, despite making judgments that apply to states with widely differing characteristics?

Second, the manner by which international courts justify their decisions reveals something novel about how courts perceive the relationship with their external environment. Some argue that international courts tend to be unusually insulated from political pressures due to the multiple principals problem and the difficulty of legislative override. This allows these courts to behave like trustees who act according to professional legal norms rather than political prerogatives (e.g. Majone 2001, Alter 2008). Others, however, claim that international courts are highly susceptible to political pressures, mostly due to their uncertain compliance environment. Consequentially, these courts behave strategically in an effort to extent their authority while placating important domestic actors (Garrett and Weingast 1993; Garrett et al. 1998; Stephan 2002; Carrubba et al. 2008). These debates have almost exclusively been about the willingness of international courts to adopt decisions against (powerful) states. Yet, the manner by which courts justify their decisions also sheds light on these issues. We propose a strategic legitimation model in which international judges construct case law based on the assumption that they are primarily communicating with other legal professionals who value legal consistency. Yet, international judges are motivated by concerns about non-compliance. As such, they exert more effort to embed decisions into authoritative precedent when pressures of non-compliance are high.

We examine these issues on the most prolific international court: the European Court of Human Rights (ECtHR). Following recent analyses of citation patterns by the US Supreme Court (USSC), we apply network analysis to study the use of precedent (Fowler et al. 2007; Fowler and Jeon 2008; Bommarito et al. 2010). Doing so allows us to assess general patterns in the way citations become connected to each other. We focus on three patterns within the citations network. First, we rely on the concept of centrality to measure the extent to which cases cite authoritative precedent. By doing so, we can analyze which types of ECtHR opinions are more well-grounded in the Court's case law. Second, we identify which cases have been most influential within the citations network, which allows us to examine whether there are systematic

reasons why some cases become more authoritative than others. Third, we examine whether there are communities of jurisprudence within the overall network of ECtHR citations and whether membership in these communities is determined by national characteristics of the respondent governments or legal characteristics of the cases.

Consistent with the strategic legitimation model, we find that the ECtHR exerts more effort to ground its decisions in authoritative precedent on politically sensitive cases. Moreover, we find that the ECtHR uses more authoritative precedent when it decides cases from countries where domestic courts commonly use precedent in their judgments and thus the persuasive value of case law citation is highest. Yet, country-specific factors, such as legal culture, are irrelevant in determining the authority of precedent or the communities of precedent in the ECtHR's case law network. Instead, these communities are determined by the legal substance of cases. This evidence is not consistent with a relativist perspective that the court uses different justifications for different (legal) cultures. It is also inconsistent with a view that citations purely serve an internal communication function or that the court is apolitical. In all, the evidence suggests that the ECtHR justifies its decisions like a 'normal' court. This is consistent with Voeten's (2008) finding that ECtHR judges behave like 'normal' review judges in that their votes are influenced by ideology but not by the interests of their national governments or cultural differences.

Aside from these insights, we offer descriptive and methodological contributions. Little is known about the development of legal norms on any international court. Part of our aim is to describe salient features of the ECtHR citation network, such as how the grounding of judgments in precedent has developed over time, and what are the most significant divisions between the Court's areas of jurisprudence. We also describe the main communities of jurisprudence within the Court's corpus and explain the key differences between them. The ECtHR has issued more than 10,000 judgments and encompasses states with varying legal cultures and levels of development, including twenty states outside the European Union such as Russia and Turkey.[1] Like the USSC, the ECtHR allows individuals to challenge that a government act, practice or law is inconsistent with a supreme body of law: the 1950 European Convention for the Protection of Human Rights and Fundamental Freedoms (hereafter: the Convention). USSC citations to ECtHR jurisprudence have caused controversy in the U.S. (Zaring 2006). Moreover, a growing debate exists on whether the ECtHR has become a *de facto* constitutional court that develops precedent in ways that are similar to the USSC (e.g., Stone Sweet 2009). For all these reasons, it is important to develop a better understanding of the ECtHR's case law.

The application of social network analysis to judicial citations is a relatively novel area of research, especially to courts outside the U.S. Just as scholars learned a great deal from applying empirical spatial models of legislative voting (e.g., NOMINATE) to alternative institutional settings (Poole and Rosenthal 2001), we can learn much from extending the application of

[1] The 27 EU members and Albania, Andorra, Armenia, Azerbaijan, Bosnia and Herzegovina, Croatia, Georgia, Iceland, Liechtenstein, Moldova, Monaco, Montenegro, Norway, Russia, San Marino, Serbia, Switzerland, the former Yugoslav Republic of Macedonia, Turkey, and Ukraine.

network analysis to a new institutional environment. While we are not the first to apply these methods to a citations network, ours is the first study that (a) applies these methods to an international court; (b) analyzes the relationship between case characteristics and a decision's importance in the precedent network; and (c) explains the substantive nature of the different communities in a legal citations network. From a methodological perspective, our most notable finding is that the network of ECtHR citations is a scale-free network, like most citation networks (especially academic citations) but unlike the USSC citation network. We offer some testable hypotheses as to why these differences may occur.

We proceed by first discussing the alternative models regarding the role that citations to precedent play in international courts. We then analyze the properties of the network of ECtHR citations, including by comparing them to those of the USSC, before turning to an analysis of the authority of precedent and communities within the ECtHR network.

Theoretical Perspectives on the ECtHR's Use of Precedent

The role and usage of precedent on international courts is unclear. Most international tribunals are explicitly asked to limit their focus to the dispute at hand. For example, Article 59 of the ICJ's Statute proclaims that "The decision of the Court has no binding force except between the parties and in respect of that particular case."[2] Yet, the ICJ motivates its resolution of disputes with extensive references to its past opinions and considers these precedential (Shahabuddeen 2007). D*e facto* norms of *stare decisis* also operate at the WTO (e.g. Busch 2007). Similarly, although the ECtHR has to "confine its attention as far as possible to the issues raised by the concrete case before it,"[3] it relies heavily on its past decisions, has no trepidations in referring to these decisions as "precedent," and has developed an elaborate system to keep track of its case-law (Wildhaber 2000).

The most obvious and direct purpose of citations is to develop an internally consistent body of law. Citations help improve efficiency as they limit the degree to which previously resolved issues need to be revisited. Moreover, the persuasive force of precedent may help a collegial panel of judges reach consensus. These points are especially important as the ECtHR has an enormous backlog of cases (over 125,000 as of early 2010), many of the cases involve legal issues that have previously been addressed, and cases are decided by panels rather than all 47 ECtHR judges.[4]

Yet, citations may also serve a different purpose than internal communication. Most notably, the literature (especially on U.S. Courts) suggests that judges cite past cases to help legitimize their decisions to external audiences (e.g., Merryman 1954; Harris 1985; Tyler & Mitchell 1994; Hansford & Spriggs 2006, Hume 2006, Corley et al. 2005). Any court that resolves

[2] Although article 38 allows judiciary decisions to be a "subsidiary means."

[3] 13 August 1981, *Young, James and Webster vs. UK*,

[4] Most ECtHR judgments on the merit are reached by seven judge panels. Some cases are referred to the seventeen judge Grand Chamber.

a dispute between parties must tell the losing parties why they lost. In all modern societies, judges tell the loser: "You did not lose because we the judges chose that you should lose. You lost because the law required that you should lose" (Shapiro 1994). Such justifications are essential to establish the perception that a tribunal is impartial. Demonstrating the consistency of a decision with past decisions may alleviate the losing party's potential to claim that a decision was whimsical or motivated by non-legal considerations.

Such considerations should be no less relevant on the ECtHR. For example, Alec Stone Sweet (2009, p.1) points out that:

> "[..] judges in Strasbourg confront the same kinds of problems that their counterparts on national constitutional courts do; and they use similar techniques and methodologies to address these problems. [..T]he Court performs its most important governance functions through the building of a precedent-based jurisprudence. Through precedent, the Court seeks to legitimize its lawmaking, to structure the argumentation of applicants and defendant States, and to persuade States to comply with findings of violation. It does so in the name of "legal certainty and the orderly development of [its] case law."

If the purpose of citations is at least partially to persuade external actors, then there is much more to judges' choices of citation than a mechanical reliance on the most relevant precedents (Epstein & Knight 1998). To start with, the choice of what precedent to cite should at least in partially depend on the characteristics of the audience at whom the decision is targeted. There is a multitude of potentially relevant audiences. Hume (2006, p. 824) writes that:

> "Justices who are concerned about legitimacy may have a number of different audiences in mind. They may wish to persuade fellow members of the Court to join their opinions or prevent others from defecting. They may want to influence the lower court judges who are responsible for interpreting their decisions or the administrators and other actors who are in charge of implementing them. Or they may wish to write opinions that are well-regarded by the legal community, both now and in the future, thereby enhancing their reputations as jurists."

All these audiences are potentially important for the ECtHR, but domestic ("lower") courts are especially crucial. There is no supranational executive body that has coercive authority to enforce ECtHR judgments.[5] The Court thus relies to a great extent on its abilities to persuade states and domestic courts to implement its rulings. Executives may care about some citations. For example, Voeten (2010) suggests that the ECtHR's reluctance to cite case law from outside the Council of Europe could be explained by fear that executives might use such citations to delegitimize ECtHR judgments. Yet, generally judges and legal professionals are much more attuned to the details of legal opinions than are politicians. We therefore suspect that the extent to which a case is motivated by precedent—and the types of precedent cited—may be especially important to domestic courts. Like the ECJ (Weiler 1994), the ECtHR depends strongly on the

[5] The Council of Europe's Committee of Ministers monitors the execution of judgments but does not have meaningful coercive authority, other than recommending that a member state be expelled from the Council.

willingness of domestic courts to implement its judgments. This is not only to ensure compliance with its immediate judgments but also to ensure that the legal principles it establishes have a broader effect. As the Court put it in 2003:

> "Although the primary purpose of the Convention system is to provide individual relief, its mission is also to determine issues on public-policy grounds in the common interest, thereby raising the general standards of protection of human rights and extending human rights jurisprudence throughout the community of Convention States."[6]

Cooperation from domestic courts is crucial for this. For example, if the ECtHR finds that the UK cannot deport a suspected terrorist to a country where he may be tortured (*Chahal v. United Kingdom*), this does not create a formal compliance obligation for Belgium or any other state in the Council of Europe nor does it formally command how the UK should act in new cases. The judgment does, of course, signal that the ECtHR would likely rule the same way if a similar case emerged, providing that countries believe that the ECtHR consistently applies case law. Yet, this is a long and arduous process as applicants need to exhaust domestic remedies before their ECtHR application is admissible. Moreover, this would (and does) strain the workload of the ECtHR with large numbers of cases in which the legal issues are essentially duplicative. It would be much more desirable if the Belgian and UK courts would implement established ECtHR principles. Our suggestion is that the ECtHR's use of precedent is at least partially aimed at persuading these courts to do so.

We argue that the ECtHR strategically adjusts its citations to the characteristics of the case and the domestic courts it is communicating with. We start with two basic assumptions. First, ECtHR judges believe that the domestic judges they communicate with are more likely to be persuaded by decisions that are embedded in prior case law and are more likely to implement more persuasive judgments than less persuasive ones. Second, embedding decisions in relevant case law is costly as it requires effort on the behalf of ECtHR judges, an assumption shared by the literature on U.S. courts (e.g., Lax & Cameron 2007; Lupu & Fowler 2010). If these assumptions hold, then the ECtHR should exert more effort in embedding decisions into previous case law when the benefits to persuading domestic judges are greater.

An alternative perspective that has a divergent expectation in this regard is what we call a model of "relativist legitimation." Several legal scholars suggest that cultural relativist methods of legal interpretation have entered the ECtHR's jurisprudence via the "margin of appreciation doctrine" (see the discussion in Sweeney 2005), which holds that each country has some latitude to resolve conflicts that arise between individual rights and the perceived national interests or values of that country (e.g., Yourow 1996). This doctrine was first explicitly stated in the 1976 *Handyside v. UK* judgment in which the Court reasoned that:

> "It is not possible to find in the domestic law of the various Contracting States a uniform European conception of morals. The view taken by their respective laws of the

[6] ECtHR, judgment of 24 July 2003, *Karner v. Austria* .

> requirement of morals varies from time to time and from place to place which is characterized by a rapid and far-reaching evolution of opinion on the subject. …[This] leaves to the Contracting States a margin of appreciation."

These three theoretical perspectives—internal consistency, strategic legitimation and relativist legitimation—offer competing predictions regarding several dimensions of the pattern of the Court's citation practices. First, while some of the Court's opinions cite a significant amount of case precedent, others cite a much smaller amount. The internal consistency model would argue that this variation is largely based on the legal issues in the case. Under this view, the variation in citations to precedent should be based on the number of cases on similar legal issues already in the system: the more cases there are, the easier it is for the court to embed its decisions in precedent.

In one sense, the strategic legitimation perspective converges with the internal perspective on the basis by which judges select cases for citation. What Slaughter (2003) calls the "global community of courts" is "[…] forged more by their common function of resolving disputes under rules of law than by the differences in the law they apply and the parties before them" (p. 192). Thus, in order to be persuasive, ECtHR judges should choose the precedents they cite based on the legal issues in the case, not based on the characteristics of the country in question.

Nonetheless, the strategic legitimation perspective offers three predictions that differ from the internal model, all of which are based on the notion that some domestic courts will need more convincing on some cases than on others and the extent to which this is so is at least somewhat predictable. First, Harris (1985, pp. 209-10) argues that courts of last resort cite more authoritative precedent "the more difficult and uncertain the decision. … Legitimacy is always an intrinsically difficult achievement for courts, but some decisions require more legitimation, and thus more display of information, than others" (see also Hume 2006). Cases such as *Chahal*, which invoke physical integrity rights, go to the heart of executive control over a society. On such cases, all domestic courts face some amount of political pressure to interpret the legal facts in a light more favorable to an executive. For such cases, the Court should be particularly diligent in grounding its decision in authoritative precedents that demonstrate that similar norms have been applied elsewhere.

Second, the Court should better embed its decisions into case law when it finds a violation against a government and when it rejects a preliminary objection by a government. Findings of no violation communicate meaningful information to domestic courts about the proper interpretation of the Convention. Yet, on such judgments domestic courts do not face pressure to go against the ECtHR's finding and thus need less persuading to implement judgments. Preliminary objections are arguments filed by governments that a case should not be evaluated on the merit. In rejecting a preliminary objection, the ECtHR has to defend its jurisdiction and the applicability of the Convention on a legal issue. These are cases where a respondent government explicitly claims that the Convention does not apply but the ECtHR finds otherwise.

It is reasonable to expect that on such cases the pressures against implementation are strongest and so should be the demand for strong justification.

Third, extensively motivating decisions with precedent may be a more important tool of persuasion when communicating with common law courts than with civil law courts. Precedent-based jurisprudence is relatively more important in the former legal system (Troper & Grzegorczyk 1997) and so may be more likely to persuade common law judges. This should give ECtHR judges additional incentives to justify their decisions with past case law. These observable implications all diverge from a purely internal perspective in the sense that the latter perspective does not provide any reason to expect that the strength of justification should vary according to how politically sensitive the implementation of a judgment is or how receptive the audience is likely to be.

The relativist legitimation perspective offers a competing prediction regarding the extent to which ECtHR decisions will be embedded in precedent. Specifically, this approach predicts that the characteristics of the respondent country will be the primary determinants of this, rather than the legal issues. Gerards (2008), for example, finds that the Court follows an individualized case-based approach to justifying its judgments, with different justifications for different circumstances. In an influential book, Mitchell Lasser (2004) has argued that the perceived legitimacy of specific forms of legal reasoning depends crucially on cultural context. What he calls the “particular problematic" of legal justification “shapes (and is shaped by) the judicial system that addresses it, thereby conceptually creating and recreating that system’s particular argumentative, conceptual, and institutional universe" (p. 298). For example, arguments used to justify findings of violations in the UK (and other common law countries) may not be particularly persuasive for domestic courts in civil law countries or in countries with lower human rights standards, such as Turkey.

A second dimension of the pattern of the Court's citations is the extent to which decisions themselves set authoritative precedent, a concept we operationalize in the next section. While some of the Court's opinions are cited relatively infrequently after they appear, others become more highly influential, as evidenced by the extent to which they are cited. With respect to this dimension, the internal consistency model would again predict that the variation could be explained by the number of cases regarding a particular issue. Specifically, precedents covering issues regarding which the Court hears more cases will be more likely to be cited in the future by similar cases. The strategic legitimation approach offers a less specific prediction regarding this dimension. If the Court cites precedent based on the legal issues in the case, not based on the characteristics of the country in question, then legal issues should be the primary determinants of the extent to which a case becomes influential. While it is likely that cases covering certain legal issues will be more influential than others, we are not able to provide ex ante predictions in this regard. Finally, the relativist legitimation approach offers a contrasting prediction. If the Court cites precedent based on the type of respondent country, then this should be the primary determinant of the extent to which the decision sets authoritative precedent, rather than the legal issues.

A third dimension of the pattern of the Court's citations is the set of communities within the Court's jurisprudence. Here, the logics of the three approaches outlined above also offer competing predictions. If the Court chooses its citations primarily based on legal issues, then we should expect its body of precedent to break down in terms of areas of legal doctrine. The internal consistency and strategic legitimation models share this prediction. By contrast, if the Court cites cases based on the respondent country, then its jurisprudence should break down along country-by-country lines or at least be grouped by types of countries, which the relativist legitimation model would predict. Table 1 summarizes the observable implications of these three theoretical perspectives. The table separates predictions along the three dimensions discussed above. It should be apparent that the theoretical perspectives are not always mutually exclusive, so we are looking for patterns in the data that are more or less consistent with the alternative perspectives.

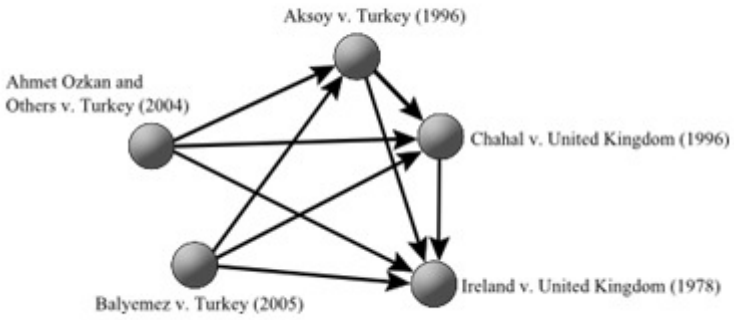
Table 1: Observable Implications			
	Internal Consistency	**Strategic Legitimation**	**Relativist Legitimation**
Purpose of case law citations	To develop an internally consistent body of precedent.	To persuade domestic parties to implement decisions by demonstrating impartiality.	To persuade domestic parties to implement decisions by demonstrating sensitivity to diversity.
The Authority of Precedent the Court Relies On			
Source of variation	Primarily determined by the *number of cases on that legal issue*. The more cases on a legal issue, the more precedent will be cited (H1)	Primarily determined by the *legal issues* in the case and generally not by the characteristics of the respondent country. Physical integrity rights cases cite more authoritative precedent (H2) Cases in which a violation was found or in which a preliminary objection was rejected cite more authoritative precedent (H3) Cases involving respondent governments from common law countries cite more authoritative precedent (H4)	Primarily determined by the *characteristics of the respondent country*. Cases involving respondent governments from common law countries cite more authoritative precedent (H4)
The Authority of Precedent the Court Sets			
Source of variation	Primarily determined by the *number of cases on that legal issue*. The more cases on a legal issue, the more authoritative precedents on that issue will be (H5)	Primarily determined by the *legal issues* in the case and not by the characteristics of the respondent country.	Primarily determined by the *characteristics of respondent country*.
Communities of Case Law			
Source of variation	Communities of case law are primarily determined by *legal substance* (H6)	Communities of case law are primarily determined by *legal substance* (H6)	Communities of case law are primarily based on *legal cultural similarities* (H6a)

The ECtHR Citations Network

Before operationalizing the concepts discussed above, we describe the network of ECtHR precedents. Because our theory relies on the notion that the ECtHR cites precedent in ways that resemble domestic review courts, we compare the ECtHR citation network to that of the USSC.

To illustrate how citations can be analyzed as a network, consider for example a series of landmark judgments in the ECtHR's case law on torture and national security. The ECtHR's judgment in *Ireland v. the United Kingdom* (1978) established that no derogation is permissible from state obligations to refrain from torture even in the event of a security emergency, such as the IRA's terrorist attacks. This principle is referred to in *Chahal v. United Kingdom* (151996), which established a prohibition on extradition of individuals to countries where they may be tortured, even if the individuals are suspected terrorists. Both of these cases were cited in *Aksoy v. Turkey (*1996), in which the Court established that when an individual (in this case a suspected Kurdish terrorist) is taken into police custody in good health but is found injured on release, the burden is on the state to provide a plausible explanation that no torture took place. All three of these cases were cited in the more recent cases of *Balyemez v. Turkey* (2005) and *Ahmet Ozkan and Others v. Turkey* (2004), both of which addressed cases of Turkish security forces destroying Kurdish villages. The relationships between these cases in the network are shown in Figure 1.

Figure 1



Through 2006, the Court decided 7319 cases, the opinions of which included 35,963 citations to previous Court decisions.[7] Like the citations networks studied by other scholars (e.g., Fowler et al. 2007), the Court's citations network includes one main cluster and a large number of other cases almost all of which are neither cited by nor cite any other decisions – in network analysis terms, these are *solitons*.[8] Following the work of prior citation studies, we exclude these cases from our analysis because they are effectively not part of the citations network. Thus, we are left with a main cluster of 6172 cases and 35,962 citations. An important

[7] This figure includes only judgments on the merits.

[8] Approximately 15.6% of the ECtHR decisions are outside the main cluster. By comparison, 16.2% of the USSC's decisions are outside the main cluster in that network, and almost all of them are also solitons.

institutional difference between the ECtHR and the USSC is case selection. The certiorari system allows the USSC to focus its activities on resolving fundamental questions about how the Constitution should be interpreted. Instead, the ECtHR must accept all cases that meet admissibility criteria. A large number of its cases are straightforward applications of its case-law in which no new legal issues arise. These cases appear because the member states have not satisfactorily remedies the violations. For example, there are over 1500 nearly identical judgments on slow Italian civil court proceedings. We exclude such judgments from our database as they provide no information about our questions of interest and would artificially inflate the authority of some judgments. Having done so, we are left with a network of 2222 cases and 16,863 citations.

Judgments can invoke multiple articles of the Convention.[9] The article most frequently invoked in judgments is Article 6, with which about half of the decisions in the network are concerned. This article provides for the right of access to fair, speedy, and independent courts. Article 8 (18%) provides for a broad right to privacy from government authority, subject to exceptions such as national security and public safety. Article 5 (16%) guarantees a right to liberty, subject to exceptions such as lawful detention. Article 13 (13%) provides that national authorities must provide an effective remedy to persons whose rights under the Convention have been violated, including in cases where those violations were committed by persons acting in an official capacity. The first Article of Protocol 1 (13%) provides a right to the enjoyment of one's possessions. Article 3 (13%) prohibits torture and other inhuman treatment. Article 14 (11%) prohibits discrimination in the enjoyment of Convention rights[10] on bases such as gender, race, religion and political affiliation. Article 10 (11%) provides for the freedom of expression, subject to exceptions such as national security and public safety. Finally, Article 2 (5%) provides for a general right to life, subject to limited exceptions such as self-defense or lawful execution. Turkey has the plurality of cases in the data (14%), followed by France (12%), the United Kingdom (11%) and Italy (8%).

A useful way of summarizing the properties of the ECtHR citations network is by examining the distributions of inward citations (i.e., citations *to* a case) and outward citations (i.e., citations *from* a case), both of which are shown on log-log plots in Figure 2. Most decisions are cited by a small number of cases and, by contrast, few decisions are cited by many cases. Similarly, most of the decisions cite a small number of precedents, but a few decisions cite many precedents. This is a common feature in large-scale networks (Albert and Barabási 2002), including scientific citation networks (Boerner et al. 2004; Borgatti and Everett 1999). Interestingly, the distributions of citations differ from those in the network of USSC citations, shown in Figure 3.[11] The ECtHR has a smaller share of decisions with very few outward

[9] Data about articles are from Cichowski (2005), which includes cases through 2004.

[10] This article is only invoked in conjunction with other Convention rights, limiting its application since the Convention includes no socio-economic rights other than education. The optional protocol 12 remedies this but is ratified by less than half of Council of Europe member states.

[11] For USSC citations, we use the data provided by Fowler and Jeon 2008.

citations as compared to the USSC, which may be the result of a more developed norm of *stare decisis* in the modern era as compared to the early years of the USSC. The patterns of inward citations also differ. In the ECtHR network, the distribution closely resembles the power-law distribution of other complex networks, often referred to as scale-free networks, including the World Wide Web (Albert et al. 1999), social networks (Ebel et al. 2002), and even interactions between proteins (Jeong et al. 2001). Network theorists argue that this distribution results from a process known as "preferential attachment," (Barabási and Albert 1999) which in this context suggests that the more often a case has been cited in this past, the higher the probability that it will be cited in new cases. By contrast, the distribution of USSC inward citations is convex, deviating significantly from the power-law for cases with fewer citations. This distribution is similar to that of citations between the academic papers cataloged by the Institute for Scientific Information (Redner 1998), which covers a broad range of fields.

We have two theories on why this may be so. First, the USSC hears cases on a broader range of issues than the ECtHR. Thus, the USSC citation network may combine power law distributions for several areas of substantive law, resulting in a larger number of cases in the middle of the inward citation distribution (and, hence, a convex distribution). This suggests that judicial citation networks covering specific areas of law are subject to preferential attachment (like other networks of limited scope), and could also explain why the USSC's distribution is more similar to that of a scientific citation network covering many fields (e.g., Redner 1998). A second possible reason may lie in the earlier discussed institutional differences. When the USSC resolves a legal issue, preferential attachment may not be operable because at some point case law becomes less relevant as it is faithfully applied by lower courts. This is not necessarily so in the context of the ECtHR, which has more reason to continue to cite the same cases.

Figure 2: Distributions of ECtHR Citations

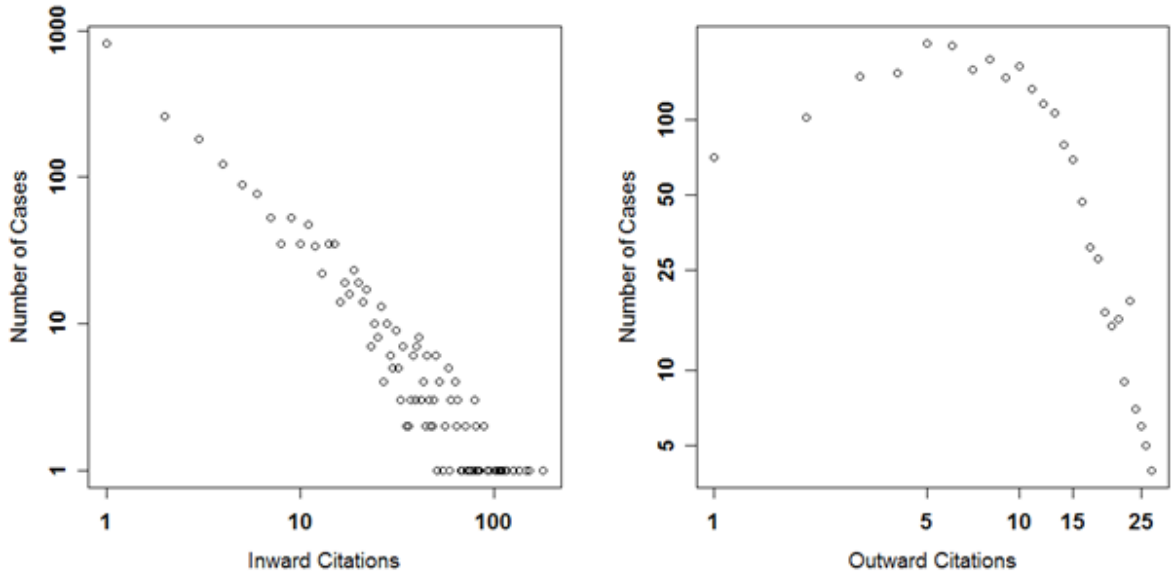
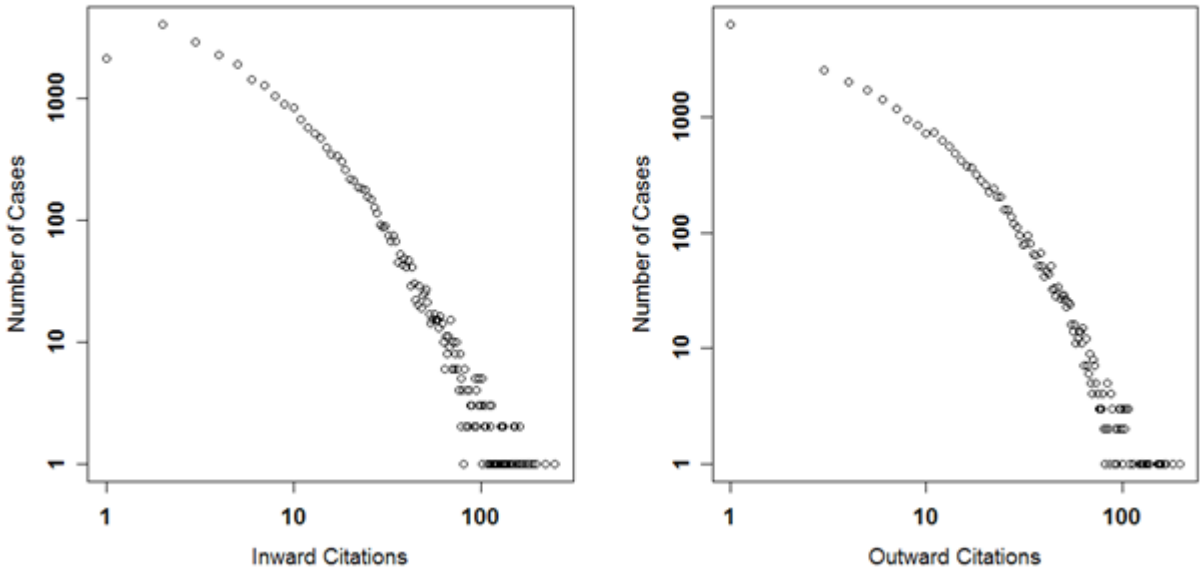


Figure 3: Distributions of USSC Citations



Finally, we can use the citations network to analyze the Court's changing reliance on precedent. Figure 4 shows how the average numbers of inward and outward citations changed from 1990 to 2006. The decline in the number of inward citations to cases in recent years is likely due to the fact that these cases have been in the network for a relatively short time and, therefore, the opportunities for them to be cited have been fewer. This finding is consistent with Fowler and Jeon's (2008) finding for USSC cases. Of greater interest is the upward trend in the number of outward citations. There appears to be a particular uptick in the number of outward citations in 1999, the first year of the post-Protocol XI Court.[12] Before the adoption of this protocol, states were allowed to exempt themselves from compulsory jurisdiction and direct access for private litigants. Protocol XI made both private access and compulsory jurisdiction mandatory. Moreover, the Protocol implemented further institutional reforms that made the ECHR a full-time court and better insulated the judges. It appears that the creation of a full-time court has increased the reliance of judges on precedent, perhaps due to increased professionalism or insulation or simply because reliance on general precedent helped the Court deal with its increased caseload. We again compare the ECtHR to the trends in the USSC's citation patterns (shown in Figure 5). Although the two networks have significant size and temporal differences, we note that both display an overall growth in outward citations over time and a decrease in inward citations to newer cases.

[12] The Protocol went into force on 1 November 1998.

Figure 4: Average Numbers of ECtHR Citations

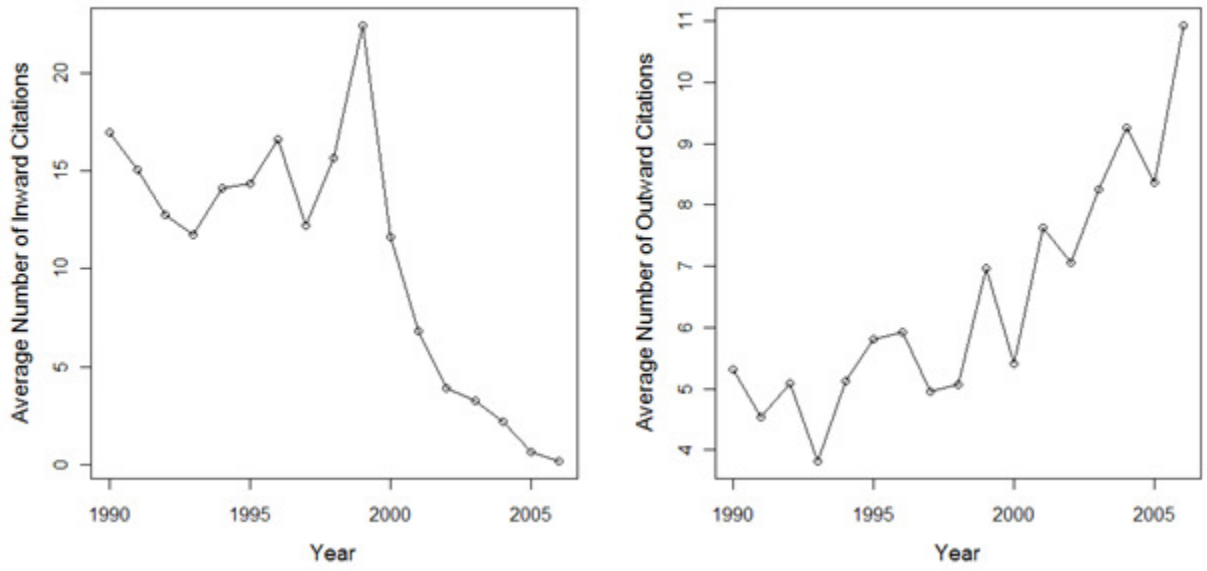
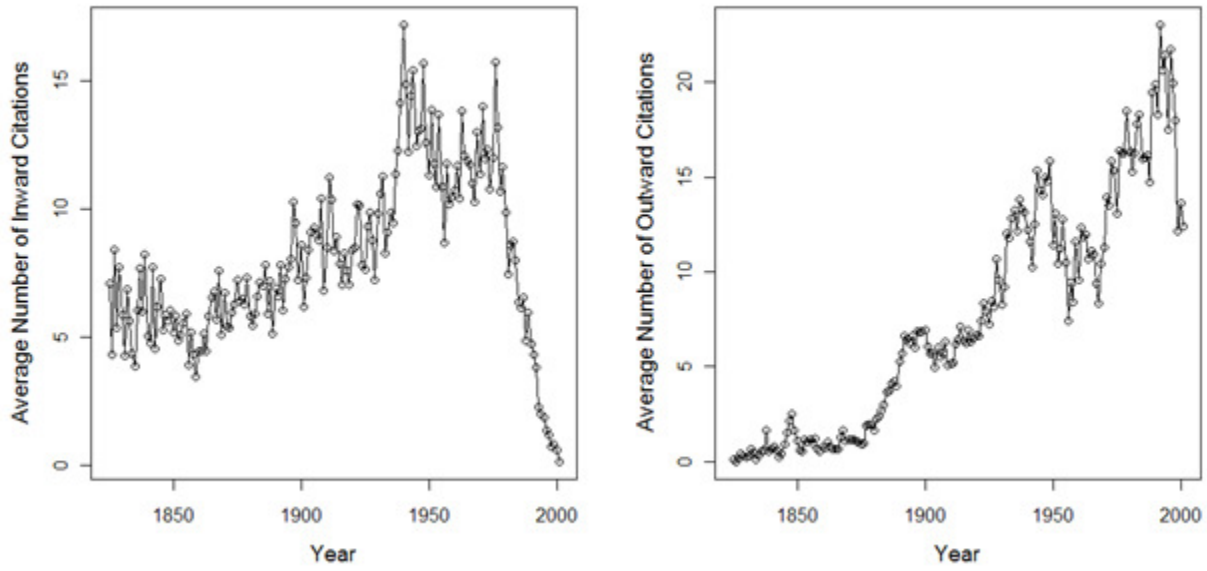


Figure 5: Average Numbers of USSC Citations



Authoritative Precedents in the ECtHR

In order to test most of the hypotheses provided by the alternative models of citation behavior, we analyze the extent to which ECtHR decisions cite important precedents and become authoritative precedents by relying on the network concept of centrality. Decisions that are more central are those that are deeply embedded in the network, either because of the extent to which they cite other decisions or because they have been cited by other central decisions, and most often for both reasons. By contrast, decisions that are peripheral are not well-connected to other

precedents in the network. Thus, from a substantive perspective, cases that are more central can be thought of as being more important or authoritative within the citations network.

The concepts "important precedent" or "authoritative precedent" are open to multiple interpretations. Yet in recent years, scholars of U.S. courts have developed measures of these concepts that carry considerable face validity (Fowler et al. 2007; Fowler and Jeon 2008) and that can be extended to the ECtHR context. The measurement procedure relies on network analytic methods to identify two kinds of conceptually important opinions, *hubs* and *authorities*. A *hub* is an opinion that cites many other decisions, helping to define which legally relevant decisions are pertinent to a given precedent. An *authority* is an opinion that is widely cited by other decisions. Most decisions act as both hubs and authorities, and the degree to which they fulfill these roles is mutually reinforcing within the network of cases. An opinion that is a *good hub* cites many *good authorities*, and an opinion that is a *good authority* is cited by many *good hubs*. Two factors directly affect the hub score of a case: (1) the number of other cases it cites; and (2) the authority scores of the cases it cites. Thus, while it is possible for a case to have a high hub score by simply citing many unimportant cases, the cases with the highest hub scores are ones that cite many authoritative precedents.

Fowler and Jeon (2008) calculated hub scores and authority scores for all USSC majority opinions through 2002. They showed that the scores are consistent with expert opinions of the most influential cases and they can be used to predict which cases will be identified as important in the future. It should be noted that these scores are dynamic. For example, the hub score of a given opinion may change over time as the cases it cites are cited (or not cited) by other cases because that activity causes their authority scores to change. Similarly, the authority score of a case may change as it cited by more cases, especially if those cases have high hub scores.

Using this method, we have calculated the authority scores and hub scores for ECtHR cases through 2006. While there are no expert rankings of the most important ECtHR decisions as there are for the USSC, the Court's own ranking of the importance of cases can be used to assess the validity of the authority score measures. The mean authority score for Level 1 cases is 24.6, while the mean authority score for Level 2 cases is 6.7, a significant difference at the 99% level. In addition, cases that come to the Court from the Grand Chamber, which are generally more important,[13] have a mean authority score of 33.4, while other cases have a mean authority score of 6.4, a significant difference at the 99% level.

We can use the hub scores of ECtHR to test Hypotheses 1-4. If Hypothesis 1 is correct, then cases addressing the legal issues that appear most often before the Court should have larger hub scores. A finding that Article 2 and 3 cases have larger hub scores would confirm Hypothesis 2. Hypothesis 3 would be supported by a finding that decisions against governments have larger hub scores. Finally, if Hypothesis 4 is correct, then cases from common law countries should have larger hub scores than those from countries with other legal traditions.

[13] The Grand Chamber of seventeen judges takes cases it deems important directly and also reviews some decisions by the regular seven-judge Chambers, usually at the request of respondent governments.

We focus on the hub scores of cases when they were published (INITIAL HUB SCORE) because we want to know how well-grounded in law a decision is at that time (see Lupu & Fowler 2010; Cross et al. 2010). We include several dummy variables indicating the type of legal system used in each case's country of origin (LEGAL ORIGIN), using data from La Porta et al. (1998). The base category is the common law system. The income level of a respondent country may be related to the severity of the alleged violation, so we also include a measure of the natural log of per-capita GDP of the country of origin during the year in which the case was decided, using data from the Penn World Tables (Heston et al. 2009) (LOG PER CAPITA GDP).To determine the extent to which the legal substance of a case affects the INITIAL HUB Score, we include several dummy variables that indicate whether the decision addressed the provisions of the Convention that are invoked most frequently in the network (code "1" if yes and "0" if no). Because countries tend to violate (or allegedly violate) the same provisions of the Convention on multiple occasions, there is some correlation between the country of origin of the cases in the network and the legal substance of those cases. For example, 112 of the 265 French cases in the network includes involve Article 6. Thus, our research design is intended to untangle this correlation in order to determine whether country characteristics or legal substance is more important to the ECtHR judges' choices of precedents.

Several other characteristics of decisions may also affect the extent to which the Court cites authoritative precedent. If the Court relies more heavily on citations to precedent when it rules against a government, this should occur in cases in which it finds a government has violated the Convention (VIOLATION FOUND) and those in which it rules against a country's preliminary objection (PRELIMINARY OBJECTION REJECTED). Because the Grand Chamber tends to take on more salient cases, it may be the case that its decisions will exhibit a greater reliance on precedent, so we include an indicator for these cases (GRAND CHAMBER). As noted above, the Court began relying more greatly on citations to precedent after the implementation of Protocol XI, so we control for whether the case was decided before or after this event (POST-PROTOCOL XI). Finally, we note that, by virtue of the algorithm used to calculate them, INITIAL HUB SCORES decline over time as more cases enter the network. Because this decline reflects the construction of the network measures rather than a substantive change in the extent to which decisions are grounded in precedent, we follow other studies of these measures (Fowler and Jeon 2008; Lupu & Fowler 2010) in controlling for the year of the decision (YEAR). Finally, because our dependent variable is bound to be positive and has a large number of values clustered at zero (i.e., opinions that cite no case precedent), we use Tobit regression (Tobin 1958).

Model 1 in Table 1 reports our results. The most important finding here is that several areas of legal substance have a significant relationship with INITIAL HUB SCORE, while fewer country-specific variables do. We confirmed this by simulating Model 1 using the Zelig package (Imai et al. 2009) and estimating the effect sizes of the key variables on INITIAL HUB SCORE. As Figure 6 shows, the effects of the substantive legal variables on INITIAL HUB SCORE are far

greater than those of country-specific factors.[14] Because this finding indicates that the extent to which a decision cites authoritative precedent depends on its legal substance, rather than its origin, the result provides an initial finding that ECtHR judges choose the precedents they cite based on the legal substance in the case.

A second key finding is that those decisions dealing with the most sensitive physical integrity rights (Articles 2 and 3) cite significantly more authoritative precedents than other decisions, which supports Hypothesis 2. As we argued above, these difficult cases are the ones in which the Court is likely to have the greatest need to justify its decisions. In addition, several other areas of law appear to affect the INITIAL HUB SCORE. Cases involving Articles 5 (right to liberty), 13 (effective remedy) and 14 (discrimination) also result in higher INITIAL HUB SCORE, suggesting these are also areas where legitimacy is of great concern to the Court. These findings are not surprising because Article 5 cases also often involve physical integrity rights, whereas Articles 13 and 14 are always invoked in conjunction with other Convention articles and often accompany controversial Article 2 and 3 cases. Article 13 ensures that victims have a right to an effective remedy "notwithstanding that the violation has been committed by persons acting in an official capacity." This article is mostly invoked when human rights violations were committed by an agent of the state and hence are inherently politically controversial. Article 14 prohibits discrimination but only with respect to the rights guaranteed by the Convention, thus precluding suits asserting discrimination for most socio-economic rights unless that discrimination (including ill-treatment of minorities) rises to the level of inhumane treatment (Article 3) or even right to life (Article 2). More generally, many Article 14 cases involve minority rights issues, which are always politically controversial.

Article 6 (trial rights) and 8 (privacy) cases generally result in lower INITIAL HUB SCORES, suggesting that these decisions tend to cite less authoritative precedent, although these effects are relatively small. A possible reason for this is that these cases lend themselves better to a more contextual interpretation that may rely on precedent to a lesser extent. Another possibility is that these areas of law remains in flux and, therefore, the Court does not have a consistent set of precedents to follow. Interestingly, these two articles have the largest numbers of cases in the sample. Thus, this result indicates that the Court does not simply cite more authoritative precedent in areas in which it has decided the most cases, Hypothesis 1 predicts, based on the internal model.

Several other case-specific characteristics are significant in this model. First, when the Court finds that a government has violated the Convention, it is more careful to justify its finding with reference to prior precedent. The Court also does so when it rules against the preliminary objection of a member-state. Both of these findings support Hypothesis 3 and, more broadly, the notion that ECtHR strategically devote greater resources to those decisions that require more legitimation. Finally, Model 1 confirms that decisions in the Post-Protocol XI era are more well-grounded in case precedent.

[14] Effect sizes are shown with 95% confidence intervals.

Our findings with respect to the relationship between legal culture and INITIAL HUB SCORES are mixed. Because the common law system is the base category, we expected to find negative and significant coefficients with respect to all categories. Based on our results, we can conclude the Court is more careful when ruling on cases from common law countries to ground its decisions in case precedent than it is when ruling on cases from countries whose legal systems derive from the French, Scandinavian and (with a lower degree of certainty) German traditions. With respect to former Socialist countries, however, we find no significant difference from common law countries. This suggests that perhaps the Court is particularly careful to ground its opinions in case precedent when addressing Courts from states that have joined the Convention more recently and, therefore, may require more convincing. On the whole, these results provide some support for Hypothesis 4, but are not conclusive.

Finally, as we expected, YEAR has a negative, significant effect on INITIAL HUB SCORE by virtue of the methodology used to construct the measure. These results are robust to the inclusion of an indicator of domestic human rights observance: political terror scores based on Amnesty International reports (Gibney 2003).

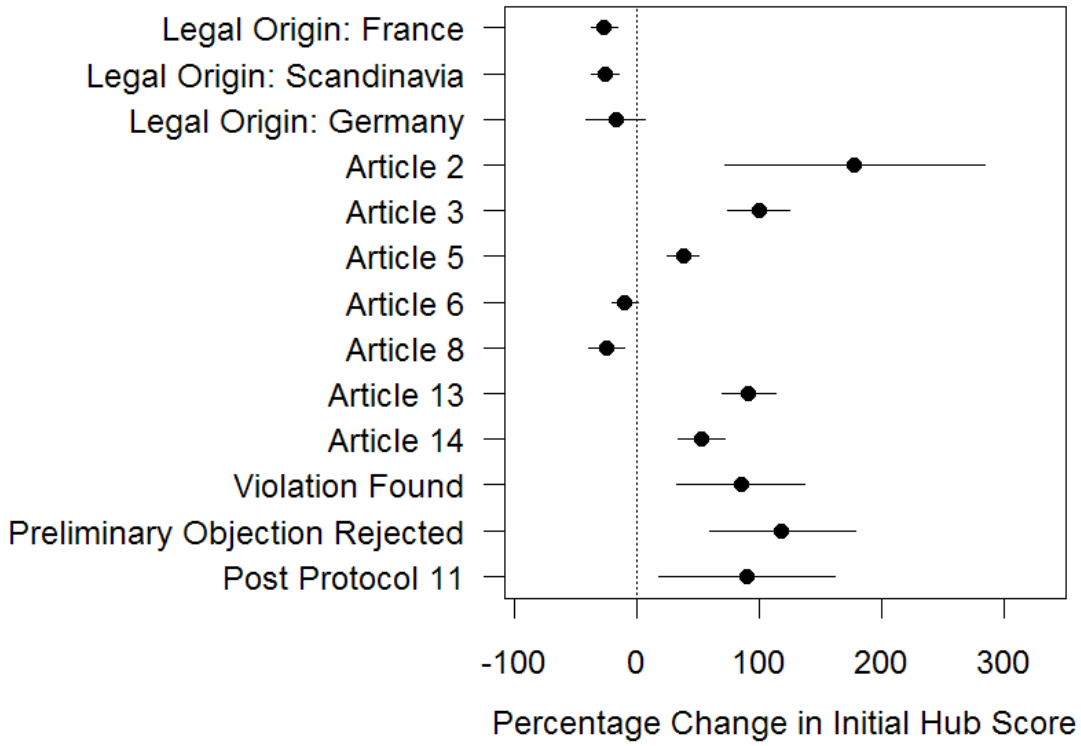
Table 1: Tobit Model of Initial Hub Scores

Variable	Model 1
Legal Origin: France	**-31.74*** **
	(6.871)
Legal Origin: Scandinavia	**-28.50*** **
	(6.178)
Legal Origin: Socialist	-18.33
	(13.14)
Legal Origin: Germany	**-35.09***
	(20.23)
Log Per Capita GDP	-10.83
	(14.02)
Article 2	**166.2*** **
	(51.96)
Article 3	**91.29*** **
	(11.98)
Article 5	**36.40*** **
	(6.460)
Article 6	**-10.88***
	(5.937)
Article 8	**-26.67*** **
	(8.111)
Article 10	15.93
	(12.19)
Article 13	**83.38*** **
	(10.37)
Article 14	**51.58*** **
	(9.453)
Prot. 1 Article 1	3.771
	(12.49)
Violation Found	**33.54*** **
	(8.642)
Preliminary Objection Rejected	**44.21*** **
	(7.607)
Grand Chamber	-1.722
	(19.71)
Post-Protocol XI	**57.14****
	(24.04)
Year	-9.064***
	(2.184)
Constant	18250***
	(4249)
Sigma	120.7***
	(13.67)
Observations	1356

Robust standard errors clustered by country are listed below the coefficients, in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Figure 6



We continue this analysis by examining whether there are any systematic factors that determine whether a case becomes more or less authoritative (i.e., more important as future precedent). We use as our dependent variable a decision's authority score as of 2006 (AUTHORITY SCORE). As above, we include LEGAL ORIGIN and LOG PER CAPITA GDP as key country characteristics. If precedent against wealthier countries is used to motivate decisions, then we may expect that the authority of a case increased with the LOG PER CAPITA GDP of the country of origin during the year in which the case was decided. In addition, if the Court tends to cite previous decisions regarding the country of origin of the case in question, then the cases from countries with more cases in the network would have higher AUTHORITY SCORES. To test for this, we include a measure of the number of cases in the network from the respondent country (NUMBER OF COUNTRY CASES). We include the legal substance variables to test whether or not they affect AUTHORITY SCORES independently from country characteristics. Because cases decided by the Grand Chamber may be more influential, we also control for this factor. Finally, we control for the year because AUTHORITY SCORES decline over time by design.

Several interesting findings emerge from Model 2, shown in Table 2. Most importantly, legal substance is a much more significant determinant of AUTHORITY SCORE than country characteristics. In fact, the only country characteristics that are significant in this model are NUMBER OF COUNTRY CASES and LOG PER CAPITA GDP, yet a simple comparison of their

coefficient to those of the significant legal substance variables suggests they have relatively small effects on AUTHORITY SCORE. We confirmed this by simulating Model 2 using Zelig and estimating the effect sizes of the key variables on AUTHORITY SCORE. As Figure 7 shows, the effects of the substantive legal variables on AUTHORITY SCORE are far greater than those of country characteristics.[15] Because this finding indicates that the importance of a case within the network depends on its legal substance, rather than its origin, the result builds our findings in the INITIAL HUB SCORE analysis that ECtHR judges choose the precedents they cite based on the legal substance in the case.

Secondly, it is important to note that only certain areas of legal substance have a significant effect on AUTHORITY SCORE—specifically, Articles 2, 3 and 5. While several Turkish cases have high AUTHORITY SCORES, the regression results indicate that this occurs not because Turkey has the most cases in the network (304 cases), but because most of its cases address Article 2 (115 cases), Article 3 (91 cases), and/or Article 5 (45 cases). By contrast, while Article 6, for example, is invoked in the most cases, this does not have a significant effect on the importance of Article 6 cases generally. That is a particularly intriguing result because, by sheer volume, we might have expected that these cases would have generated enough citations to have an impact on their AUTHORITY SCORES, as Hypothesis 5 predicts based on the internal model. One reason for this finding is that Article 6 cases are spread throughout the network, which in substantive terms means they tend to be cited by many different types of cases. This seems especially likely because procedural trial rights issues tend to come up in cases involving different types of substantive violations. Just as importantly, the lack of a significant relationship between Article 6 cases and AUTHORITY SCORES indicates that the importance of cases as precedent is not simply determined by the number of similar cases in the network.

[15] Effect sizes are shown with 95% confidence intervals. The effect sizes for LOG PER CAPITA GDP and NUMBER OF COUNTRY CASES are for one-standard-deviation increases in these variables.

Table 2

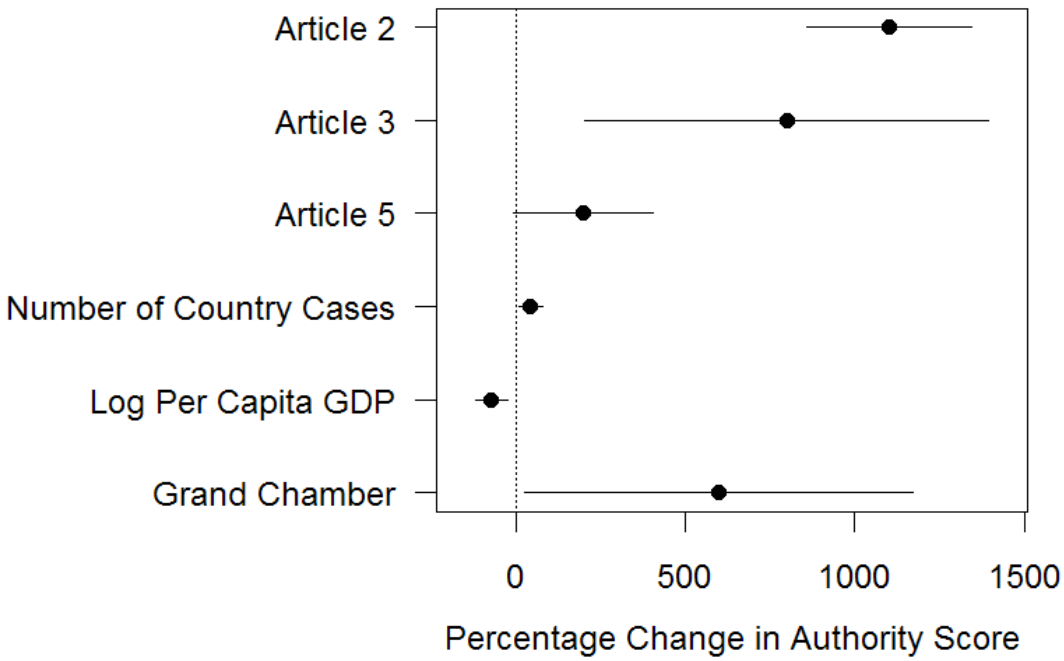
Tobit Model of Authority Scores

Variable	Model 2
Legal Origin: France	-5.824
	(3.912)
Legal Origin: Scandinavia	-0.0143
	(7.770)
Legal Origin: Socialist	-4.237
	(3.269)
Legal Origin: Germany	2.521
	(7.699)
Log Per Capita GDP	**-11.02*** **
	(3.783)
Number of Country Cases	**4.137** **
	(1.796)
Article 2	**62.56*** **
	(7.132)
Article 3	**36.39*** **
	(13.98)
Article 5	**13.52***
	(7.305)
Article 6	-2.050
	(7.024)
Article 8	-3.730
	(8.737)
Article 10	-4.222
	(11.63)
Article 13	20.97
	(16.42)
Article 14	2.909
	(7.470)
Prot. 1 Article 1	-4.311
	(6.648)
Grand Chamber	**38.46** **
	(18.83)
Year	-0.696
	(0.862)
Constant	1465
	(1712)
Sigma	74.07***
	(17.63)
Observations	1356

Robust standard errors clustered by country are listed below the coefficients, in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Figure 7



Thus far, our analysis supports the strategic legitimation model of the use citations to precedent by the ECtHR in four ways. First, national characteristics of respondent governments do not explain why some decisions cite more authoritative precedents than others, nor why some cases become more or less authoritative. This is a key indication that the Court chooses the precedents it cites based on the legal issues in the case, regardless of where those cases originated. The one exception to this is that cases against respondent governments with common law origins appear to be better grounded in case law than cases originating in states with certain other legal traditions, perhaps because common law courts are more used to this practice. However, cases against common law countries do not become more or less authoritative.

Second, the most politically sensitive cases (Articles 2 and 3) are the best grounded in authoritative precedent. Third, cases involving physical integrity rights (Articles 2 and 3) tend to set more authoritative precedent—they are cited often, and by well-grounded decisions. Because Article 2 and 3 cases tend to be both more authoritative as precedent and cite more authoritative precedent, we have an indication that these cases tend to cite each other regularly, making this a distinct area of law within the Court's jurisprudence. To determine whether this is the case, we next analyze the community structure of the ECtHR citations network. Fourth, our results indicate that the Court is most careful to ground its decisions in authoritative precedent when domestic courts need the most convincing, i.e., in cases in which the Court rules against the respondent country.

Communities in the ECtHR Precedent Network

To test Hypothesis 6 against Hypothesis 6a, we rely on the notion that networks can be divided into communities. Recently, several scholars have found communities in legislative networks based on studies of committee membership (Porter et al. 2005), roll-call voting (Waugh et al. 2009) and bill co-sponsorship (Zhang et al. 2008) in the U.S. House of Representatives. Here we ask whether different communities exist within ECtHR jurisprudence and, if so, whether membership in these communities defined by the legal substance of cases or by national characteristics of respondent governments. If the ECtHR cites precedents in a manner analogous to a constitutional review court, choosing precedents based on legal substance, then we would expect the communities of its jurisprudence to reflect different areas of substantive law.

Consistent with the network analysis literature, we define a community as a group of cases that cites each other more often than they cite cases outside the community (Porter et al. 2009; Costa et al. 2006; Newman 2004). The method we used to detect the community structure of the network is designed to maximize the extent to which cases placed in a given community cite each other and minimize citations between cases in different communities. In network analysis, this is often referred to as the modularity of a network partition, which is an indication of how well it separates the communities from each other (Newman 2006).[16]

The method we use was described by Newman (2004) and starts with a state in which each decision is a member of *n* communities. It then joins these communities in pairs, choosing the pairs that result in the greatest increase or smallest decrease in modularity. The algorithm continues to join communities into pairs until it finds the combination with the highest modularity. At this point, the algorithm assigns an arbitrary community identifier to each case. In the only other paper we are aware of that used community detection algorithms on a network of judicial citations, Bommarito et al. (2010) found that the Newman (2004) method produced stable results when used on the network of USSC citations. They also found that this stability increased when using a smaller portion of the network, which is encouraging to our research because the ECtHR network is significantly smaller than the USSC network.

The Newman method detects seven communities in the network of ECtHR citations. The first four communities contain 226, 792, 860 and 313 cases, respectively. Because communities 5 (21 cases), 6 (5 cases), and 7 (5 cases) contain so few cases, it is unlikely that we can gain any meaningful insight from them into the structure of the citations network, so we exclude them from the remainder of our analysis. We are thus left with four main communities.

A finding that supports Hypothesis 6 would be that these communities are defined along areas of legal doctrine. By contrast, Hypothesis 6a, based on the relativist legitimation model, predicts that the communities would be defined based on country characteristics such as legal culture or income. Figures 8 and 9 help clarify the substantive interpretation of these

[16] Because this type of algorithm can be sensitive to implementation details, we note that we used the software package igraph, version 0.54 (Csardi and Nepusz 2006), in the R programming language.

communities by respectively showing the percentage of cases within each community that refer to a specific article and the most common keywords for cases within that community. Community 1 is composed primarily of cases that address the most serious personal integrity rights violations, including government actions or negligence that results in loss of life (Article 2) or inhumane treatment (Article 3). Article 8 (privacy) and 13 (effective remedy) violations are often invoked in conjunction with those violations. Article 6 (right to a free and fair trial) is the most commonly invoked provision in both communities 2 and 3. The cases in community 2 primarily concern rights of criminal defendants and prisoner rights (e.g., Article 5). By contrast, the cases in community 3 primarily concern civil proceedings, such as property rights cases (P1-1). Finally, Community 4 mostly contains cases that address freedom of expression and possible exceptions to that—strikingly, the top 4 keywords in this community all pertain to Article 10 issues. These are civil and political rights issues that do not directly relate to the functioning of the judicial systems but rather to the limits of government interference into social and political life.

Figure 8: Distributions of Articles by Community

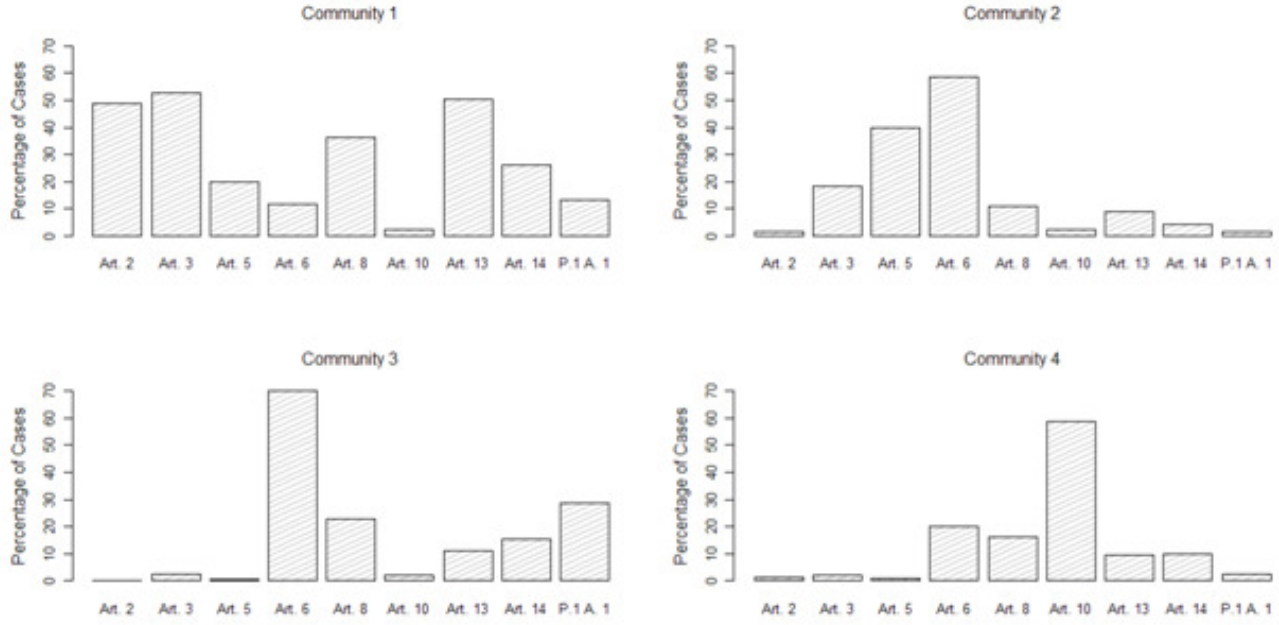


Figure 9

Community 1			Community 2		
Top Keywords	Count	% Cases	Top Keywords	Count	% Cases
LIFE	152	67.26	FAIR HEARING	180	22.73
EFFECTIVE REMEDY	119	52.65	INHUMAN TREATMENT	124	15.66
POSITIVE OBLIGATIONS	74	32.74	LAWFUL ARREST OR DETENTION	123	15.53
INHUMAN TREATMENT	69	30.53	DEGRADING TREATMENT	103	13.01
EXHAUSTION OF DOMESTIC REMEDIES	41	18.14	EXHAUSTION OF DOMESTIC REMEDIES	100	12.63
RESPECT FOR FAMILY LIFE	39	17.26	REASONABLE TIME	97	12.25
DISCRIMINATION	33	14.60	EFFECTIVE REMEDY	90	11.36
INTERFERENCE-ART 8	29	12.83	LENGTH OF PRE-TRIAL DETENTION	76	9.60
NECESSARY IN A DEMOCRATIC SOCIETY-ART 8	28	12.39	LEGAL ASSISTANCE	70	8.84
DEGRADING TREATMENT	26	11.50	IMPARTIAL TRIBUNAL	69	8.71
Community 3			**Community 4**		
Top Keywords	Count	% Cases	Top Keywords	Count	% Cases
CIVIL PROCEEDINGS	290	33.72	FREEDOM OF EXPRESSION	166	53.04
ACCESS TO COURT	230	26.74	NECESSARY IN A DEMOCRATIC SOCIETY-ART 10	130	41.53
POSSESSIONS	186	21.63	INTERFERENCE-ART 10	126	40.26
REASONABLE TIME	181	21.05	PROTECTION OF THE RIGHTS OF OTHERS-ART 10	57	18.21
FAIR HEARING	170	19.77	MARGIN OF APPRECIATION	44	14.06
PEACEFUL ENJOYMENT OF POSSESSIONS	155	18.02	INTERFERENCE-ART 8	43	13.74
CIVIL RIGHTS AND OBLIGATIONS	144	16.74	LIFE	40	12.78
LIFE	136	15.81	PRESCRIBED BY LAW-ART 8	38	12.14
EFFECTIVE REMEDY	110	12.79	RESPECT FOR PRIVATE LIFE	37	11.82
EXHAUSTION OF DOMESTIC REMEDIES	109	12.67	EFFECTIVE REMEDY	35	11.18

These findings suggest that membership in communities is determined by the legal substance of cases. Of course, because of the correlation between countries of origin and the legal substance of cases, we must perform additional analysis to understand the community structure. Because the Newman algorithm returns the communities with exclusive categorical indicators, we used multinomial logistic regression to estimate a model using similar variables to our analysis of centrality. [17] Model 3 in Table 3 includes both country-of-origin characteristics and legal substance indicators. Community 4 is the baseline.

In general, Model 3 demonstrates that the legal substance is more important than the origin of the case in terms of determining the community structure, which supports Hypothesis 6. One exception to that seems to be that cases from countries with a common law system are more likely to be in Community 2 than in Community 3, while the reverse is true for former Socialist states and those with French or Scandinavian legal systems. A plausible explanation for this is that civil court systems in common law systems tend to be less formalist and more efficient than in systems of other legal origins (Djankov et al. 2003), thus leading to fewer complaints about civil proceedings. Moreover, cases from wealthier states are more likely to be in Community 3 relative to the other communities. These findings can perhaps be attributed to the notion that human rights violations in wealthier countries are less likely to be as severe and that Community 3 in general contains less severe human rights violations.

[17] Here, we do not include controls for the year in which a decision was issued nor for the number of cases from a country because we have no reason to believe these affect the community structure.

Overall, however, the communities in the ECtHR citations are based on areas of legal doctrine. The regression results confirm the analysis above regarding the meanings of these communities. Cases involving Articles 2, 3 and 5, all of which concern physical integrity rights, tend to be in Community 1. While Article 3 and 5 cases are also often in Community 2, we know from the keyword analysis above that these tend to be cases where procedural rights were violated, rather than cases where a life was taken unlawfully, as is the case for Community 1. Community 3 contains cases addressing various areas of civil proceedings, including Article 8 (privacy), Article 14 (discrimination) and Protocol 1 Article 1 (property rights), tend to be in Community 3. Finally, Community 4, as we discussed above, appears to primarily include freedom-of-expression cases (Article 10), which we know based on the negative, significant coefficients on Article 10 in all the other communities. Interestingly, Article 6 are less likely to be in community 4 than all other communities, which indicates that trial rights issues are less likely to be raised in conjunction with freedom of expression issues than they are with other grievances.

Table 3: Multinomial Logit Model of ECtHR Network Communities

Variable	Community 1	Community 2	Community 3
Legal Origin: France	-0.120	**-1.618*** **	-0.606
	(0.581)	(0.443)	(0.417)
Legal Origin: Scandinavia	-0.507	**-1.229***	-0.184
	(0.921)	(0.664)	(0.598)
Legal Origin: Socialist	-0.0492	**-1.395****	0.977
	(0.799)	(0.668)	(0.607)
Legal Origin: Germany	1.022	-0.0640	-0.154
	(0.767)	(0.603)	(0.617)
Log Per Capita GDP	0.187	0.0338	**0.804*** **
	(0.319)	(0.262)	(0.266)
Article 2	**4.598*** **	0.871	-1.176
	(0.999)	(1.068)	(1.503)
Article 3	**3.528*** **	**3.334*** **	1.002
	(0.740)	(0.666)	(0.691)
Article 5	**2.911*** **	**5.481*** **	0.0174
	(0.876)	(0.825)	(1.090)
Article 6	**1.404*** **	**3.579*** **	**3.220*** **
	(0.472)	(0.367)	(0.347)
Article 8	**1.625*** **	-0.0508	**1.071*** **
	(0.469)	(0.426)	(0.369)
Article 10	**-4.577*** **	**-4.107*** **	**-3.519*** **
	(1.553)	(0.483)	(0.437)
Article 13	0.473	-0.735	-0.108
	(0.531)	(0.542)	(0.440)
Article 14	0.0139	-0.540	**1.300*** **
	(0.579)	(0.612)	(0.461)
Prot. 1 Article 1	**2.195*** **	0.293	**3.047*** **
	(0.677)	(0.708)	(0.576)
Constant	-4.157	-0.153	-8.174***
	(3.186)	(2.583)	(2.647)
Observations	1356	1356	1356

Robust standard errors are listed below the coefficients, in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Conclusions

As we noted above, the predictions made by the three competing approaches regarding the purpose of citations are not mutually exclusive. Nonetheless, our analysis finds strong

support for our argument that ECtHR judges cite precedent in order to provide strategic legitimation for their decisions. Our results provide strong support for Hypotheses 2, 3, and 6 as well as mixed support for Hypothesis 4, all of which are consistent with the strategic legitimation model. By contrast, we find little support for Hypotheses 1, 5 and 6a, all of which are derived from the competing approaches.

Our findings are also consistent with the perspective that the ECtHR by and large uses case law to justify its decisions in a way that is similar to domestic constitutional courts. Choices to refer to specific precedents are not systemically influenced by the characteristics of the countries involved but by the legal principles invoked in those earlier cases. This does not mean the Court's justifications are not motivated by politics. Instead, it suggests that the political considerations that enter into citation choices are not fundamentally different than those faced by domestic review courts. For example, we find that like domestic review courts, the ECtHR exerts more effort to embed its judgments in case law when the judgment is more sensitive politically. We suggest that this may be because the Court wishes to persuade domestic courts to implement the legal principles it develops and that the cost for domestic courts to do so are higher for politically sensitive cases. This conclusion is consistent with earlier findings that ECtHR judges are politically motivated in the sense that they wish to see the law reflect their preferences (as do domestic judges) not in the sense that they use judgments to settle geopolitical scores or otherwise reflect national interests or culture (Voeten 2008). Moreover, it fits with the observation that the ECtHR's internal culture is generally homogenous despite the various legal cultures represented on the bench (Arold 2007).

This analysis by no means definitively resolves the debate on whether supranational adjudication is becoming comparably effective to domestic adjudication (e.g., Helfer and Slaughter 1997). The ECtHR is among the more advanced international courts, so these conclusions may not apply elsewhere. Moreover, even if ECtHR judges use similar methodologies and techniques as domestic review judges, it may well be that their decisions do not have similar effects. This aspect is beyond the scope of this paper. Finally, we have only investigated whether the inclusion of case law is consistent across cases, not whether case law principles are applied consistently. Such a study would require more legal interpretation than we are equipped to provide. Yet, the absence of any systematic influence of country-specific factors on the citations of case law on an international court as heterogeneous as the ECtHR is telling about the potential of international law to supersede national divides.

As far as we know, this is the first social-scientific empirical analysis of the use and development of precedent on any international court. There is an increasing recognition among legal scholars and political scientists that the ability of international courts to develop legal norms is important not just because it creates *de facto* new legal obligations (Helfer 2008) but also because it shapes strategic choices of states, such as decisions where to file disputes (Busch 2007). In order to advance this study, we need a better understanding not just of how courts develop precedent but also how to measure attributes of precedent, such as its relative authority

or centrality. In accord with recent developments in the study of domestic courts, we argue that network analysis is the most appropriate tool for providing such measures.

In addition, ours is among the most comprehensive analyses of judicial citation networks. As a result, we have produced both methodological and substantive findings that should be of interest to a range of scholars. First, we have learned that, despite its short history, the changes in citation patterns in the ECtHR are similar to those at the USSC, which suggests the ECtHR develops precedent in a way that parallels certain domestic courts. Second, by comparing the distributions of citations by these two courts, we have found evidence that certain types of judicial citation networks are scale-free, the substantive implication of which is that preferential attachment plays a role in the development of legal precedent. We hope scholars interested in comparative legal institutions will investigate this point in further detail. Third, by conducting the first analysis of the substantive meanings of case communities within a network of judicial citations, we have provided a framework for scholars interested in doing so with respect to other courts.

Our analysis opens up several fruitful avenues of future research. First, there are further possibilities to study the development of precedent within the ECtHR, such as how the introduction of Eastern European countries affected the network structure of citations. Second, our study opens up opportunities to study the link between the ECtHR and other courts, including domestic courts within the Council of Europe, other international courts that regularly cite the ECtHR (especially the Inter-American Court of Human Rights), and even U.S. courts, which cite the ECtHR more frequently than any other foreign court in cases where they use foreign decisions to interpret U.S. law (Zaring 2006). Finally, given its uncertain compliance environment, the ECtHR provides an ideal setting for testing whether the quality of legal reasoning affects compliance with court decisions.

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