

The Salience and Longevity of Judicial Precedent:
A Case Study of the U.S. Supreme Court

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Abstract

Under the common law, judges often formalize their decisions through written opinions, which serve as binding or at least probative precedent for other judges. The influence of any judicial precedent, however, is potentially limited in two significant ways. One, judges may ignore precedent, with only limited oversight by appellate courts. Two, judges generate new precedent with each newly published opinion, which may reduce – or in some instances obviate – their willingness to cite older precedent. These dynamics reflect that legal precedents compete with one another in the proverbial common law market place. While scholars have written extensively on the effect of precedent on legal doctrine, our understanding of the factors that influence the salience of legal precedent remains limited. In this article, we examine United States Supreme Court published decisions for the period 1946 through 1998, and the extent to which Article III appellate and trial courts subsequently cite to them in the subsequent twenty years. We find that, controlling for observable factors, Article III courts cite Court precedent disproportionately from select issue areas; certain individual justices are cited much more than their peers on the Court; and the number of dissenting justices has no significant effect on the subsequent citations of the majority opinion. Our results provide an evidence-based approach to evaluate the Court’s effect on lower courts, and have implications for how the Court might more effectively provide guidance to lower courts.

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1. Introduction

In the United States, the federal judiciary is one of three co-equal branches of government, along with the executive and the legislature. While some have questioned the federal judiciary's relative standing (Bickel 1986), it is unique among the branches in that, unlike the president, senators, and representatives, sitting judges are free from electoral pressure. Once appointed to the bench, judges effectively enjoy lifetime tenure, subject only to removal through Congressional impeachment and conviction. Furthermore, unlike the president or members of Congress, federal judges do not compete with aspiring jurists or one another to keep their positions on the bench.

Article III judges do compete, however, with one another in one respect: influence among their peers on the federal bench. These judges – in particular, appellate judges – write opinions that, once published, contribute to the corpus of the common law.¹ Judges draw upon these existing opinions when crafting their own opinions. Earlier work has established citations as a credible proxy for judicial influence (Choi and Gulati 2004; Posner 2000; Landes et al 1998).

The citation of judicial precedent is important for two reasons. First, judges have considerable latitude when writing opinions, including their choice of precedent to support their decision. Although precedent is legally binding, judges can distinguish from them on factual grounds or ignore them altogether, with only limited oversight by appellate courts. Scholars have shown that judges cite precedent in ways that correlate with their own ideological preferences (Niblett and Yoon 2015).

Second, and relatedly, judicial precedent is the chosen currency in the proverbial market place among judges. Unsurprisingly, judicial precedent differ in their impact on the common law. For example, over 4000 federal opinions have cited *Gideon v. Wainwright*, 372 U.S. 335 (1963) – the landmark decision which established the right to counsel for state criminal defendants. And influence is not solely reserved for older cases: federal opinions have cited *Apprendi v. New Jersey*, 530 U.S. 466, a 2000 decision, nearly 24,000 times. Conversely, there have been a non-trivial number of Supreme Court decisions that have never subsequently been cited.²

Much of the existing judicial behavior literature has examined the influence on judicial precedent has been descriptive (e.g., Currie 1987), and in many instances, focused on individual Court decisions (e.g., Cassell 1996). Legal scholars recognize, celebrate, or criticize judicial precedent, particularly those that play an active role in the development of the common law doctrine. What is missing is a systematic examination of judicial precedent and the factors that influence how subsequent courts subsequently cite it.

This article examines the effect of judicial precedent by examining how Article III courts cite U.S. Supreme Court decisions. We analyze Supreme Court published decisions for the period 1946 through 1998 and the extent to which Article III courts – trial and appellate (including the Court itself) – subsequently cite them. In our analysis, in which we examine a moving twenty-year citation period, we identify three factors that commonly correspond to a

¹ As we discuss below, federal judicial opinions can be either published, unpublished, or unreported. We discuss the differences in Section 4.

² Interestingly, *Bush v. Gore*, 531 U.S. 98 (2000) – in which the Court settled the dispute in Florida over the recount for the 2000 presidential election – does not fall in this category, despite the Court expressly writing “[o]ur consideration is limited to the present circumstances” (531 U.S. at 109), Federal courts have subsequently cited *Bush v. Gore* nearly 300 times. These numbers are based on *Shepherd's Citations* of the case, dated July 28, 2020.

decision's influence: the area of law; the margin of the majority; and the individual justice authoring the majority opinion.

Our analysis generates three main findings. One, controlling for observable factors, we find that select issue areas are disproportionately cited more frequently on average than other issue areas, and in ways that are often uncorrelated with the frequency the Court grants *certiorari* in the issue area. Two, we similarly find that a handful of individual justices are cited more frequently than their fellow jurists, and in ways that are often uncorrelated with their seniority or ideology. By contrast, we find that the margin of the majority of an opinion has little effect on how often it is subsequently cited. Three, we find that while opinions vary considerably in their average citations over the twenty-year period based on issue area and authoring justice, we find much less variation in their salience over this time.

The article proceeds as follows. Section 2 provides a brief review of the literature relating to judicial precedent, including the use of citations as a proxy for judicial influence. Section 3 provides the empirical framework for determining factors influencing citations of Court precedent. We briefly discuss the sources of our data in Section 5, and present our results in Section 5. Section 6 offers implications for our research and future avenues for research. We conclude in Section 7.

2. Existing Literature

There is a well-established scholarly literature on the U.S. Supreme Court. This emphasis is unsurprising: the Court sits at the apex of the federal judiciary, as it does for the state judiciary relating to matters of federal law.

Historical, a large part of this focus has been descriptive in nature. Scholars have written on individual landmark Court decisions and their subsequent influence on legal doctrine as well as political discourse: e.g., *Brown v. Board of Education* (Klarman 2007; Ogletree 2005; Kluger 2004); *Roe v. Wade* (Garrow 2015; Balkin 2007), and *Bush v. Gore* (Hasen 2006; Dworkin 2002). Others have focused on individual justices, written either as biographies – e.g., Ruth Bader Ginsburg (de Hart 2020); Harry Blackmun (Greenhouse 2008); William Douglas (Murphy 2003); Benjamin Cardozo (Posner 1993) – or autobiographies – e.g., Sandra Day O'Connor (2019); Sonia Sotomayor (2014); Clarence Thomas (2008). Others have looked at the Court during particular periods, such as the New Deal (Cathcart 1936) or the early years of the Roberts (Toobin 2008) or Burger Court (Woodward and Amrstrong 1979).

As part of their inquiry, judicial scholars have examined institutional aspects of the Court. For example, research on the *certiorari* process, undisclosed to the public, revealed the ideological and jurisprudential concerns that justices balance when deciding whether to grant *certiorari* (Perry 1992), as well as the disagreements that arise when the Court denies *certiorari* (Linzer 1979).

Much of the recent advances in judicial behavior is based on the premise that judges, as humans, hold personal views that influence how they decide cases (Posner 1993). In contrast to legal formalists – who view that judges decide cases in light of the plain meaning of governing law (e.g., Dworkin 1977) – legal realists contend that judges decide cases through a several contemporary factors, including their conceptions of societal interest and public policy (e.g., Posner 2008). Within the realist approach, proponents of the *attitudinal model* contend that the Court “decides disputes in light of the facts of the case vis-à-vis the ideological attitudes and values of the justices.” (Segal and Spaeth 1993, p. 65).

That judges differ in ideology carries important implications. It means that judges decide cases strategically, constrained in part by the views of appellate judges (Boyd 2015; Schanzenbach and Tiller 2007) as well as other branches of government (Eskridge 1991). When writing opinions, judges draw upon judicial precedent that bolsters their position, while discounting precedent that challenges it. Toward that end, liberal judges gravitate towards liberal precedent; conservative justices gravitate towards conservative precedent (Niblett and Yoon 2015), even based on the same set of facts (Niblett and Yoon 2016).

In their study of judicial precedent, some scholars have viewed judges' citations to precedent as a proxy for their influence (Posner 2000). One common application has been the influence of individual judges on their fellow judges. While citations of precedent are highly context-dependent and governed in large part by hierarchical jurisdiction (Choi and Gulati 2008), the intuition is that more influential jurists should be cited more frequently in judicial opinions than their lesser-influential peers (Choi and Gulati 2004a and 2004b; Landes et al 1998).

Our paper builds on this important earlier work, with a different focus: we are interested in judicial precedent, not as a proxy for the jurist writing the opinion, but for its own influence. The process by which judges cite judicial precedent remains largely understudied. We are interested in the life cycle of judicial precedent, from the time an opinion is published to its subsequent influence on the common law. While other scholars have examined citation practices *within* the U.S. Supreme Court (Cross et al 2010), we are interested in the broader question how inferior courts respond to Supreme Court precedent. We contend this question is ultimately more important, since the vast majority of legal disputes resolve before reaching the Court.

The institutional design of the American judicial system limits the influence of any judicial precedent in two important ways. The first is that judges have considerable autonomy, with considerable latitude to ignore precedent, subject to limited appellate oversight. The second is that the number of precedent is only increasing. This monotonic growth may reduce – or, in some instances, obviate – judge's willingness to cite older precedent. These dynamics reflect that legal precedents compete with one another in the judicial marketplace. We focus our attention on Supreme Court precedent, given its authority over both federal and state courts.

3. Empirical Framework

In this section, we discuss our rationale for using citations as a proxy for judicial influence, our two chosen citation measures, and our empirical strategy.

Citation Counts as a Measure of Judicial Influence: As discussed above, citation counts are just one measure of judicial influence. In academic disciplines, scholars have used citation counts in economics (Quandt 1976; Stigler & Friedland 1975), political science (Caldeira 1983), mathematics, and the STEM subjects (Lindsey 1988; Diamond 1986), among others. Within legal academia, scholars have used citation counts as a proxy for academic influence among legal scholars (Yoon 2016; Yoon 2017; Posner 2000; Landes & Posner 1993) and judges (Choi & Gulati 2004; Smyth & Bhattacharya 2003; Bhattacharya & Smyth 2001; Klein & Morrisroe 1999; Landes et al. 1998; Posner 1990) alike.

To be sure, citations are an imperfect measure for both quality and influence (see Yoon 2017; Bornmann & Daniel 2006; Van Noorden 2012), an important limitation that legal scholars have raised (Phillips & Yoo 2012; Sisk et al. 2012). We similarly acknowledge the limitations of citations as a proxy for a precedent's influence. The import of any citation likely varies from one to the next, as not all citation measures are created equal. Drawing these distinctions, however, is

inherently a subjective exercise, one that we prefer not to make. We instead posit that citing precedent in the context of judicial opinions is integral to the common law, perhaps even more so than in academia, as it explicitly reminds litigants, lawyers, and judges, of earlier precedent that still hold sway with current judges, and therefore legal doctrine. For the purpose of this analysis, we require only that citations to precedent be correlated with judicial influence, not necessarily a perfect measure.

Outcome Measures: Our two outcome measures of the influence of citations are its count and its longevity. We briefly describe each. By count, we look to how many times a given U.S. Supreme Court decision is cited after publication. Total citation counts an unfiltered measure of influence of a given Court's decision: higher citation counts reflect greater precedential influence. To avoid biasing older precedent, it is essential to evaluate a fixed temporal window. In our study, we look at the first twenty years following publication of a decision.

Our second measure is one of longevity of precedent. We are interested in the staying power of precedent over a defined time period. For ease of interpretation, we divide the twenty-year time period into two ten-year periods, in which our measure of longevity is the fraction of citations that federal courts cite during the second ten-year period. Accordingly, the longevity measure takes on a range from 0 and 1, with the former indicating that all of a given decision's citations occurred during the *first* ten-year period, and the latter indicated that all of the citations occurred during the *second* ten-year period. As a practical matter, we expect most precedent to fluctuate around 0.5.

This longevity measure may be correlated with citation count, but not necessarily so. Supreme Court decisions with high citation counts, when corresponding to higher longevity measures, indicate that these decisions not only are influential, but maintain this influence over time. A highly cited decision with a relatively low longevity measure indicates that its impact occurred in the years immediately following, and diminished over time. Conversely, an infrequently cited decision with a relatively high longevity measure provides evidence that its impact, however modest, endures over time.

Empirical Strategy: We take a univariate and multivariate approach. For the former, we identify specific factors that we hypothesize influence how a majority opinion is subsequently cited: the issue area; the margin of the majority vote; and the authoring justice. The univariate approach provides a raw evaluation of these factors, and how it comports with widely held views about the Court. The multivariate approach allows for a regression-adjusted approach, to see how the patterns from the univariate analysis change after controlling for other observable factors. In this section, we discuss our rationale for using citations as a proxy for judicial influence, our two chosen citation measures, and our empirical strategy.

For the multivariate approach, we compare the citation measure (total citations or longevity) of the specific factor relative to those in its respective cohort, controlling for our other observables. In this regression-adjusted analyses, we sequentially examine the specific factors, while controlling for other observables, as well as the year of the publication. The specification takes the following form:

$$Y_{i,j} = \alpha_0 + \alpha_1 \text{Factor of Interest} + \delta_{i,j} + \varepsilon_{i,j}$$

Where Y_{ij} is the outcome measure (i.e., mean citations or longevity measure) for individual U.S. Supreme Court decision i in year j . *Factor of Interest* is the specific dummy variable that we are

interested in the regression. The variable $\delta_{i,j}$ are control dummies for the year of the decision as well as for the other specified factors. The variable $\varepsilon_{i,j}$ is the error term.

An example may be instructive. For example, if we wanted to look at the mean citations where the margin of the majority is nine (i.e., 9-0), the regression would take the following form:

$$\text{Mean Citations}_{i,j} = \alpha_0 + \alpha_1 \text{Majority}9 + \delta_{i,j} + \varepsilon_{i,j}$$

This specification compares 9-0 decisions against the combined baseline of all other margins (e.g., 8-1; 7-2, etc.). The regression has a series of dummies for the year of publication, as well as the issue areas and the authoring justice.

In our tables below, we report a series of point estimates for the variable of interest, each one examining a specific dummy specification of a factor (comparing it a baseline comparison of all other outcomes). In so doing, we identify the relative effect of each specific factor relative to other factors within its respective cohort. The point estimates of these regressions are also comparable across categories of factor. For example, we can observe the relative effect on citations by majority opinions authored by Justice Scalia compared with opinions where the majority is 5-4.

4. Data

We draw upon two primary sources of data for this project. The first comes from *Lexis-Nexis*, an online legal resource that provides comprehensive data libraries on, among other things, judicial opinions. In addition to providing users with electronic text of judicial opinions, *Lexis-Nexis* documents which courts subsequently cite when writing their own decisions. Specifically, *Lexis-Nexis* uses the *Shepard's Citation Service*, which records, among other things, the name of the subsequent court citing the original opinion; the case name of the subsequent decision; and the date of the subsequent decision; and whether this subsequent decision adopts a positive, neutral, or negative of the original opinion.

Lexis-Nexis has graciously provided us with *Shepard's* citations for every U.S. Supreme Court decision from the period 1950 through 2019.³ Our focus is on how Article III courts cite United States Supreme Court precedent. Accordingly, we are interested in how the U.S. Supreme Court cites its own precedent, as well as how the U.S. Courts of Appeals and the U.S. District Courts cite Supreme Court decisions.

For our use of *Shepard's* citations, the unit of observation for citation is the judicial opinion. Irrespective of how many times a judicial opinion cites a given Supreme Court decision, it appears in our data just once. It also records a single treatment (positive, neutral, or negative) for

³ The only missing U.S. Supreme Court decisions are the following nine decisions: 1) *Conley v. Gibson*, 355 U.S. 41 (1957); 2) *Anders v. California*, 386 U.S. 738 (1967); 3) *McDonnell Douglas Corp v. Green*, 411 U.S. 792 (1973); 4) *Jackson v. Virginia*, 443 U.S. 307 (1979); 5) *Strickland v. Washington*, 466 U.S. 668 (1984); 6) *Thomas v. Arn*, 474 U.S. 140 (1985); 7) 475 U.S. 574; 8) *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242 (1986); and 9) *Celotex Corp. v. Catrett*, 477 U.S. 317 (1986). When we looked up these cases on *Lexis*, we observed that in some instances, these opinions were cited disproportionately much more than by federal courts in the first twenty years following publication. For example, federal courts cited *Anderson v. Liberty Lobby, Inc.* – where the Court established a trial court's standard for summary judgment – 66,882 times during the period 1986 through 2006.

each subsequent decision, based on what *Shepard's* determines as the primary treatment.⁴ For example, in *Grutter v. Bollinger*, 539 U.S. 244 (2003) – an affirmative action case involving university admissions – the U.S. Supreme Court cited *Regents of the University of California v. Bakke*, 438 U.S. 265 (1978) five times, including twice in a concurring opinion and once in the dissenting opinion. *Shepard's* records a single observation, with a positive treatment based on *Grutter's* majority opinion use of *Bakke*. Accordingly, in our data, *Bakke* appears once as a citation in the *Grutter* opinion.

Our second source of data comes from the *Supreme Court Database*.⁵ The database contains granular information about each U.S. Supreme Court decision, from the inception of the Court in 1791 through the 2018-19 Term. For our study, we draw upon the same period mentioned above, 1946 through 2019. Relevant to our study, the database provides, for each decision, the following: the case name; the year the decision was published; the penultimate court from which the appeal arose; the primary issue area (e.g., criminal law); the justices who comprise the majority; the justices – if any – who comprise the dissent; the majority author; the dissenting author (if any). This information allows our analysis to extend beyond which U.S. Supreme Court decisions are cited or less frequently, to examine how these citation patterns vary by the aforementioned factors.

A few caveats regarding the scope of our data. First, we limit our analysis to citations by Article III courts.⁶ While *Lexis's* library includes both federal and state court decisions, the former is more complete. The limitations at the state level apply to both to years of court publications as well as level of court. For some states, *Lexis* did not begin coverage until the 1970s, and only provides opinions at the highest appellate level (e.g., state supreme court).

Second, we restrict our analysis to *published* opinions. We therefore exclude two categories of decisions; 1) unpublished decisions: those that a given court has formally decided should not be released to the public, nor cited by subsequent parties; and 2) unreported decisions: that which the federal reporter (e.g., F.Supp. or F.3rd) has decided not to publish in its hard copy reporter series, but has not placed limitations on it being cited.⁷

As described more fully in our framework discussion, *infra*, we construct a twenty-year moving window of precedent, looking at all Article III citations for the first twenty years following a Supreme Court decision. This window enables us to consistently compare the effect of precedent across years, without which would bias older Supreme Court decisions that benefit from additional years of availability for Article III courts to cite.

Table 1 provides summary statistics. Our data contains citations to 7,225 published U.S. Supreme Court opinions, for the period 1946 through 2018. Subsequent Article III courts – which includes the U.S. Supreme Court, all U.S. Courts of Appeals, and all U.S. District Courts – cited these Supreme Court precedents a total of 1,293,394 times. The average Supreme Court

⁴ Because of the way *Shepard's* structures their data, we are not able to discern in most instances when concurring or dissenting opinions are citing U.S. Supreme Court precedent. The exception is when the only citation for a given case appears in a dissenting or concurring opinion, in which instance *Shepard's* identifies it as such.

⁵ The database is available at <http://scdb.wustl.edu/index.php>.

⁶ *Lexis-Nexis* also reports through *Shepard's* when state courts cite U.S. Supreme Court decision. We decided to exclude state court citations because – unlike federal court judicial opinions, for which *Lexis-Nexis* has the complete library – *Lexis-Nexis's* state court libraries commence at different points, both across and within states, making it difficult if not impossible to compare state and federal court citation patterns.

⁷ http://lexisnexis.custhelp.com/app/answers/answer_view/a_id/1083949/~/~what-is-the-difference-between-unpublished-and-unreported-cases%3F

precedent was cited 179 times, with a standard deviation of 259, evidence that Supreme Court opinions vary considerably in their impact on precedent.

Among Article III courts, the number of total citations was inversely related to the level of court. The district courts cited the Supreme Court the most (635,046), closely followed by the courts of appeal (578,991), with the Supreme Court the least number of times (79,357). The aggregate statistics suggest that the district and appellate courts draw upon Supreme Court precedent in similar ways (e.g., both levels of court average between 80 and 90 citations to Court precedent, conditioned on their citing Court precedent in the first place). It is important to view these numbers in context, given that there are 94 district courts, 13 courts of appeals, and a single Supreme Court. Accordingly, these numbers reflect that, conditioned on citing Supreme Court precedent in an opinion, the higher the level of Court, the greater the engagement with Supreme Court precedent.

Table 1
Summary Statistics
Citations to U.S. Supreme Court Precedent (1946-1999)

Total USSC Decisions		Citations to USSC Decisions, by Year of Citing Court	
N	7225	1940s	2,958
		1950s	29,309
Citations to USSC Decisions		1960s	94,477
N	1,293,394	1970s	238,262
Mean	179.0165	1980s	346,946
Median	88	1990s	338,789
SD	259.1288		
Citations to USSC Decisions, by Citing Court		Citations to USSC Decisions, by Year of USSC Decision	
USSC	79,357	1940s	23,023
Mean	10.98	1950s	78,968
Median	6	1960s	201,760
SD	28.83	1970s	356,032
USCA	578,991	1980s	383,756
Mean	80.14	1990s	249,855
Median	38		
SD	119.22		
USDC	635,046		
Mean	87.90		
Median	36		
SD	147.38		

Note: Citations refer to instances where Article III courts issue a published opinion that appear in *Lexis-Nexis*. Citations are limited to those cases cited

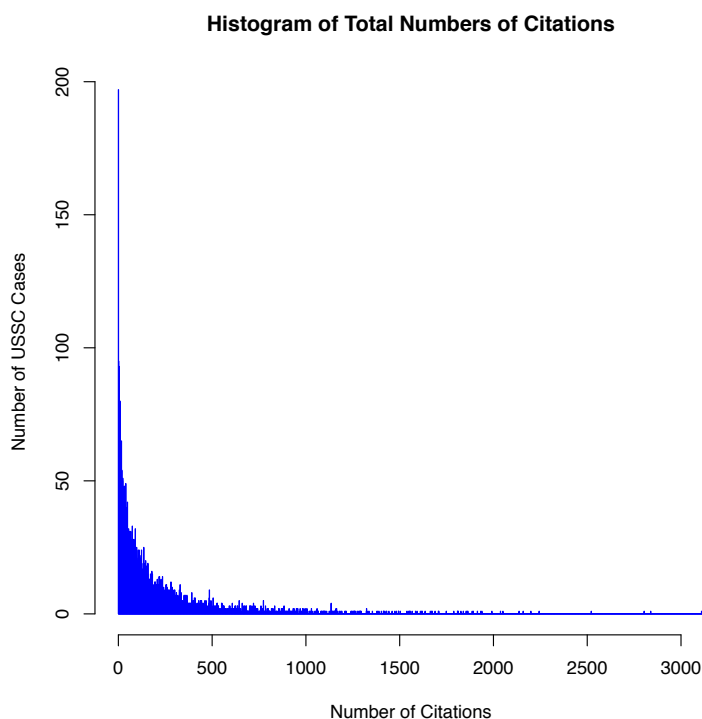
With respect to courts – including the Supreme Court – citing Supreme Court precedent, Table 1 shows a monotonic increase in citations by decade. Article III courts have experienced a burgeoning caseload over time, resulting in more written opinions (Federal Judicial Center 2020). Also, the creation of Westlaw and Lexis during the 1980s, both electronic databases for judicial opinions, facilitated legal research for litigants and judges.

While Article III courts have steadily increased more Supreme Court precedent over time, the vintage of precedent follows a non-linear pattern. From the 1950s to the 1980s, each decade of Supreme Court precedent resulted in an increasingly higher number of citations than the preceding decade. Supreme Court opinions during the 1990s, however, were cited considerably less (321,673). During the 1990s, the Supreme Court granted *cert* in 1023 cases, compared with

1605 cases during the 1980s, a decrease of 36 percent. The Supreme Court’s lower caseload, however, likely accounts for only a small part of the decline, since Article III courts – trial and appellate - have continued to decide more cases during this period (Federal Judicial Center 2020).⁸

By itself, the summary statistics provide a helpful but incomplete description of U.S. Supreme Court precedent. For example, while all appeals seeking *certiorari* undergo the same screening process, the impact of those appeals the Court grants *cert* need not wield a uniform influence on precedent. Figure 1 shows the distribution of the number of times Article III courts subsequently cite Supreme Court opinions.

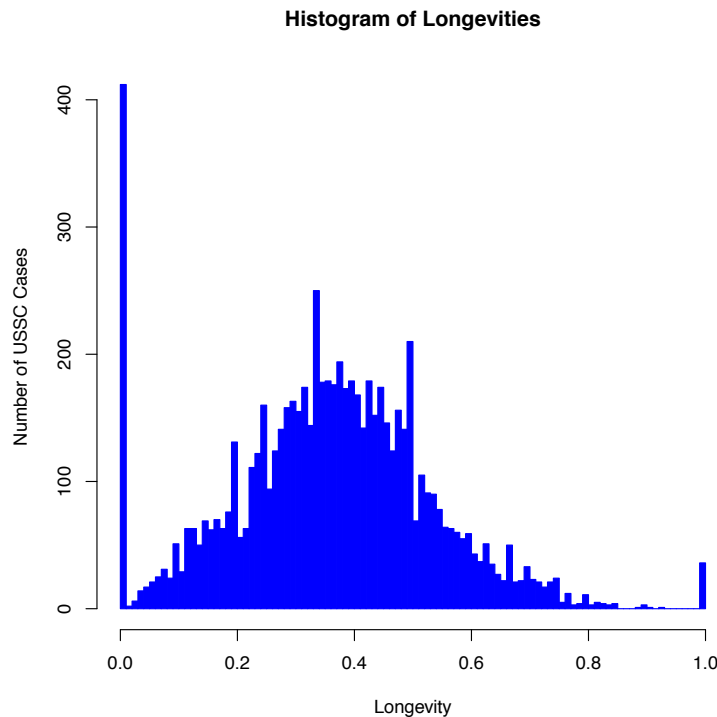
Figure 1
Distribution of Citations to U.S. Supreme Court Precedent



The heterogeneity in citation number across Supreme Court decisions provides visual evidence against the null hypothesis that Supreme Court decisions have a uniform effect on cited precedent. On the high end, the most highly-cited Supreme Court decisions have been cited in excess of 3000 times decisions during the first twenty years following their decision. Conversely, nearly two hundred (or roughly 3 percent) of Court decisions failed to generate any citations in the first twenty years. Most of these decisions involve cases of original jurisdiction; these impact of these decisions are often limited to the named parties and therefore do not have precedential import.

⁸ For example, the number of terminated decisions issued by Article III appellate courts grew from 1,492 in 1947 to 39,400 in 2017 and district courts grew from 33,432 to 121,624. (statistics available at <https://www.fjc.gov/history/courts/caseloads-history-federal-caseload-reporting>).

Figure 2
Distribution of Longevity Measures to U.S. Supreme Court Precedent

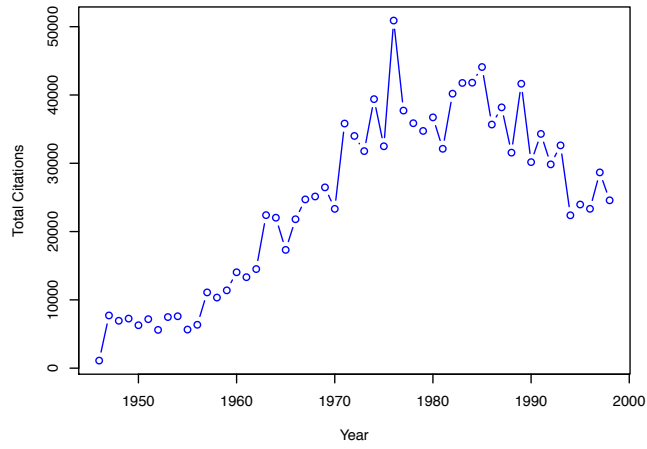


Total citations, however, are not necessarily indicative of a decision’s influence over time. Figure 2 illustrates the multi-peaked histogram illustrating the longevity measure for U.S. Supreme Court decisions. Longevity – as described above – is a measure that divides the twenty-year citation period into equal halves, and defines longevity as the percentage of citations by Article III courts that occur in years 11 through 20. As Figure 2 illustrates, the most common longevity measure is 0.0: for these 400 decisions, any and all citations to these decisions occurred within the first ten years. Conversely, approximately 50 decisions reported a longevity measure of 1.0, indicating that they failed to generate any citations during their first ten years following publication, but were subsequently cited in the latter ten years. The longevity values in between generally follow a bell-curve distribution, centered around mean of 0.4

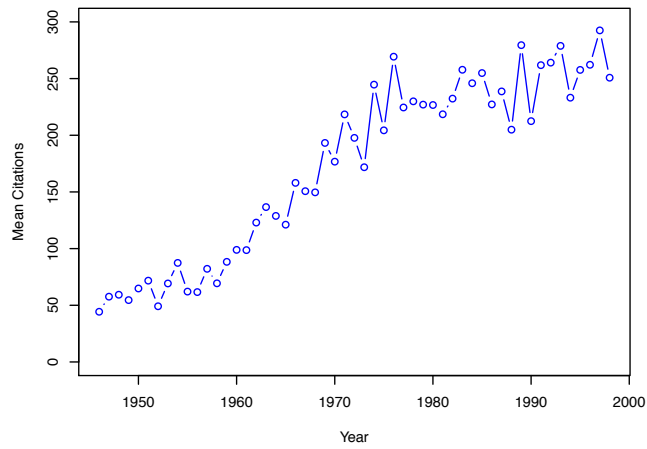
Taken the corpus of decisions as a whole, the histogram in Figure 2 illustrates that for most U.S. Supreme Court decisions, their influence as precedent declines over time. The majority of the longevity values fall below 0.5, evidence that most decisions are cited more in the first ten years than in their aftermath. Although not reported, when we extend beyond a twenty-year moving window for older cases (e.g., cases from the 1950s or 1960s), we find that the longevity measures follow the same general pattern. Cases that are cited less frequently over time rarely experience an uptick in citations beyond the twenty-year mark.

Figure 3
Citations by Year of USSC Decision

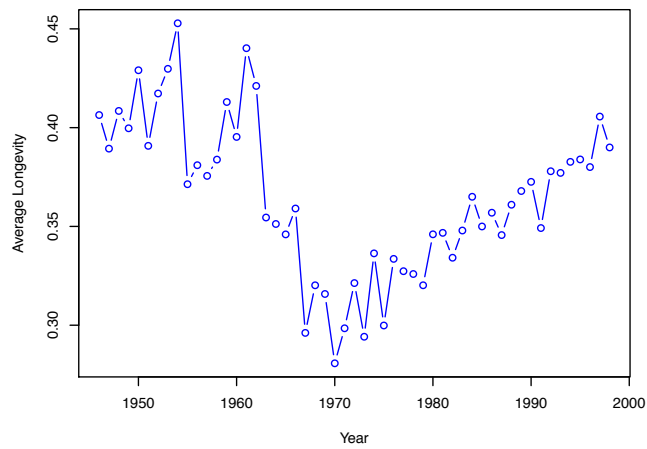
a. Total Citations by USSC Case Year



b. Mean Citations by USSC Case Year



c. Average Longevity by USSC Case Year



The figures above, while informative, are an aggregate representation of the data. Figure 3 provides three temporal contexts for how subsequent Article III courts have subsequently cited Supreme Court decisions. These figures show citation measures based on the year the Supreme Court issued the decision, for the first twenty years following the year of the decision. For example, the year 1970 includes all Supreme Court decisions from that year, based on all citations from Article III courts for the years 1970 through 1989.

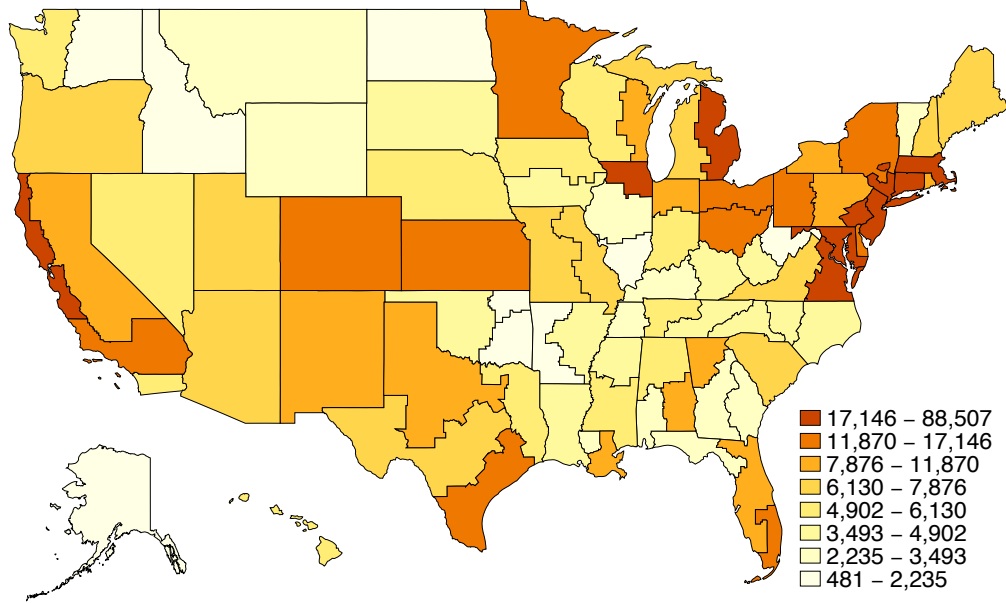
Figure 3a reveals a general increase and subsequent decrease in total citations by year of the Supreme Court's decision. The number of total citations to Court decisions steadily climbed from a low of 1104 for decisions published in 1946 to a high of 49,836 citations for decisions published in 1976. Subsequent years reflect a decline, where Article III courts cited subsequent Supreme Court decisions less frequently. The decline, while non-monotonic, shows a clear downward trend from its peak in 1976.

By contrast, Figure 3b reveals a pattern of steady increase. Capturing mean – rather than total – citations – Figure 3b shows that, over time, Supreme Court decisions published in subsequent years are cited more on average than those in preceding years. At first blush, Figure 3b and Figure 3a appear incongruous with one another; in effect they reflect a secular trend of the Court hearing fewer cases each year, beginning in the 1970s. This caseload decline resulted in fewer new decisions for Article III courts to draw upon over time. Figure 3b shows that on average, these courts cited these (fewer) decisions more frequently.

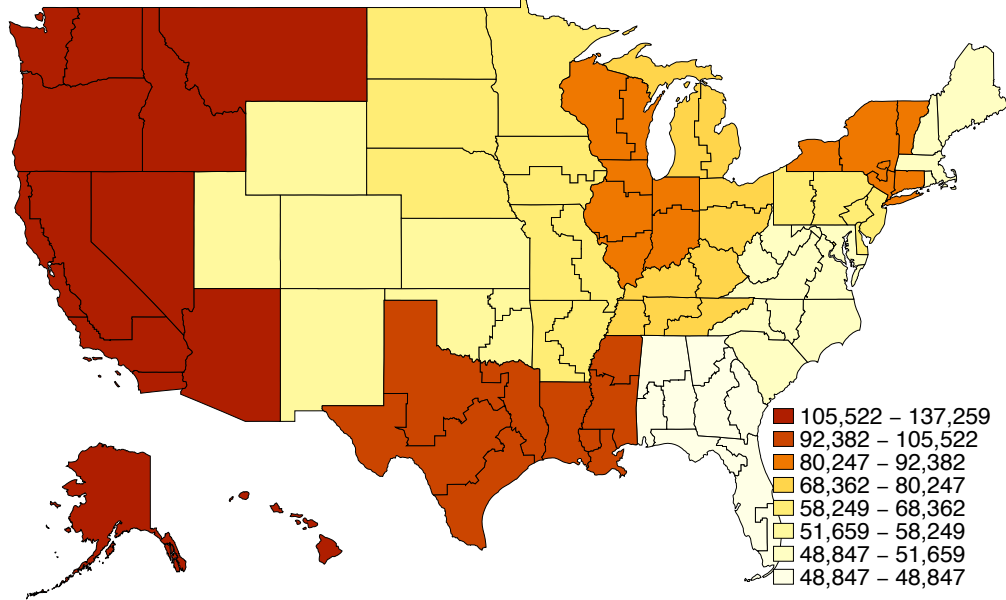
Figure 3c shows yet another nonmonotonic trend: a decline and subsequent rise in the average longevity of Supreme Court decisions. Across our entire time period, the longevity measure fell below 0.5, reflecting that these decisions were cited more during the years one through ten of its existence than during the next eleven through twenty. Within this period, Figure 3c shows a steep decline and subsequent gradual increase in longevity. Court decisions published during the 1950s and 1960s, while varying in their longevity, were among the highest during this period. Decisions from 1954 received 44 percent of the total citations during their second decade (1964-1973); while decisions from 1967 received only 30 percent of their citations during their second decade (1976-1986). After hitting its nadir in 1970 (28 percent), the longevity of Supreme Court decisions has gradually but steadily increased. The Court's decisions published in 1998 generated 39 percent of their total citations during the second decade (2008-2017).

Figure 4
Citations to Supreme Court decisions by Article III Courts

a. U.S. District Courts



b. U.S. Circuit Court of Appeals



Note: Citation counts are based on the first twenty (20) years following a Supreme Court decision. The jurisdictional boundaries for the two maps in Figure 4 are based on the 94 federal district courts. For Court citations by federal district courts, citations are calculated at the district level. For citations by federal courts of appeal, citations are aggregated at the circuit level, and imputed to each of the districts contained within the circuit. The federal courts of appeal excludes citations by the Federal Circuit.

As one might anticipate, Article III district and circuit courts vary in their citation of Supreme Court precedent. As illustrated in Figure 4, among district courts, many districts abutting water cited Court decisions most frequently. The Southern District of New York cited Court decisions most frequently (88,507), more than twice that of second-most citing district, the Northern District of Illinois (43,428). Districts along the Eastern coastal states – e.g., Eastern District of Pennsylvania (38,440); Eastern District of New York (36,010); District of Massachusetts (26,826); District of New Jersey (23,476); District of Maryland (22,247) – also frequently cited Court decisions during this time. Among Western states, the Northern (20,606) and Central (15,864) Districts of California cited Court decisions most frequently. By contrast, the Western (3773) and Middle (2652) Districts of Louisiana cited Court decisions relatively infrequently. On average, districts in landlocked states on average cited Court decisions less frequently. For example, the District of Idaho (2058); District of Nevada (5753); and the District of North Dakota (1894) each cited Court decisions less frequently than their coastal counterparts.

The federal court of appeals (Figure 4b) reflect smaller variation in citation rates. The Ninth Circuit (137,259) cited Supreme Court decisions most frequently, followed closely by the Fifth Circuit (105,522). The Sixth (80,247) and D.C. (67,625) circuits fall along the middle of distribution. The First (49,493) and the Eleventh (48,847) cited the Court least frequently.⁹

It bears noting that Figure 4 captures citation counts unadjusted for relevant factors such as population and annual caseload.¹⁰ The population varies considerably across the circuits, and accounts for a large part of this variance: for example, 18% of the population resides within the Ninth Circuit,¹¹ which accounts for 15% of the federal appellate citations to Court decisions. The Second Circuit accounts for 8% of the population and 9% of the federal appellate citations.¹²

Caseloads also explain variation some of the variation in citations. Because our data is restricted to published decisions that cite Court decisions, we do not observe published decisions that fail to cite Court decisions. That, recent annual caseload statistics suggest a similar variation across circuits: e.g., the Ninth Circuit comprised (10,319) roughly 20% of all terminated appeals (49,047) from the 2019-20 calendar year, while the Second Circuit (4251) comprised roughly 8% of all terminated appeals in the same comparison.

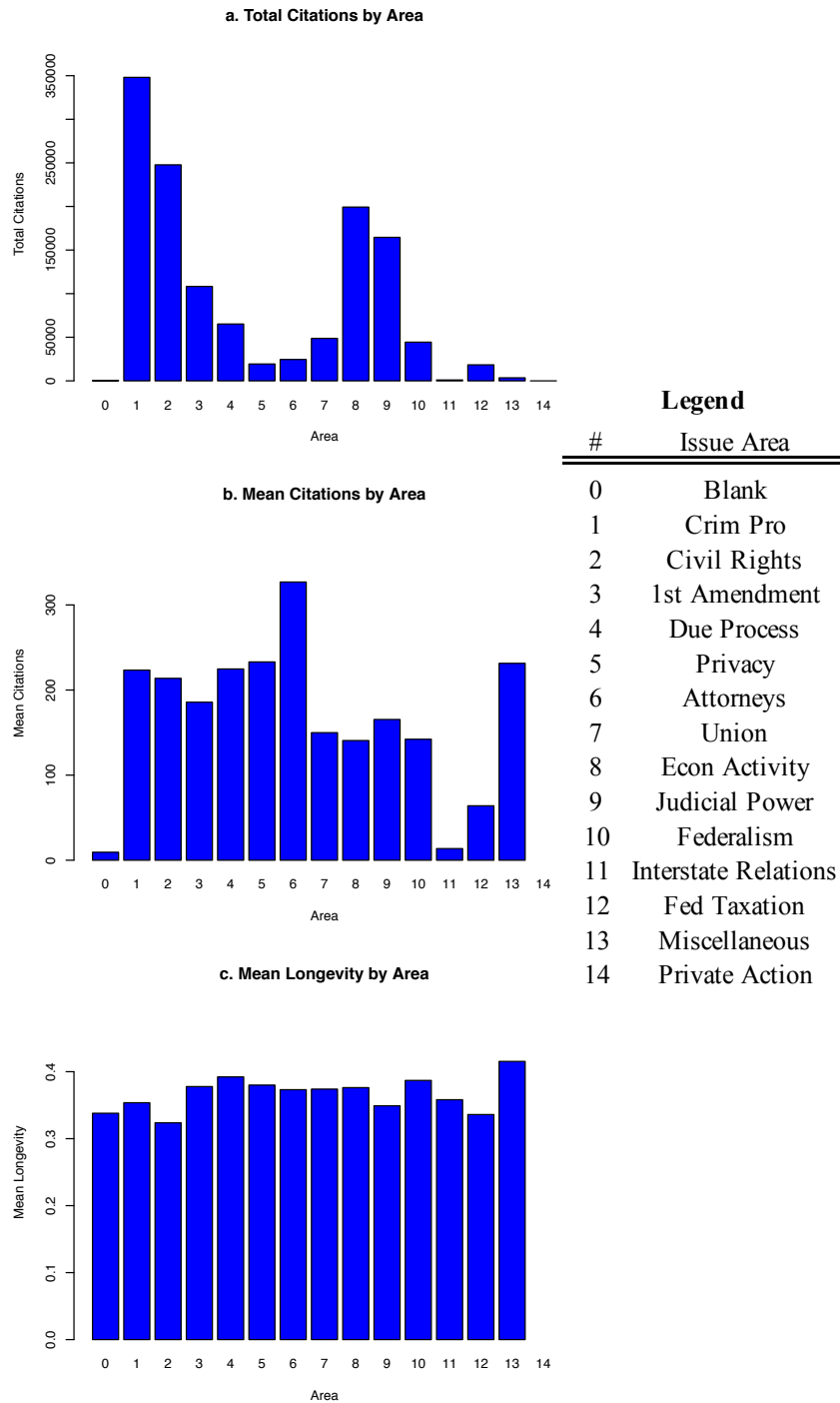
⁹ The The Federal Circuit, not shown on the map, cited the Court 16,247 times.

¹⁰ In addition, the Eleventh Circuit, in contrast to the other circuits, is a recent creation. Prior to 1981, the states that comprise the Eleventh Circuit were formerly of the Fifth Circuit. For the purposes of caseload statistics for the circuit courts, we imputed the caseload statistics of appellate courts from states in the Eleventh Circuit to the Eleventh Circuit throughout the period of our analysis.

¹¹ Population statistics are based on the 2010 U.S. Census (available at https://www.census.gov/data/tables/time-series/demo/popest/2010s-state-total.html#par_textimage_1574439295).

¹² Caseload statistics provided by the United States Courts caseload statistics (available at <https://www.uscourts.gov/statistics-reports/caseload-statistics-data-tables>).

Figure 5
Citations by Issue Area



Note: Issue areas correspond to those as identified by the *Supreme Court Database*.

V. Results

In this section, we present how the key aforementioned factors – issue area, number of dissenting justices, and author of the majority opinion – influence how Article III courts cite Supreme Court precedent. For each of these factors, we present our findings using both a bivariate and regression-adjusted format. The bivariate format shows the effects visually of the given factor on total citations and longevity (ratio comparing total citations from years 11-20 with years 1-10). The regression-adjusted format shows the effect of a given factor on our citation measures, controlling for other observables about the case, notably the other factors.

Issue Area: Our intuition in looking at issue area is that we hypothesize that the salience of a Court decision likely varies across issue areas. For example, given that criminal law comprises a large fraction of the federal docket, one would expect that Article III courts would draw heavily from Court decisions involving criminal matters – criminal procedure as well as civil rights (i.e., habeas corpus). Also, to the extent that the number of decisions from the Court’s docket varies by issue area, it is reasonable to expect that this variation influences subsequent citations.

Figure 5 illustrates how citations vary considerably by issue area. As shown in Figure 5a, a few issue areas – criminal procedure,¹³ civil rights,¹⁴ economic activity,¹⁵ and judicial power¹⁶ – account for more than 75 percent of the total citations. These are also the same four issue areas, as shown in Figure 5b, in which the Supreme Court writes roughly 70 percent of their opinions. In terms of total citations, a few areas – i.e., privacy¹⁷ and attorneys¹⁸ - generated a higher number of citations.¹⁹ It bears noting that the Court wrote relatively few opinions in these two areas, perhaps explaining in part its higher rate of citation. Figure 5b also reveals that the mean citations of interstate relations²⁰ decisions is appreciably lower than other issue areas, cited for example one tenth as often as attorneys, the issue area with the most citations.

With respect to longevity – Figure 5c – the issue areas follow a general pattern of decline over time. All of the issue areas have a measure between 0.3 and 0.4, evidence that, on average, the rate at which Article III courts cite Supreme Court precedent declines at comparable rates across all issue areas over time. Stated another way: while the influence of Supreme Court precedent wanes over time, its rate of decline varies across issue area.

Looking at a regression-adjusted model reveal more precisely the relative differences between the issue areas. Table 2 reports a series of separate regressions, with respect to total citations and longevity. A brief explanation about interpreting the regressions: Each issue area represents its own separate regression, comparing it to a combined baseline of all other issue areas, while also controlling for other observable aspects of the case. Accordingly, each cell

¹³ Criminal procedure includes matters relating to criminal procedure (*habeas corpus*, the right to counsel, prohibition against cruel and unusual punishment, double jeopardy, and sentencing) as well as matters of criminal law (i.e., interpretation of criminal statutes).

¹⁴ Civil rights include matters relating to voting rights, employment discrimination, rights of indigenous populations, desegregation, and civil rights.

¹⁵ Economic activity includes matters relating to antitrust, governmental immunity, intellectual property, natural resources, and state taxation.

¹⁶ Judicial power includes matters relating to judicial review of administrative agencies and issues of civil procedure (e.g., standing, mootness, venue).

¹⁷ Privacy relates to matters relating to general issues of privacy, abortion rights, and the scope of Freedom of Information requests.

¹⁸ Attorneys includes matters primarily relating to attorneys fees, but also bounds of commercial speech.

¹⁹ Figure 5b shows a higher average citation for the miscellaneous category, which includes executive authority.

²⁰ Interstate relations include disputes relating to boundary and property disputes, as well as interstate conflict.

represents its own regression, with the coefficient representing the effect of the issue area in question to other issue areas for the citation measure of interest.

Table 2 reveals that, with respect to total citations (Column 1), most issue areas diverge significantly upward or downward from the baseline comparison of all other issues areas. Consistent with Figure 5, a small number of issue areas – criminal procedure, civil rights, attorneys, and judicial power – are cited significant more on average than the others. Conversely, a few issue areas – unions, economic activity, federalism, instate relations, and federal taxation – are cited markedly fewer times. The remaining issue areas – e.g., first amendment, due process, privacy – fall closer to the overall mean effect and are statistically non-significant. Generally, issue areas where the Court writes most frequently (criminal procedure, civil rights) are also the most cited, but at least one issue area (economic activity) is poorly cited.

The longevity of Supreme Court precedent is much less variable across issue areas, as illustrated in Column 2. All of the issue areas individually have longevity measures that are within five percentage points of the other issue areas taken collectively. Those decisions with the greatest differences in longevity – civil rights (3.4 percent) and federal taxation (4.7 percent) – were cited more in the first ten years following the Court’s publication than the subsequent ten years. Taken together, the figures and regressions provide evidence that Supreme Court decisions vary much more in their relative influence (as measured by total citations) than by their decline over time.

Table 2
Regression-Adjusted Effect of Issue Area on Total Citations

	1	2
Issue Area	Total Citations	Longevity Measure
Criminal Procedure	42.63493***	0.000943839
	-8.51698E-10	-0.846718
N	1558	1558
Civil Rights	29.07357***	-0.03406631***
	-0.000160156	-2.85529E-10
N	1159	1159
First Amendment	-6.574527	0.02306343**
	-0.5283575	-0.001576971
	583	583
Due Process	21.68982	0.02316835*
	-0.1316155	-0.02105429
N	290	290
Privacy	2.301349	0.03246109.
	-0.930826	-0.07945085
N	83	83
Attorneys	99.19123***	0.01859719
	-0.000363954	-0.3385993
N	75	75
Unions	-38.99105**	-0.004908245
	-0.004458784	-0.608827
N	325	325
Economic Activity	-44.94402***	0.001991121
	-5.22454E-10	-0.6946505
N	1417	1417
Judicial Power	29.05072***	0.01469916*
	-0.000534656	-0.01285221
N	995	995
Federalism	-44.22096**	0.02187585*
	-0.001439706	-0.02490008
N	312	312
Interstate Relations	-115.0626***	0.03117702
	-4.61405E-05	-0.1295915
N	73	73
Federal Taxation	-109.9514***	-0.04806206***
	-4.53256E-14	-2.8042E-06
N	287	287
Mscelaneous	-20.08664	0.0480138
	-0.745464	-0.2663563
N	15	15
Controls		
Year of Decision	Y	Y
Authoring Justice	Y	Y
Margin of Majority	Y	Y

Note: Each of the issue areas represents its own separate regression, comparing the listed interest area in a pairwise comparison with all other issue areas combined, and controlling for the year of the USSC decision, the authoring justice, and the margin of the majority opinion. The parenthesis represents the p-value of the coefficient. The number corresponding to N is the number of published decisions corresponding to the listed issue area. The asterisks correspond to the level of statistical significance: *** = p,0.001; ** = p<0.01; * = p<0.05.

Margin of Majority Opinion: We hypothesize that the margin of the Court's majority opinion influences how the decision is subsequently cited. The Court's margin in a decision and its influence may, of course, be endogenous. For example, justices may be more likely to disagree with one another in cases where there is a split among the circuit courts.²¹ The circuit split serves as a proxy that the case is of particular importance. Similarly, the disagreement among federal appellate judges is a reasonable predictor that the justices may similarly disagree. The causation may run in the other direction: the margin of the majority opinion signals to the lower courts which decisions the justices think are particularly worthy of citation.

The series of histograms provided in Figure 6 reveal that, like issue area, the margin of the Court's majority coalition correlates with the decision's precedential impact. As illustrated by Figure 6a, the total number of citations varies considerably by margin. While we include all margins for the sake of completeness, the margins of zero (0) or an even number (e.g., margin = 2, 4, 6, or 8) reflect the relatively rare instances where an even number of justices decided a case. In our data, approximately a fifth (19.7 percent) of decisions fell into this category. This disparity in frequency largely explains why even-number margins generate markedly fewer total citations.

Of the odd-numbered margins, unanimous decisions (margin = 9) generate the most total citations. Among decisions with dissenting votes, those smaller the margin, the more total citations. The dominance in total citations where the margin is 9 (as well as 8), however, is driven by its frequency, as over a quarter of all the Court's decisions are unanimous.

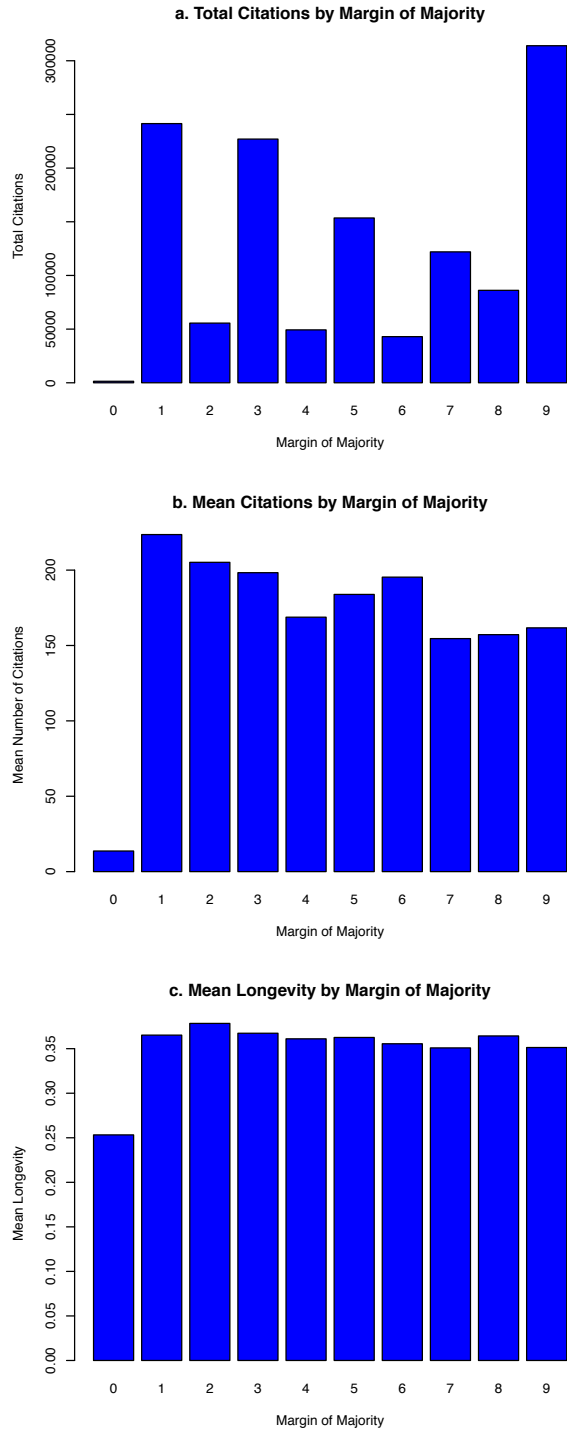
Figure 6b separates the effect of frequency, revealing a pattern where the average number of citations are greatest for the most closely-divided decisions, and generally decline as consensus among the justices grows. Among decisions involving the full court, this decline is more pronounced.²² Decisions reflecting a minimum winning coalition (e.g., 5-4 or 4-3) averaged over 250 citations, whereas unanimous decisions (e.g., 9-0 or 8-0) were cited approximately 150 times each.

The margin of majority's heterogenous effect on citation counts largely disappear when we look at longevity. The histogram of longevity in Figure 6c shows relative constancy across the margins of majority. As with average citations, a pattern emerges where decisions with narrower margins have a higher longevity. This relationship is more modest and non-monotonic. Our interpretation in this bivariate comparison is that the number of dissenting votes in a decision is indicative of the citations it generates, but less so for its relative influence over time.

²¹

²² Decisions with a margin of zero are a special case. These decisions reflect an even number of justices, evenly divided. Their impact is limited: they provide a ruling for the parties, but – lacking a majority of justices in support of the ruling – lacking any precedential significance.

Figure 6
Citations by Margin of Majority



Note: the margin of majority is equal to the number of justices joining the majority subtracting the number of justices dissenting. Even number margins reflect instances where at least one justice has recused him- or herself from deciding the case.

The regression-adjusted analyses in Table 3 tell a slightly different story from the bivariate comparison. In short, Column 1 reveals that the margin of the majority in nearly every instance has no meaningful difference on citations it generates. For example, decisions with a minimal majority (e.g., 5-4 or 4-3) actually generate fewer citations compared with all other margins, although this difference is non-significant. Similarly, citation counts from unanimous decisions (e.g., 9-0 or 8-0) are not statistically different from those from all other margins. The one notable difference are decisions with a margin of six (e.g., 7-1 or 6-0). These decisions are cited on average 55 times more compared with those of other margins, and is statistically significant. It is worth noting that these decisions are relatively few in number ($n=220$), reflecting decisions where the Court numbers fewer than nine justices, either due to recusal or retirements. Also, the point estimates are driven by a few

Our longevity analyses (Column 2) report that, in nearly every instance, the margin of the majority does not influence a decision's longevity between the two periods. Unanimous decisions have a longevity measure that is 1 percentage point lower than the other margins, but this difference, while statistically significant (at $p<0.05$), is modest. The citation measures, taken together, reveal that the size of the majority coalition, controlling for observables, has little effect on how often the decision is cited, or its salience over time.

Table 3
Regression-Adjusted Effect of Margin of Majority

	1	2
Size of Margin	Total Citations	Citation Longevity
No Margin	-49.44448	-0.04989955*
N	103	103
Margin of 1	-6.448802	-0.008548653
N	1080	1080
Margin of 2	15.03628	0.003979934
N	271	271
Margin of 3	-3.645187	0.01038374.
N	1145	1145
Margin of 4	-0.9061407	-0.006646783
N	292	292
Margin of 5	2.081826	0.002519725
N	835	835
Margin of 6	55.14656***	-0.001989993
N	220	220
Margin of 7	1.650452	0.000611689
N	789	789
Margin of 8	6.920976	0.01079494
N	548	548
Margin of 9	-17.76923.	-0.01117582.
N	1942	1942
Controls		
Year of Decision	Y	Y
Authoring Justice	Y	Y
Issue Area	Y	Y

Note: Each of the margins of the majority opinion represents its own separate regression, comparing the listed margin of the majority in a pairwise comparison with all other margins combined, and controlling for the year of the USSC decision, the authoring justice, and the issue area of the majority opinion. The parenthesis represents the p-value of the coefficient. The number corresponding to N is the number of published decisions corresponding to the listed issue area. The asterisks correspond to the level of statistical significance: *** = p,0.001; ** = p<0.01; * = p<0.05.

Majority Author: Finally, we examine the influence of the justice authoring a decision has on how it is subsequently cited. The series of histograms in Figure 7 reveal that authoring justice has a greater influence on subsequent citations than either issue area or margin of the majority coalition. Total citations (Figure 7a) reveal marked variation across the justices. For example, Justice Frank Murphy was cited 2106 times in total, while Justice Byron White was cited 130,209 times. The justices' length of tenure explain much of this variation: e.g., Justice Murphy served nine years on the Court, while Justice White served 31 years. As a general pattern, the greater the number of years a justice has served on the Court, the more opinions she writes, which in turn allows more opportunities for citations.

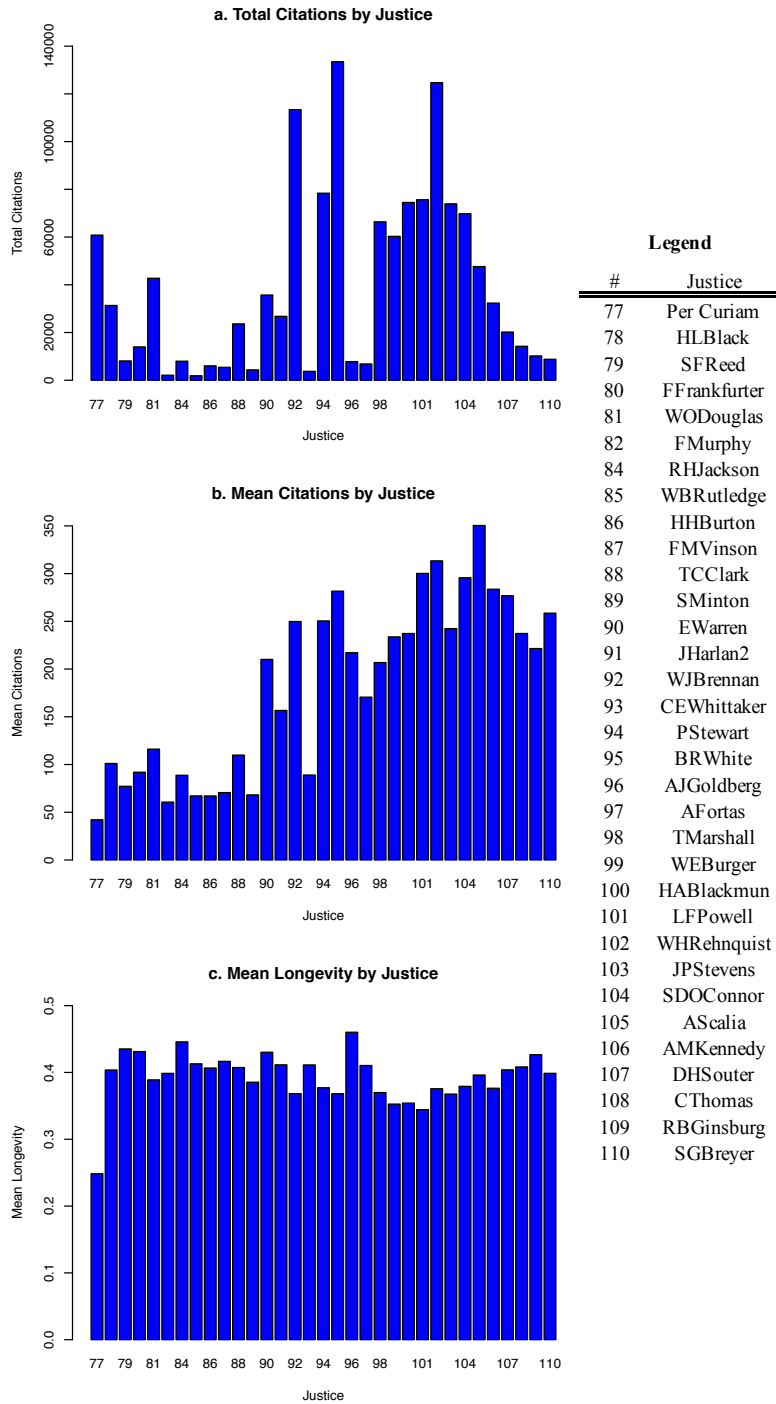
Figure 7b, reporting the mean citations per majority opinion, reveal both a general upward secular trend and considerable variability across justices. Justices elevated to the Court towards the latter twentieth century tended to generate higher mean citation counts than their predecessors. Some of this influence correspond to the emerge of electronic databases such as *Westlaw* and *Lexis* during the 1980s, which facilitated the ease in which lawyers and jurists alike could identify relevant legal precedent. Within this secular trend, justices varied in their average citation rates. For example, Antonin Scalia averaged 341 citations when writing a majority opinion, in contrast to Justice John Paul Stevens – with whom he largely overlapped – who averaged 236 citations for majority opinions he authored. As a general pattern, justices with longer tenures on the Court were cited more on average than justices with shorter tenures, suggesting that a justices' salience among Article III judges may be a function of their duration on the Court.

With respect to longevity, justices all generated fewer citations over time (i.e., fewer citations in years 11-20 compared with years 1-10). Within the group, the justices ranged from a low of Justice Lewis Powell (0.34) to a high of Justice Arthur Goldberg (0.46). As with issue area and margin of majority, justices differ considerably with respect to total and average citations, but less so on longevity.

Table 4 reports the regression-adjusted effects of justice authorship on citations, revealing results generally consistent with the histograms but with a few key differences. The series of regressions in Table 4, which compared the citation measure of each justice against all other justices, reveal that some notable justices were cited less frequently than their peers. William Douglas generated 34 fewer cites on average authoring majority opinions compared with the other justices; while John Paul Stevens averaged 30 fewer cites on average. These justices, considered to be among the more liberal justices (Bailey 2007)²³, averaged fewer citations, despite each having served on the Court for in excess of 35 years and having each penned over 300 majority opinions. More recently, Ruth Bader Ginsburg has averaged nearly 90 fewer citations as majority author compared with other justices, although she has written only 46 such opinions.

²³ As part of his research on comparable preference estimates for the U.S. Supreme Court, Congress, and the Presidency, Bailey maintains an updated dataset with the estimates. The ideology referenced during this section refer to these datasets.

Figure 7
Citations by Justice Authoring Majority Opinion



Note: Majority author numbers correspond to their identification in the *Supreme Court Database*.

By contrast, several justices wrote majority opinions averaging many more citations than their fellow justices. Among justices perceived to ideologically moderate, Potter Stewart averaged nearly 40 more citations than his fellow justices, while Lewis Powell averaged over 50 more citations. Influence, however, is not just limited to the moderate justices. William Brennan, one of the most ideologically liberal justices among the justices in this cohort, averaged 37 more citations than other justices; Antonia Scalia, among the most ideologically conservative justices in this cohort, averaged over 50 citations more than other justices.

With respect to chief justices, who wield the unique ability to assign authorship whenever they are in the majority, varied in their subsequent influence: Fred Vinson was cited less frequently on average than his fellow justices, as was Warren Burger. Neither of the point estimates for these chief justices was statistically significant. This finding is more easily explained in the case of Vinson, who served less than eight years, than Burger, who served as Chief Justice for 17 years. By contrast, the other two chief justices were cited much more widely. Earl Warren was cited on average 53 more times than other justices, while William Rehnquist was cited 36 more times on average. The point estimates for Chief Justices Warren and Rehnquist were statistically significant.

Notably, justices known for being “swing justices” – often writing for the majority in closely-divided decisions – were neither particularly well-cited compared with their peers. Justice Sandra Day O’Connor generated 8 more citations on average, while Justice Anthony Kennedy generated 22 fewer citations on average. Neither of these point estimates were statistically significant, suggesting that their influence among Article III judges, was modest compared to the aforementioned justices..

With respect to the staying power of their opinions, justices were largely non-distinguishable from one another. The differences among justices are typically small, and in most instances statistically non-significant. The point estimates provide evidence that, whatever the differences among justices in their average citations, their majority opinions all experienced a decline in citations over time. Notably, Chief Justice Warren emerges as a justice who was both cited more than his fellow justices, and whose opinions endured particularly well over time. Conversely, Justice Powell is an example as a justice who generated more citations than other justices, yet his citations declined more steeply (3 percentage points) over time more than other justices. Conversely, Justice Ginsburg generated significantly fewer citations on average than her fellow justices, but her longevity was 7 percentage points higher than other justices. Stated another way, based on citations, majority opinions written by Justice Ginsburg had a longer half-life than those written by Justice Powell.

Table 4
Regression-Adjusted Effect of Justice of Majority Opinion

Author of Majority Opinion		1	2
		Total Citations	Citation Longevity
HLBlack		-43.29203**	0.001799954
		-0.002470397	-0.8573732
	N	310	310
SFReed		-36.82161	0.02387632
		-0.1236543	-0.1557385
	N	105	105
FFrankfurter		-50.49745*	0.02436056.
		-0.01160639	-0.08200253
	N	152	152
WODouglas		-33.72276*	-0.01322857
		-0.01050346	-0.1516676
	N	368	368
FMurphy		-20.78679	-0.01557599
		-0.6094786	-0.584458
	N	35	35
RHJackson		-21.48517	0.03520889.
		-0.4043014	-0.05086158
	N	90	90
WBRutledge		-27.68092	-0.002718695
		-0.5417911	-0.931772
	N	28	28
HHBurton		-46.9752.	0.001177347
		-0.06760105	-0.9478276
	N	90	90
FMVinson		-43.00693	0.006881894
		-0.1212381	-0.7231702
	N	77	77
TCClark		-34.24778*	0.009460573
		-0.04197138	-0.4222525
	N	215	215
SMinton		-47.55763	-0.02329547
		-0.1155735	-0.2707894
	N	64	64
EWarren		54.87853**	0.03832052**
		-0.003365369	-0.003440449
	N	170	170
JHarlan2		-7.82758	0.01677629
		-0.6741138	-0.1978438
	N	171	171
WJBrennan		36.89371**	-0.01548969.
		-0.001580123	-0.05833597
	N	454	454
CEWhittaker		-51.3859	0.01749376
		-0.1647979	-0.4992536
	N	42	42
Controls			
Year of Decision		Y	Y
Margin of Majority		Y	Y
Issue Area		Y	Y

Note: Each listed justice authoring the majority opinion represents its own separate regression, comparing the listed justice in a pairwise comparison with all justices (writing majority opinions) combined, and controlling for the year of the USSC decision, the margin of the majority opinion, and the issue area of the majority opinion. The parenthesis represents the p-value of the coefficient. The number corresponding to N is the number of published decisions corresponding to the listed issue area. The asterisks correspond to the level of statistical significance: *** = p,0.001; ** = p<0.01; * = p<0.05.

Table 4 (con't)
Regression-Adjusted Effect of Justice of Majority Opinion

		1	2
Author of Majority Opinion		Total Citations	Citation Longevity
PStewart		38.67853**	-0.009188963
		-0.005301388	-0.3440353
	N	313	313
BRWhite		43.62205***	-0.010764
		-0.000144745	-0.1805263
	N	474	474
AJGoldberg		47.4987	0.06955392*
		-0.2330013	-0.0125637
	N	36	36
AFortas		-10.73653	0.01782082
		-0.7762738	-0.5003122
	N	40	40
TMarshall		-24.74218.	-0.005807173
		-0.07291316	-0.5476147
	N	321	321
WEBurger		-8.895735	-0.03115582**
		-0.5602103	-0.003546332
	N	258	258
HABlackmun		-7.983709	-0.020179*
		-0.5680462	-0.03921745
	N	314	314
LPowell		52.46813***	-0.03286211**
		-0.000658577	-0.002302893
	N	252	252
WHRehnquist		37.29139**	0.002027319
		-0.003272028	-0.8193822
	N	398	398
JPStevens		-30.12138*	-0.002437358
		-0.03519948	-0.8076756
	N	305	305
SDOConnor		8.171341	0.01098675
		-0.6136725	-0.3321795
	N	236	236
AScalia		51.99071*	0.0326324*
		-0.01346386	-0.02669314
	N	136	136
AMKennedy		-22.21737	0.01656882
		-0.3320838	-0.3014093
	N	114	114
DHSouter		-11.21562	0.04509156*
		-0.6930844	-0.0233746
	N	73	73
CThomas		-58.7856.	0.04531522*
		-0.05988422	-0.03822581
	N	60	60
RBGinsburg		-87.87151*	0.06678155**
		-0.01342203	-0.007258906
	N	46	46
SGBreyer		-44.0532	0.03872766
		-0.285077	-0.1793409
	N	34	34
Controls			
Year of Decision		Y	Y
Margin of Majority		Y	Y
Issue Area		Y	Y

Note: Each listed justice authoring the majority opinion represents its own separate regression, comparing the listed justice in a pairwise comparison with all justices (writing majority opinions) combined, and controlling for the year of the USSC decision, the margin of the majority opinion, and the issue area of the majority opinion. The parenthesis represents the p-value of the coefficient. The number corresponding to N is the number of published decisions corresponding to the listed issue area. The asterisks correspond to the level of statistical significance: *** = p,0.001; ** = p<0.01; * = p<0.05.

6. Discussion

Our analysis illustrates the ways in which U.S. Supreme Court decisions vary from one another in how Article III courts – including the Court itself – subsequently cite them. Specifically, we find that Court decisions vary considerably with respect to how often they are cited, and to a lesser extent the rate at which they are cited over time. The general pattern we observe is that Court decisions generate different followings among Article III courts. Some are decidedly more cited than others. At the same time, most Court decisions find a niche, such that, given their baseline rate at which they are cited during the first decade of existence, they follow a similar rate of declining influence in the second decade.

Our findings tell a story in which a few key characteristics of a Court decision closely correlate with their salience in the federal common law doctrine. The Court writes in certain areas of law more than others (e.g., criminal procedure, civil rights, economic activity), just as it writes unanimous decisions are the modal decision (even at least one justice dissents in the majority of the Court's decisions), and assigns more majority opinions to select justices (e.g., Chief Justice Rehnquist; Justice Stevens) than others. These trends effects correspond to higher number of citations thereafter.

Our analysis of mean citations correlates with total citations, but reveal a more nuanced story about precedential influence. In some areas of law, the two are closely correlated. Court decisions in the area of criminal procedure and civil rights are cited much more than other issue areas collectively. Majority opinions written by Chief Justice Rehnquist were cited more than other justices collectively. In other instances, however, the story diverges. Decisions relating to economic activity, despite their frequency, are cited far less frequently on average. Unanimous majority opinions generate fewer cites on average than other majority coalitions collectively (as are 8-1 decisions); in contrast, opinions comprised of minimum majorities (e.g., 5-4, 4-3) are cited more than any other margin of majority (although these differences largely disappear when controlling for other factors).

We raise two caveats when interpreting these findings. The first is one of selection. Given their predominantly discretionary docket, the cases that the Supreme Court grants *certiorari* are not randomly assigned across issue area (as illustrated by four of thirteen issue areas – criminal procedure, civil rights, economic activity, and judicial power – accounting for over 70 percent of the cases). Similarly, neither the number of justices who join a majority opinion, nor the individual justice assigned to write the majority opinion, is randomly assigned – since both reflect choices made by one or more justices in light of the specifics of the case.

For each of these decisions, there are important but unobservable factors that influence choices the Court makes. The Court's decision to grant *certiorari* is influenced by the salience of the underlying legal question, which in turn may influence the degree of disagreement among the justices when deciding the case. The justices within the majority coalition determines both who assigns the case (either the Chief Justice or the senior associate justice of the majority coalition), which in turn determine who is even eligible to write the majority opinion. There are undoubtedly factors underlying each of these outcomes – i.e., the types of petitions granted *certiorari*; which justices join the majority opinion; which justice authors the majority opinion – which are important but unobservable.

Second, we reiterate our earlier caution that citation counts provide a credible but incomplete measure of the influence of Supreme Court precedent. Just as not all Court decisions are created equal, neither are all citations. The number of times a Court decision is cited, or even its longevity cannot be perfectly captured by citation counts. One can readily imagine scenarios

of false positives and false negatives generated by citation measures. For example, a decision may be widely cited, but for a relatively minor proposition (e.g., standard of review). Conversely, a case may be cited relatively infrequently, because the nature of this dispute, while important, arises relatively infrequently. Economic activity is one such example. Similarly, a Court decision may have a relatively low longevity measure, not because the decision lacks import, but because future litigants have incorporated this information when disputes emerge and therefore are able to resolve them without formal adjudication from the courts. Litigants are, in effect, bargaining in the “shadow of the law” (Mnookin and Kornhauser 1979).

Notwithstanding these caveats, our findings provide strong evidence of individual features of Supreme Court decisions that correlate closely with their subsequent influence among federal courts. These individual features stand out even after controlling for observable factors, and a meaningful effect. For example, the high total and average citation counts for a few select issue areas – e.g., criminal procedure, civil rights, and attorney power – provide evidence that Article III courts hear these types of cases more often than other issue areas, but also are integrating these precedents in these cases at a higher rate.

The effect of margin of majority and majority authorship are open to broader interpretation. Are majority decisions with narrow margins – i.e., 5-4; 4-3 – reflective of the underlying challenges and subtleties in the appeal, or do these margins independently influence how often certain disputes are frequently litigated, and for which these Supreme Court decisions are subsequently cited? Similarly, does the justice assigned to write the majority opinion independently affect the frequency of citations, either through the substance of opinion itself or the federal jurists choose to cite such precedent? Earlier work found evidence that federal judges, looking at the same case, gravitated towards differing Supreme Court precedent based on judicial ideology (Niblett and Yoon, 2016). If so, opinions written by justices of known conservative or liberal ideologies may generate more citations than those deemed to be more moderate. We find evidence of such patterns: Chief Justices Warren and Rehnquist were each cited much more on average than their fellow justices. Some of this effect may be due to their privilege of choosing which majority opinions they wrote, but they were known for their liberal and conservative ideologies, respectively. At the same time, ideology does not always correlate with subsequent rates of citation: Justices Stevens, and Ginsburg –both renowned for their liberal ideologies, were cited at significantly lower rates than other justices.

Our findings raise a few questions that warrant further investigation. First, is the U.S. Supreme Court granting *certiorari* to the optimal portfolio of cases that come before it? If the Court’s objective is to provide guidance and clarity to lower courts, one measure of guidance is the extent to which subsequent Article III courts cite their decisions. With the caveat that citations alone are an imperfect measure of a court’s influence, we believe it provide a legitimate – if not the sole – proxy. Our data shows that the Court has granted *certiorari* in cases that were never subsequently cited, comprised mostly of cases of original jurisdiction, *per curiam*, or, in some cases, both. Even beyond these instances with zero citations, Court decisions have varied considerably in their citation counts. The bottom quartile of Court decisions were cited on average fewer than 28 times each. The bottom decile of decisions were cited on average fewer than 8 times each. A wide distribution of citations may be easier to absorb when the Court hears a large annual caseload, as was it averaged over 100 cases during the 1980s into the early 1990s. Since 2000, the Court has averaged closer to 80 cases. With a reduced docket, each petition granted *certiorari* matters more.

Second, to what extent do justices dissenting from the majority have an independent effect on how Article III courts cite Supreme Court decisions? Our results show that unanimous Supreme Court decisions generate the fewest citations on average of any majority coalition, and decisions with the minimum majority are cited the most. On one hand, it is possible the number of dissents simply reflects the salience of a given case. If so, the number of dissents has no independent effect on citations. In contrast, suppose the number of dissents has an actual effect on how Article III courts subsequently cite it. Closely divided decisions – separate from its substance – signal to federal judges that they should cite this decision when decided decisions in this issue area. Yet this signal may convey different information, depending on the judge. Those who support the majority opinion may use it as an opportunity to engage in *stare decisis*. Those supporting the dissenting opinion may cite the case to acknowledge its precedential significance, while distinguishing their case on the facts. Our regression-adjusted analyses – in which the point estimates of the majority of the margin are statistically non-significant – provide evidence that the number of dissents correlate with salient (but unobservable) aspects of the case.

Third, our results provide clear evidence that individual justices correlate strongly with how much their decision is subsequently cited. As with issue area and margin of majority, issues of selection arise: because justices are not randomly assigned opinions, variation in citations may be attributable to aspects of the case as much as the individual justice. That said, our regressions – controlling for issue area and margin of the majority, among other factors – still reveal select justices cited much more or less than their cohort. This finding is consistent with the view that certain justices wield more influential than others, at least measured by citations. Scholars have concluded that lawyers (Abrams and Yoon 2007) and lower court judges (Gulati and Choi 2004) vary in ability. It naturally follows that justices display this same difference in ability.

The varying influence of opinion by justice in turn raises the question whether, from a social planner perspective, the process of assigning majority opinions to justices is optimal. Of course, what counts as optimal depends entirely on the objective of the assigning justice. If the goal is to draw attention to opinions that might Article III courts might otherwise ignore, and if justices have an independent effect on a decision's subsequent interest by Article III courts, then the assigning justice could ask a justice whose opinions are more widely cited to write the majority opinion. By contrast, however, if the goal is not maximizing attention over all published opinions but to draw attention to certain decisions over others, it may be the case that the current process of assigning justices is already optimal.

Our findings offer many future areas of research, of which we highlight only two. The first is the study of the Court's influence on state courts, something that our study did not examine. The number of state court decisions far exceed those of the federal court (Ostrom et al 2004).²⁴ We focused on federal court citations for the practical reason that Lexis-Nexis's coverage of state court decisions was far less comprehensive, both in time and scope. But even a cursory glance at our data reveals the influence of Court decisions on state courts. For example, *Miranda v. Arizona*, 384 U.S. 436 (1966) was cited nearly 4000 times by Article III courts following the first twenty years it was issued, but over 10,000 times by state courts during this same period. State courts varied in their citation of *Miranda* that cannot be easily explained by population or caseload alone, suggesting that states vary from one another in their reliance of Court precedent. This question is important because the Court represents the highest court for state courts on all federal (statutory and constitutional) matters. Given the considerable discretion afforded judges –

²⁴ For example, the authors note that in 1999, federal district courts had 320,194 filings, compared with 12,096,552 for state courts of general jurisdiction (Ostrom et al 2004, 757, Table 1).

in large part because of limited oversight through the appellate process – it is helpful to have a more complete understanding of how state courts make use of Court precedent.

Second, and related, our findings beg the question whether the Court is maximizing its guidance to lower courts, state and federal. The Court is not a court of justice but of law (Roth and Roth 1989),²⁵ reflective of its predominantly discretionary docket (Baum 2016). The Court’s requirement of only four justices voting to grant *certiorari* is a non-majoritarian condition, meaning in some instances the Court votes to hear a case that the majority of justices do not affirmatively agree. The downstream benefits of widely cited Court decisions are self-evident. It is more difficult to discern the benefit of rarely cited decisions. A paucity of citations could reflect either the decision efficiently clarified uncertainty around a given statute or legal doctrine, such that prospective litigants could effectively “bargain in the shadow of the law.” (Mnookin and Kornhauser 1979); or, alternatively, that the decision, while of paramount importance to the named parties, had limited broader salience. While the question poses challenges, it is worth exploring, particularly in light of the Court’s longstanding decline in its plenary docket (Stras 2010).

7. Conclusion

Our analysis provides strong evidence that published opinions issued by the U.S. Supreme Court vary dramatically in their effect on the common law, measured by how Article III courts subsequently cite them. Cases involving specific issue areas arise more frequently, generating more total citations and, in many instances, higher mean citations as well. We find that the degree of unanimity of the majority opinion— often identified as relevant to determining the opinion’s import, has little effect on subsequent citations. Conversely, we find that select justices stand out among their peers as wielding greater or lesser influence among Article III courts. While we find considerable variation in influence along issue area and individual justice based on mean citation rates, we find that their influence declines at comparable rates over time.

While our article focuses on the influence of the Court of Article III federal courts, our findings invite a parallel into the Court’s influence on state courts, as well as a closer examination into the Court’s *certiorari* process, and whether the Court is acting optimally in furtherance of its stated goals of being a court of law, not of justice.

²⁵ Justice Oliver Wendell Holmes purportedly remarked, “I am always suspicious of an advocate who comes before the Supreme Court saying this is a court of justice; it is a court of law.”). Roth and Roth, p.124.

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