

# A Data-Intensive Framework for Analyzing Dynamic Supreme Court Behavior

by

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Thesis submitted in partial fulfillment of  
the requirements for the degree of Master of Science in the Department of  
Electrical and Computer Engineering in the Graduate School  
of Duke University

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ABSTRACT

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# Abstract

Many law professors and scholars think of the Supreme Court as a black box— issues and arguments go in to the Court, and decisions come out. The almost mystical nature that these researchers impute to the Court seems to be a function of the lack of hard data and statistics about the Court’s decisions. Without a robust dataset from which to draw proper conclusions, legal scholars are often left only with intuition and conjecture.

Explaining the inner workings of one of the most important institutions in the United States using such a subjective approach is obviously flawed. And, indeed, data is available that can provide researchers with a better understanding of the Court’s actions, but scholars have been slow in adopting a methodology based on data and statistical analysis. The sheer quantity of available data is overwhelming and might provide one reason why such an analysis has not yet been undertaken.

Relevant data for these studies is available from a variety of sources, but two in particular are of note. First, legal database provider LexisNexis provides a huge amount of information about how the Court’s opinions are treated by subsequent opinions; thus, if the Court later overrules one of its earlier opinions, that information is captured by LexisNexis. Second, researchers at Washington University in St. Louis have compiled a database that provides detailed information about each Supreme Court decision.

Combining these two sources into a coherent database will provide a treasure trove of results for future researchers to study, use, and build upon.

This thesis will explore a first-of-its-kind attempt to parse these massive datasets to provide a powerful tool for future researchers. It will also provide a window to help the average citizen understand Supreme Court behavior more clearly. By utilizing traditional data extraction and dataset analysis methods, many informative conclusions can be reached to help explain why the Court acts the way it does. For example, the results show that decisions decided by a narrow margin (i.e., by a 5 to 4 vote) are almost 4x more likely to be overruled than unanimous decisions by the Court. Many more results like these can be synthesized from the dataset and will be presented in this thesis. Possibly of higher importance, this thesis presents a framework to predict the outcomes of future and pending Supreme Court cases using statistical analysis of the data gleaned from the dataset.

In the end, this thesis strives to provide input data as well as results data for future researchers to use in studying Supreme Court behavior. It also provides a framework that researchers can use to analyze the input data to create even more results data.

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# 1

## Introduction

The Constitution of the United States created a checks-and-balances system of government with three distinct branches: the Legislative Branch, the Executive Branch, and the Judicial Branch.[1] Many contend that the Founding Fathers listed the branches in this particular order because they believed that the Legislative Branch would be the most important branch while the Judicial Branch would be the least important.[2] The text of the Constitution itself may even provide support for the position. Article I on the Legislative Branch has 2,278 words, and Article II on the Executive branch has 1,028 words. Article III on the Judicial Branch, on the other hand, has only 377 words.

In spite of the length of treatment in the Constitution and the Founding Fathers' intentions, however, the Judicial Branch may just be the most powerful branch of government.[3] And at the head of this important branch sits the Supreme Court of the United States, vested with the awesome power to strike down actions of the other two branches if it finds them to be unconstitutional.

Much to the chagrin of political scientists, legal scholars, and, of course, the other two branches of government, the Supreme Court is anything but transparent in rendering its decisions. In fact, some have gone as far as calling the Supreme Court a "black box." [4] Issues and arguments go into the Court, and then decisions come out of the Court. All the while, the formulas used to reach those decisions remain hidden from public view.

This black-box view of the Supreme Court, however, may soon become deprecated. Vast amounts of data are available that can help legal researchers and scholars understand why the Court behaves the way it does and why it decides cases in certain ways. Unfortunately, to this point, no substantive analysis of this data has been conducted. This failing could be a function of many different problems: the datasets are too large to handle easily, the data is spread across thousands of different documents, and legal scholars lack the engineering skills necessary to parse the datasets efficiently.

This thesis seeks to rectify these shortcomings in legal analysis. By applying standard engineering techniques to gather the available data and then parse and analyze

the collected datasets, significant advancements in knowledge and understanding about the Court can be realized. This thesis, therefore, attempts to provide future researchers with a well-designed database, capable of generating interesting results scholars can use to study and better understand Supreme Court behavior. A small subset of the results that can be extracted from the database will be presented in this thesis. Further, this thesis will present a framework for using these results to help researchers predict how the Court will rule in future and pending cases.

To understand the proposed prediction framework and the research problems that this tool will resolve, a cursory understanding of the Supreme Court is necessary. Thus, Chapter 2 will provide a general overview of how the Court operates. Then, in Chapter 3, this thesis will discuss what kind of data about the Supreme Court forms the basis of the database. Chapter 4 will then turn to the work undertaken to combine the available data into a coherent form. Example results that can be drawn from the synthesized dataset will be provided in Chapter 5; that chapter will also present the Supreme Court decision prediction framework. Finally, in Chapter 6, this thesis will conclude with a discussion of the major contributions provided by this work.

# 2

## **Background and Motivation—The Supreme Court, Its Decisions, and the Public’s Response**

### ***2.1 Supreme Court Basics***

This section attempts to explain some of the basic characteristics of the Court.

Understanding these concepts will be important to understanding the datasets and the results presented later in this thesis.

#### **2.1.1 Justices and Composition of the Court**

The Supreme Court is composed of nine justices. Each justice is nominated by the President and confirmed by the Senate. After a justice is confirmed, he enjoys a life

term; that is, he may serve as a justice until he retires, resigns, or dies. As an example, consider the path of the newest member of the Court, Elena Kagan. President Obama nominated Kagan shortly after Justice John Paul Stevens retired from the Court.[5] A month later, she was confirmed by the Senate and began her life term.

The Court has one chief justice who supervises the Court. The chief oversees all oral arguments, schedules hearings, and acts as spokesperson. The chief justice is nominated and confirmed in exactly the same way as any other justice. A new chief justice can be added to the Court only when the previous chief retires or dies.[6]

Table 1 lists the members of the Court that have served during the relevant timeframe for this thesis.

**Table 1: Justices who have served on the Supreme Court from 1946-present.**

<i>Justice Name</i>	<i>Term</i>	<i>Chief Justice?</i>	<i>Reason for Leaving</i>
Hugo Black	1937–1971	No	Retirement
Stanley Reed	1884–1980	No	Retirement
Felix Frankfurter	1939–1962	No	Retirement
William Douglas	1939–1975	No	Retirement
Frank Murphy	1940–1949	No	Death
James Byrnes	1941–1942	No	Resignation
Robert Jackson	1941–1954	No	Death
Wiley Rutledge	1943–1949	No	Death
Harold Burton	1945–1958	No	Retirement
Fred Vinson	1946–1953	Yes	Death
Tom Clark	1949–1967	No	Retirement
Sherman Minton	1949–1956	No	Retirement
Earl Warren	1953–1969	Yes	Retirement
John Harlan	1955–1971	No	Retirement
William Brennan	1956–1990	No	Retirement
Charles Whittaker	1957–1962	No	Resignation
Potter Stewart	1958–1981	No	Retirement
Byron White	1962–1993	No	Retirement
Arthur Goldberg	1962–1965	No	Resignation
Abe Fortas	1965–1969	No	Resignation
Thurgood Marshall	1967–1991	No	Retirement
Warren Burger	1969–1986	Yes	Retirement
Harry Blackmun	1970–1994	No	Retirement
Lewis Powell	1972–1987	No	Retirement
William Rehnquist	1972–2005	Yes	Death
John Paul Stevens	1975–2010	No	Retirement
Sandra Day O’Connor	1981–2006	No	Retirement
Antonin Scalia	1986–present	No	Currently serving
Anthony Kennedy	1988–present	No	Currently serving
David Souter	1990–2009	No	Retirement
Clarence Thomas	1991–present	No	Currently serving
Ruth Bader Ginsburg	1993–present	No	Currently serving
Stephen Breyer	1994–present	No	Currently serving
John Roberts	2005–present	Yes	Currently serving
Samuel Alito	2006–present	No	Currently serving
Sonia Sotomayor	2009–present	No	Currently serving
Elena Kagan	2010–present	No	Currently serving

## **2.1.2 The Root of the Court's Power: Judicial Review**

As mentioned earlier, the Supreme Court is the most powerful judicial body in the United States and possibly one of the most powerful forces in American government. The Supreme Court is almost as old as the nation it serves—it was established by the Founding Fathers in Article III of the Constitution back in 1788. Most of the Court's power stems from its ability to perform "judicial review." This allows the Supreme Court to strike down any action by Congress, the President, or administrative agency that violates the Constitution. In other words, if the action is "unconstitutional," the Supreme Court can block that action.[7]

On top of the power to strike down unconstitutional laws and actions, the Court can also review the decision of any other court and determine if that court acted improvidently in rendering its decision. The Supreme Court, as the head of the judicial system, has the power to reverse the decisions any other court.

## **2.2 How the Court Wields Its Power**

### **2.2.1 Getting a Case to the Court**

There are a variety of ways that a case can be heard by the Court. Most commonly, though, the Supreme Court hears cases that have been previously argued and ruled upon in lower courts like federal district courts (e.g., the Court for the Southern District of New York), federal appellate courts (e.g., the Court of Appeals for the Second Circuit), and state courts (e.g., the Supreme Court of North Carolina). After

decisions are rendered by these lower courts, the parties can file a petition with the Supreme Court asking the Court to hear their case. This petition is called a petition for writ of certiorari.[8]

But not every case can be heard by the Supreme Court. Although thousands of petitions for writs of certiorari are filed with the Court every year (over 7,000 last year), the Court only has the time to rule on around 100 cases each term. For this reason, the justices on the Court vote on which cases they want to hear each year. Usually, the Supreme Court tries to hear cases that implicate particularly important national issues. Also, if taking a case would allow the Court to resolve a significant conflict among lower courts, the Court is more likely to take such a case.[9]

The Supreme Court is not limited to any particular area of law and may rule on cases involving any issue of law. That means that the Court may issue an opinion resolving a difficult issue in patent law on Monday, one on free speech rights on Tuesday, and one on the death penalty on Wednesday.

### **2.2.2 How the Court Resolves a Case**

A lot can happen between the time the Supreme Court decides to hear a case and the time the Court actually resolves the case. To start, the opposing parties file briefs with the Court explaining why they believe they should win. Additionally, any interested party (like the NAACP or the U.S. Government) can file documents called amicus briefs explaining why the Court should rule for one party or the other.[10] After

reading the briefs, the justices decide whether they wish to hear the attorneys for each side orally argue the case before the Court. If so, the attorneys will appear before the Court and present their sides. If oral arguments are not requested, the Court moves right into making its decision.

Each justice wields one vote, even the chief justice. To prevail, a party must receive a majority of votes of the members of the Court. So, the closest cases will be decided by a 5 vote to 4 vote margin. In unanimous decisions, all 9 members of the Court vote for one side, and zero members vote for the opposing side.

After the vote is taken and the Court determines the case's outcome, a justice who voted for the victorious side creates a document explaining why the Court ruled the way it did. This is called the majority opinion or just the opinion. If a justice voted for the losing side, he may choose to create a document explaining why he voted that way. This is called a minority opinion or a dissenting opinion.[11] The majority opinions are exceedingly important because they become precedent and form the basis for reasoning in future cases. Because of the iterative nature of the Court's decisions, the Court will reference reasoning from earlier opinions in opinions it issues. If the earlier opinions provide support for the justice's decision, the justice will usually cite the previous opinions positively and follow their reasoning.

If, on the other hand, earlier opinions conflict with the justice's current decision, the justice will cite those opinions negatively and may even overrule those previous

decisions. An overruled opinion may never again be used as precedent for future cases. Most of the time, however, the Court will just criticize, question, or limit the reasoning of these non-harmonious opinions.

As for its final decision, the Court has a variety of options available. The Court can simply affirm the decision of the lower court, meaning that the party who won in the lower court has won the dispute. Alternatively, the Court can reverse the lower court's decision. This means that the party that lost in the lower court is now the victorious party. If the Court disagrees with the lower court's reasoning or methodology but is unsure which party should win, the Court will reverse and "remand" the case for further proceedings.[12] When such a decision is issued, the case goes back down to the lower court, and the lower court will apply the Court's reasoning to the facts of the case to determine which party wins. Finally, if the lower court made multiple decisions in a case, the Court may affirm some of those decisions and reverse (and possibly remand) others of those decisions.

### ***2.3 The Aftermath of Supreme Court Opinions***

A governmental body that wields this incredible amount of power should certainly expect its actions to be scrutinized and dissected by scholars and researchers. Thousands of articles are written and published each year about the Supreme Court's decisions.[13] A large portion of these articles seek to explain why the Court acted in a certain way. This is especially true when the Court seems to go against precedent and

renders unexpected decisions. And this occurs quite often.[14][15] Often enough, in fact, that one website thinks that predicting the Court's decisions is a game and rewards people who correctly predict the justices' decisions with cash prizes.[16] Thus, another area of current research involves predicting how the Court will resolve specific cases.

Scholars and researchers, to this point, have relied strongly on their own intuitions and gut feelings, usually based on the limited set of Supreme Court opinions they have read in their lifetimes, to predict future Court behavior. This approach, unfortunately, has many flaws. First, with the one hundred or so opinions issued by the Court every year, it is unlikely that scholars will have read every Supreme Court decision. They are thus coming to conclusions using a truncated set of data. Second, such an approach will certainly bring the biases of the reader into play. That is, a conservative-minded scholar is more likely to readily remember and draw upon conservative opinions when studying the Court's behavior. The same, of course, would go for how liberal-minded scholars would treat liberal opinions.

Introducing these flaws into an attempt to study the complex and seemingly unpredictable nature of the Supreme Court will likely introduce defects into the final result. What is needed—and what has been sorely lacking in the legal scholarship community to this point—is a way to study the Court that will not implicate these analytical flaws. If a dataset existed that would allow researchers to run queries and obtain hard data on how the Court behaves in certain instances, it would be a giant leap

forward in legal research. Researchers could then take those results and form theories on why the Court acts in those ways. These theories could help the public understand the Court more clearly and maybe even provide a mechanism to better predict how the Court will rule in future cases. This thesis strives to provide the legal community with the seed database and framework that will lead to these results.

# 3

## The Data Sources

Because of the high level of influence exerted by the Supreme Court on American society, data about the Court is available in a variety of locations. In this Chapter, this thesis will discuss two important sources of data and what they might be able to contribute to Supreme Court research.

### ***3.1 The First Source: The Spaeth Supreme Court Database***

#### **3.1.1 The Data Provided by the Database**

In the 1980s, Professor Harold Spaeth asked the National Science Foundation for a grant to work on compiling data on Supreme Court decisions. Professor Spaeth's goal

was to produce a dataset that would include and classify every single vote by a Supreme Court justice in all argued cases over a five-decade period.

Since its beginnings, Spaeth's database has become even more robust and now contains data on the Court's decisions from 1946–present. Today's version of the Database houses 247 pieces of information for each case, roughly broken down into six categories: (1) identification variables (e.g., citations and docket numbers); (2) background variables (e.g., how the Court took jurisdiction, origin and source of the case, the reason the Court agreed to decide it); (3) chronological variables (e.g., the date of decision, term of Court, natural court); (4) substantive variables (e.g., legal provisions, issues, whether the decision was liberal or conservative in nature); (5) outcome variables (e.g., disposition of the case, winning party, formal alteration of precedent, declaration of unconstitutionality); and (6) voting and opinion variables (e.g., how the individual justices voted and who wrote the opinions). A list of the most important information available in the Spaeth database is given in Table 2.

**Table 2: Important Fields in the Spaeth Supreme Court Database**

<b>Field Name</b>	<b>Description of Contents</b>	<b>Separate Database? Example</b>
<b>usCite</b>	The case's citation	No
<b>sctCite</b>	The case's alternate form of citation	No
<b>term</b>	The year in which the case was decided.	No
<b>naturalCourt</b>	Number that increments whenever the composition of the Court changes; thus each value corresponds to a particular composition of the Court	Yes -- 1701, Roberts 1 Court
<b>chief</b>	Last name of the Chief of the Supreme Court when the decision was rendered	No
<b>caseName</b>	The actual name of the case, e.g., Brown v. BOE	No
<b>dateArgument</b>	Date of oral argument	No
<b>petitioner</b>	Number that classifies the petitioner in the case, places into a category like "railroad" or "private school" or "U.S. Postal Service"	Yes -- 405, Securities and Exchange Comm.
<b>petitionerState</b>	Number that tells which state the petitioner came from	Yes -- 38, North Carolina
<b>respondent</b>	Number that classifies the respondent in the case, places into a category like "railroad" or "private school" or "U.S. Postal Service"	Yes -- 405, Securities and Exchange Comm.
<b>respondentState</b>	Number that declares which state the respondent came from	Yes -- 38, North Carolina
<b>jurisdiction</b>	Number that declares how the case got to the Supreme Court, usually through a writ of certiorari	Yes -- 1, cert
<b>adminAction</b>	Number that declares which administrative agency is involved in the case, if any	Yes -- 2, Atomic Energy Commission
<b>adminActionState</b>	Number that declares which state the administrative agency is in, if any	Yes -- 38, North Carolina
<b>caseOrigin</b>	Number that declares where the case was heard before it came to the Supreme Court	Yes -- 8, Court of Appeals for the Federal Cir
<b>caseOriginState</b>	Number that declares which state the case was heard in before it came to the Supreme Court	Yes -- 38, North Carolina

<b>lcDisagreement</b>	Boolean value that declares whether the lower court was in disagreement about their decision (i.e., whether there was a dissent)	Yes -- 0, No
<b>certReason</b>	Number that declares why the Supreme Court decided to take the case	Yes -- 7, federal court confusion or uncertainty
<b>lcDisposition</b>	Number that declares how the lower court ruled on the case	Yes -- 2, affirmed
<b>lcDispositionDirection</b>	Number that declares whether the lower court's decision was conservative or liberal	Yes -- 1, conservative
<b>declarationUncon</b>	Number that declares whether the Court declared something unconstitutional in its opinion	Yes -- 2, act of congress declared unconstitutional
<b>caseDisposition</b>	Number that declares how the Court ruled on the case	Yes -- 2, affirmed
<b>partyWinning</b>	Number that declares whether the petitioner or respondent won	Yes -- 1, petitioner won
<b>precedentAlteration</b>	Boolean value that declares whether precedent was altered	Yes -- 0, No
<b>voteUnclear</b>	Boolean value that declares whether the vote in the case was unclear (like one justice did not clearly vote yes or no)	Yes -- 0, No
<b>issue</b>	Number that declares what the main issue in the case was (like deportation, patents, free exercise of religion)	Yes -- 20050, desegregation of schools
<b>issueArea</b>	Number that declares what the main issue in the case was but uses much broader categories (criminal procedure, federalism)	Yes -- 7, unions
<b>decisionDirection</b>	Number that declares whether the Supreme Court majority's decision was conservative or liberal	Yes -- 1, conservative
<b>decisionDirectionDissent</b>	Number that declares whether the Supreme Court minority decision was conservative or liberal	Yes -- 1, conservative
<b>authorityDecision1</b>	Number that declares the basis for the Court's decision	Yes -- 4, statutory construction
<b>authorityDecision2</b>	Number that declares the basis for the Court's decision (if there is a second basis)	Yes -- 4, statutory construction

<b>lawType</b>	Number that declares what general kind of law was considered by the Court (like the Constitution or state law)	Yes -- 3, federal statute
<b>lawSupp</b>	Number that declares exactly what law was considered by the Court	Yes -- 367, Sherman Act
<b>lawMinor</b>	Gives the exact statute at issue if it is not a commonly litigated statute and thus not included in the lawSupp table	No
<b>majOpinWriter</b>	Number that declares who wrote the majority opinion	Yes -- 104, Scalia
<b>majOpinAssigner</b>	Number that declares who decided which member of the court should write the majority opinion	Yes -- 104, Scalia
<b>majVotes</b>	Gives the number of votes for the majority's position	No
<b>minVotes</b>	Gives the number of votes for the minority's position	No

So, for any particular case, a researcher can see a plethora of data including the final vote, who wrote the majority opinion, the final outcome of the case, what laws and issues are discussed, and why the Court took the case in the first place. Clearly, there is an enormous amount of useful data available in this database. In Excel spreadsheet format, the database occupies over 113,000 rows and 60 columns—that means there are over 6,780,000 unique data points in this database! It should be noted that many of the entries in the dataset are numbers that must be cross-referenced with another database to make any sense. For instance, the field that declares who wrote the majority opinion will contain a number. The user must look in another dataset to determine to which justice that number corresponds.

One of the biggest shortcomings of this dataset, however, is its completely static nature. The database merely presents data about each individual Supreme Court decision as of the date of the decision but fails to give any useful data about the Supreme

Court as a dynamic body. That is, it fails to describe what happens to these opinions after a justice writes them.

### **3.1.2 The Availability of the Spaeth Supreme Court Database**

The Spaeth Supreme Court database is available to the general public on the Washington University in St. Louis Law School's website.[17] Its authors have provided it in a variety of formats so that it can be utilized by users of varying technological and mathematical aptitude. While political scientists and law professors might prefer the database in Excel format, statisticians and mathematicians would likely choose either the Stata or SPSS versions.

### **3.2 The Second Source: The Lexis-Nexis Shepard's Service**

Lexis-Nexis's Shepard's Service provides a perfect complement for the Spaeth Supreme Court Database and compensates for Spaeth's lack of dynamic content. The Lexis-Nexis Shepard's Service data for a case includes information on how that case was treated by all subsequent cases.[18] Lexis-Nexis hires hundreds of attorneys and legal researchers to compile this data. When an opinion is published, a Lexis-Nexis employee will go through the opinion and find all the instances where the opinion cites earlier opinions. The employee will then determine how the opinion treats the opinions it cites. Table 3 contains a full listing of tags that Lexis-Nexis employees use to describe the treatment of cited cases.

**Table 3: The universe of treatment tags used by the Lexis-Nexis Shepard's Service.[19]**

Treatment Tag	Type of Treatment	Explanation
<b>Overruled</b>	Negative	The current case expressly overrules the cited case, it is no longer precedential
<b>Criticized</b>	Negative	The current case disagrees with the reasoning or result of the cited case and may hamper its usability in future opinions
<b>Questioned</b>	Negative	The current case questions the continuing validity or precedential value of the cited case
<b>Limited</b>	Negative	The current case restricts the application of the cited case, finding that its reasoning applies only in limited circumstances
<b>Distinguished</b>	Negative	The current case does not apply the reasoning of the cited case by finding that the circumstances of the current case differ from the cited case
<b>Parallel</b>	Positive	The current case's reasoning parallels the reasoning of the cited case
<b>Followed</b>	Positive	The current case relies on the cited case's reasoning as controlling precedent
<b>Explained</b>	Neutral	The current case interprets or clarifies the cited case's reasoning
<b>Cited</b>	Neutral	The current case just cites to the cited case without any kind of substantive treatment

Thus, from this data, one can get a true sense of how the Supreme Court's mindset is evolving. For instance, a researcher can see if a particular opinion of the Court was overruled in a later case or whether it has been followed by later opinions. An example might help make this point more clear. Consider the Shepard's data for the case *Gardner v. Westinghouse Broadcasting Co.*, reproduced in Figure 1.

**CITING DECISIONS ( 161 citing decisions )**

**U.S. SUPREME COURT**

- 3. **Cited by:**  
[Nixon v. Fitzgerald](#), 457 U.S. 731, 102 S. Ct. 2690, 73 L. Ed. 2d 349, 1982 U.S. LEXIS 42, 50 U.S.L.W.  
457 U.S. 731 p.743  
102 S. Ct. 2690 p.2698  
73 L. Ed. 2d 349 p.359
- 4. **Explained by:**  
[Carson v. American Brands, Inc.](#), 450 U.S. 79, 101 S. Ct. 993, 67 L. Ed. 2d 59, 1981 U.S. LEXIS 69, 49 (Callaghan) 1 (1981) LexisNexis Headnotes HN3  
450 U.S. 79 p.85  
101 S. Ct. 993 p.997  
67 L. Ed. 2d 59 p.65

**1ST CIRCUIT - COURT OF APPEALS**

- 5. **Cited by:**  
[Chronicle Pub. Co. v. Hantzis](#), 902 F.2d 1028, 1990 U.S. App. LEXIS 7656 (1st Cir. Mass. 1990) LexisN  
902 F.2d 1028 p.1031

**Figure 1: Example data returned by Lexis-Nexis Shepard's Service for the case *Gardner v. Westinghouse Broadcasting Co.***

Thus, this case has been referenced in two other Supreme Court decisions: *Nixon v. Fitzgerald* and *Carson v. American Brands, Inc.* For the *Nixon* case, the tag applied is the "Cited by" tag. This means that the majority opinion in *Nixon* cited the *Gardner* case but did not discuss it in any way. The *Carson* case, on the other hand, was given a tag of "Explained by," so the *Carson* majority opinion interpreted or clarified the reasoning in *Gardner*. From this data, it can be determined that the subsequent treatment of the *Gardner* case is neutral. The Supreme Court has not cited that case positively or negatively in its later opinions. It should also be noted that the Shepard's data also

captures information about how lower courts treat the Supreme Court case. This data is outside the scope of this thesis but could be a subject for future work.

It should be clear why this is a useful service: if the Shepard's data showed that a case had been harshly criticized or overruled by later Supreme Court opinions, then a lawyer should probably avoid using such a case as the basis of his argument.

### **3.2.2 The Availability of the Lexis-Nexis Shepard's Service Data**

Lexis-Nexis Shepard's data is not publicly available. A person must have a Lexis-Nexis username and password to have access to the Shepard's Service. Law students are given a username and password free of charge; most other users must pay for the service. After a user logs in to the Lexis-Nexis website, the user enters the citation for the case they want Shepard's data for (in the *Gardner* example, the citation is 437 U.S. 478). The website then returns the Shepard's data for the requested case.

The request-response nature of the Lexis-Nexis website illustrates another problem—the data is not collected in a single location. Instead, it is dispersed across thousands of different dynamically-rendered webpages. To be useful to researchers, the data will need to be available to researchers in a coherent, easy-to-access database.

# 4

## Obtaining the Data and Constructing the Master Database

### ***4.1 Obtaining the Data for the Master Database***

Half of the battle of creating this Supreme Court research tool lies in gathering the requisite data from the data sources. This section will discuss the challenges presented and the methods chosen to overcome them in collecting the data.

#### **4.1.1 Obtaining the Spaeth Supreme Court Database Data**

As discussed in the previous chapter, the Spaeth Supreme Court database is available to the general public on the Washington University in St. Louis Law School's

website. It can be downloaded in a variety of formats. Thus, obtaining this data was straightforward.

#### **4.1.2 Obtaining the Lexis-Nexis Shepard's Service Data**

On the other hand, obtaining the Shepard's data was anything but straightforward. Because of the request-response nature of the Lexis-Nexis system and the lack of a central repository for Shepard's data, a simple download of all of the relevant data was not possible. Instead, requests for the Shepard's data would need to be transmitted to the Lexis-Nexis servers for each of the *24,000 Supreme Court cases*, and the responses would then need to be stored locally for later computation. Given the enormous number of requests that need to be transmitted, performing this process manually was not a feasible option.

Because the data is provided only after a request is submitted to Lexis-Nexis's website, a web browser automation solution was implemented. The solution leveraged the web browser automation tool Selenium and its libraries to abstract away the need to deal with sockets and other low level web components.[20] The Selenium libraries may be used in Java code. The solution thus took the form of a Java program. Pseudocode describing how the program iteratively obtains the Lexis-Nexis Shepard's data is provided in Figure 2.

```
Open web browser
Open Lexis-Nexis webpage
Find username and password fields on webpage
Pass appropriate credentials to these fields and log in
Navigate to Shepard's input page
Open input file containing list of Supreme Court citations
to obtain data for
Open output file for results
While more citations are in the input file
    Read next citation
    Find Shepard's input field on webpage
    Pass citation to input field
    Submit request for Shepard's data
    Wait until response received
    Save raw data from results page to output file
    Navigate browser back to Shepard's input page
Close output file
Close browser window
```

**Figure 2: Pseudo code for web browser automation solution to gather Lexis-Nexis Shepard's data.**

Using this methodology, Shepard's data for all 24,121 Supreme Court cases was extracted from the Lexis-Nexis website. Unfortunately, the raw data pulled down from the website was not in a refined form straight from the browser. Indeed, much of the extracted data was superfluous and not of interest to this thesis. Thus, the next task was to parse the raw data and extract the pertinent data that would later go into the combined database. An example of the raw data pulled down from the Lexis-Nexis website is shown below in Figure 3.

328 U. S. 1 (a)

Copyright 2012 SHEPARD'S(R) - 13 Citing references

Swanson v. Marra Bros., Inc., 328 U.S. 1, 66 S. Ct. 869, 90 L. Ed. 1045, 1946 U.S. LEXIS 3011, 11 Cal. Comp. Cas. (MB) 133 (1946)

Restrictions: *Jurisdictions (U.S. Supreme Court)*  
FOCUS(TM) Terms: *No FOCUS terms*  
Print Format: *FULL*  
Citing Ref. Signal: *Hidden*

#### SHEPARD'S SUMMARY



##### Restricted *Shepard's* Summary

No subsequent appellate history. Prior history available.

##### Citing References:

Cautionary Analyses: **Distinguished (2)**  
Neutral Analyses: Dissenting Op. (4), Explained (1)

Unrestricted *Shepard's* Signal(TM): ▲

#### PRIOR HISTORY (2 citing references)

1. [Swanson v. Marra Bros., Inc.](#), 57 F. Supp. 456, 1944 U.S. Dist. LEXIS 1970 (D. Pa. 1944)
2. **Affirmed by:**  
[Swanson v. Marra Bros., Inc.](#), 149 F.2d 646, 1945 U.S. App. LEXIS 2647 (3d Cir. Pa. 1945)  
*Affirmed by (CITATION YOU ENTERED):*  
[Swanson v. Marra Bros., Inc.](#), 328 U.S. 1, 66 S. Ct. 869, 90 L. Ed. 1045, 1946 U.S. LEXIS 3011, 11 Cal. Comp. Cas. (MB) 133 (1946)

#### CITING DECISIONS (11 citing decisions)

##### U.S. SUPREME COURT

3. **Cited by:** (b)  
[Stewart v. Dutra Constr. Co.](#), 543 U.S. 481, 125 S. Ct. 1118, 160 L. Ed. 2d 932, 2005 U.S. LEXIS 1397, 73 U.S.L.W. 4130, 18 Fla. L. Weekly Fed. S 115, 2005 A.M.C. 609 (2005)  
543 U.S. 481 [p.488](#) (d)

Figure 3: Raw Shepard's data extracted from the Lexis-Nexis website; (a) is the *baseCase*; (b) is the *treatment*; (c) is the *citingCase*; and (d) is the *pincite* for the *citingCase*.

The red box in Figure 3 labeled (a) is the citation of the case that the program entered as input to the Shepard's webpage; it is called the *baseCase*. The box labeled (b) highlights the *treatment* that the *citingCase*, box (c), gives the *baseCase*. Finally, box (d)

contains the *pincite* for the *citingCase*. The *pincite* provides the page number on which the *treatment* of the *baseCase* can be found in the *citingCase*. From the example given in Figure 3, the citation of the *baseCase* is 328 U.S. 1. That *baseCase* is cited by the case at citation 543 U.S. 481 on page 488 of the opinion. As can also be seen from Figure 3, there are 11 citing decisions; thus, for this *baseCase*, there will be 11 *citingCase* entries to parse from the raw data file.

To extract these four pieces of information out of the 2 gigabytes of raw data, the raw data was run through another Java program. This program iterated through the raw data file, finding each *baseCase* citation. For each *baseCase*, the program would then find all *citingCase* entries. For each *citingCase*, the program would extract *treatment* data and *pincite* data. The full source code for this extract program is presented in Appendix A of this thesis.

In the end, the output of the Java extraction program is a 20 megabyte comma-separated values file. The output captures every instance in which a Supreme Court decision mentions another Supreme Court decision, what kind of treatment was given, and what page number the treatment appears on. This dataset contains 277,000 entries and well over one million unique data points. A sample of the final output is given in Figure 4.

332 U. S. 234	525 U.S. 255	Cited by	264		
332 U. S. 234	507 U.S. 746	Cited by	756		
332 U. S. 234	371 U.S. 132	Explained by	134	Cited by	142
332 U. S. 234	364 U.S. 40	Cited by	42		
332 U. S. 234	359 U.S. 314	Cited by	318		
332 U. S. 234	352 U.S. 82	Cited by	85		
332 U. S. 234	345 U.S. 639	Distinguished by	645		
332 U. S. 234	338 U.S. 366	Cited by	382		
332 U. S. 245	531 U.S. 457	Cited by	472		

**Figure 4: Example of the final output from the Shepard’s data. The first column is the *baseCase*, and the second column contains the *citingCase*. The third column contains the *treatment*. The fourth column contains the *pincite*. Columns five and six contain another *treatment, pincite* pair.**

## 4.2 Constructing the Master Database

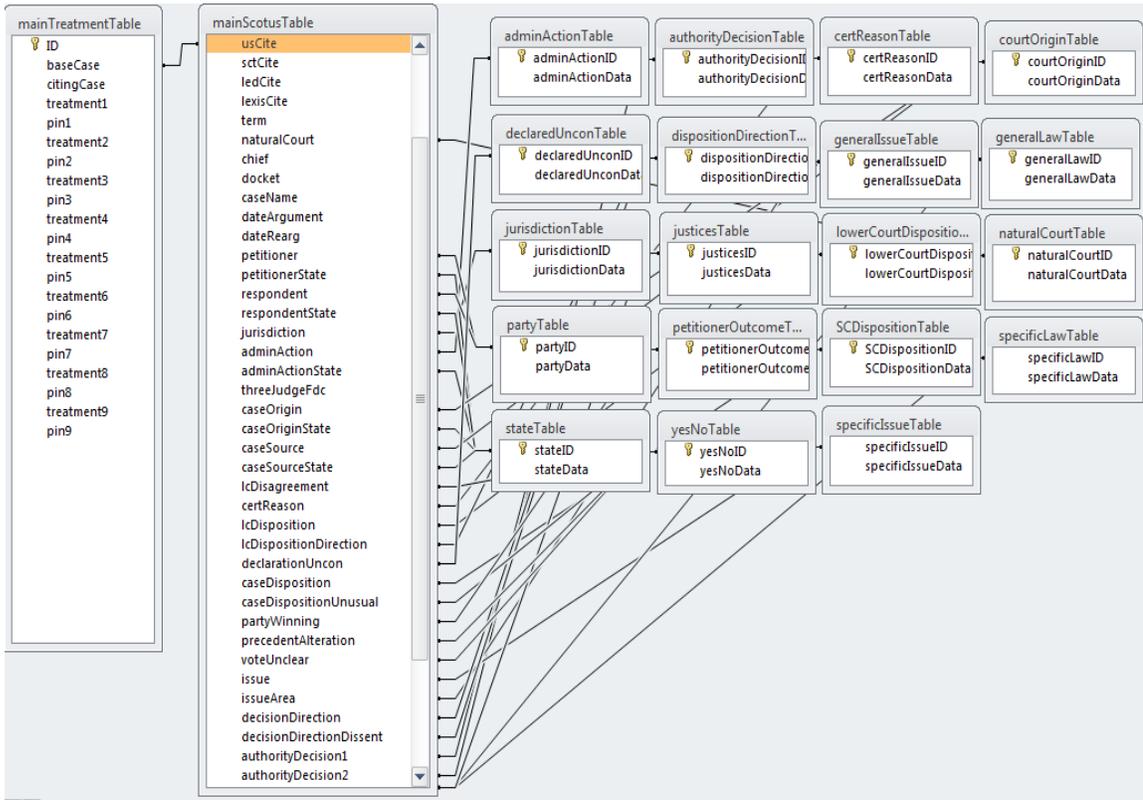
Combining two datasets of this magnitude requires careful planning and attention to detail. As mentioned earlier, the Spaeth dataset contains almost 7,000,000 data points, and the Shepard’s dataset contains over 1,000,000 data points. After a considerable amount of trial and error, it was determined that the best way to combine these datasets was through the use of a relational database.

The entries in both datasets are well-suited for this kind of structure—this is because every case has a citation which uniquely identifies that case. In the Shepard’s dataset, both the *baseCase* and *citingCase* entries are unique case citations. In the Spaeth dataset, each case entry includes the citation for that case. Thus, these citations can provide an appropriate relationship between the two datasets.

However, the datasets do not cover the same time periods. The Shepard’s dataset runs from the first Supreme Court opinion back in 1788 to present. The Spaeth dataset, on the other hand, runs only from 1946 to present. In response, the Shepard’s

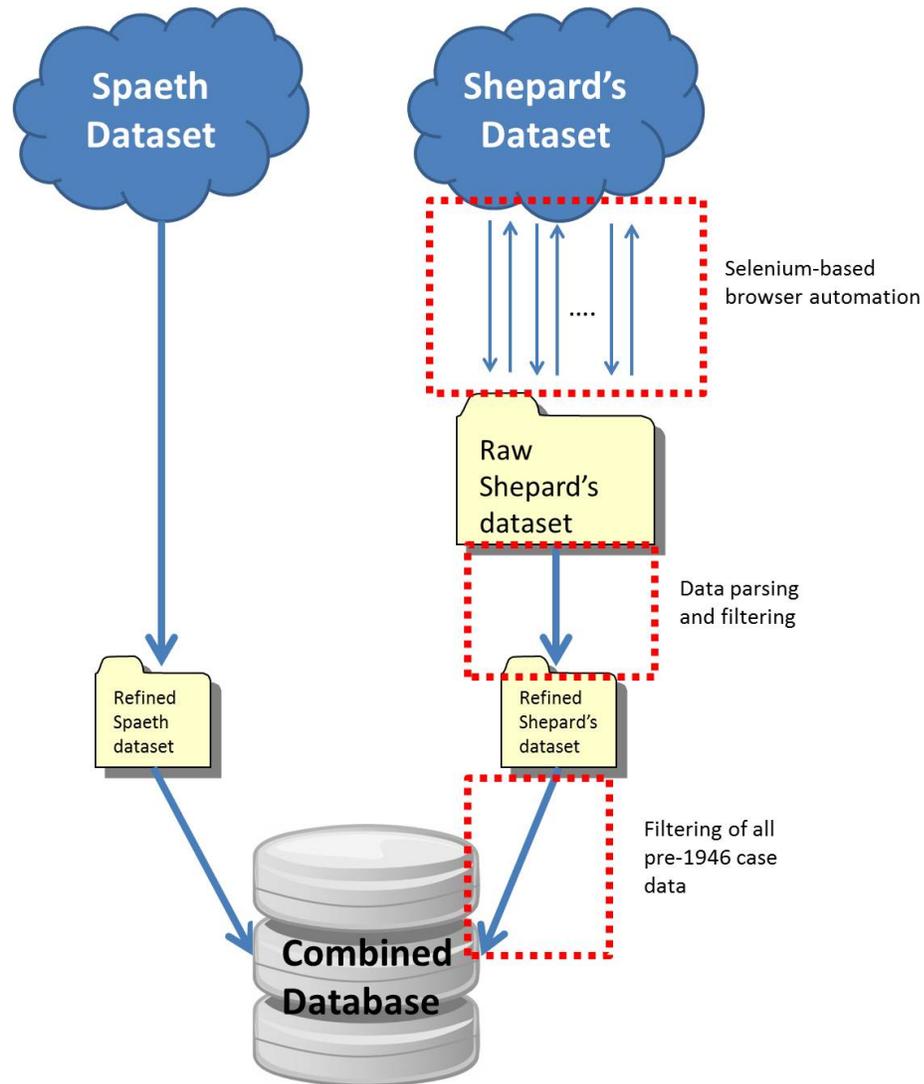
dataset was pared down since no meaningful results could really be obtained without having the combination of information from both datasets. Having to compensate for the Spaeth database's lack of coverage of early cases decreased the number of data points in the Shepard's dataset roughly by half to around 500,000.

In an effort to simplify the relationship structure in the final database, the Spaeth dataset was loaded in its entirety into a single table. The same was done with the Shepard's data. Smaller tables were included to relate the numeric identifiers in the Spaeth dataset with real data. The relational structure of the combined database is presented in Figure 5.



**Figure 5: Combined database structure. mainTreatmentTable refers to the Shepard’s dataset, and mainScotusTable refers to the Spaeth dataset.**

The full process of obtaining the appropriate data and constructing the combined database is presented in Figure 6.



**Figure 6: View of the overall process of gathering data and constructing the combined database.**

With the master database constructed, SQL queries could be constructed and run on the combined database to produce meaningful results. Those results are the subject of the next chapter.

# 5

## **Validation of the Usefulness of the Tool: Representative Results from the Combined Database**

One of the main goals of this thesis is to arm legal scholars and researchers with a better tool for studying Supreme Court behavior. This Chapter will provide a sample of the results that can be extracted from the combined database to demonstrate how valuable this tool will be to future legal scholarship and research.

### ***5.1 Representative Results***

The results presented below were all generated with simple SQL queries. Following Table 3, five types of *treatment* were considered negative (Overruled,

Criticized, Questioned, Limited, and Distinguished). Two types of *treatment* were considered positive (Parallel and Followed). Ratios discussed within this Chapter refer to the ratio of positive *treatment* entries to negative *treatment* entries. Thus, a ratio of 2:1 would mean that there were twice as many positive entries as negative entries.

It should be noted that, although it was not studied in detail, the amount of time required for the database to return the results for even the most complicated query was on the order of tenths of a second. The performance of the database was thus not an issue that merited deep consideration or study.

### 5.1.1 Subsequent Treatment Analysis by Number of Majority Votes

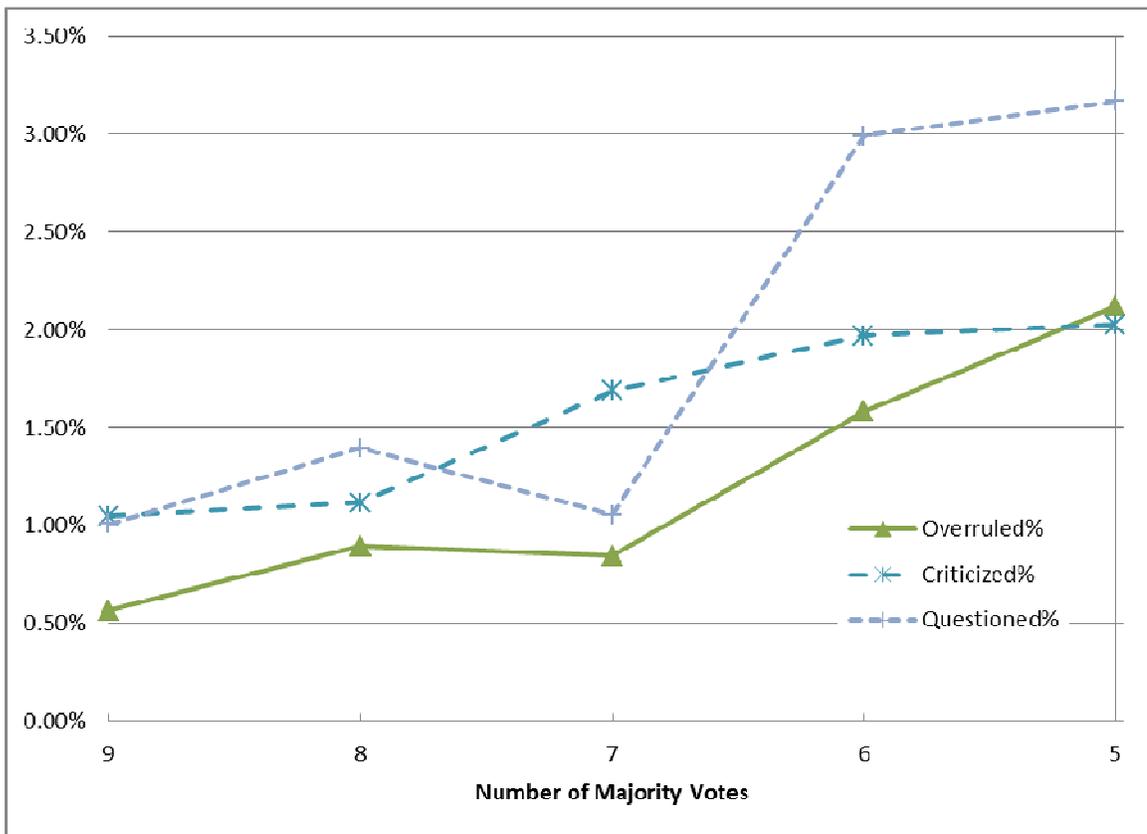
One of the most interesting (and easiest to understand) results returned by the database was that the number of votes for the majority side was strongly correlated with the amount of negative treatment the decision received in later opinions. Consider the results presented in Table 4.

**Table 4: Later negative treatment of opinions sorted by number of majority votes the opinion received.**

Majority Votes	Overruled	Percentage Overruled	Criticized	Percentage Criticized	Questioned	Percentage Questioned
9	14	0.56%	26	1.05%	25	1.01%
8	16	0.89%	20	1.12%	25	1.40%
7	16	0.84%	32	1.69%	20	1.06%
6	45	1.58%	56	1.97%	85	2.99%
5	67	2.12%	64	2.03%	100	3.17%
<b>Averages:</b>		<b>1.29%</b>		<b>1.62%</b>		<b>2.11%</b>

The data shows that decisions in which all 9 justices voted the same way are almost 4

times less likely to be overruled by later opinions than opinions in which only 5 justices voted the same way. Those unanimous decisions are also criticized and questioned much less often than 5-vote majority opinions. Figure 7 shows the almost linear nature of this relationship.



**Figure 7: Graph of negative treatment as a function of number of majority votes for a Supreme Court decision.**

This data has never been available to the legal research community before now and could certainly form the basis of numerous works of legal scholarship.

### 5.1.2 Subsequent Treatment Analysis by Area of Law

Because the Spaeth dataset includes information about the area of law each case deals with, analysis of the combined database can help researchers determine which areas of law are more static and which are more dynamic. If very few cases are treated negatively in an area, then that area of law must not be evolving very quickly and could be labeled as static. On the other hand, if decisions are being cited negatively and overruled more quickly, that area of the law is evolving and could be called dynamic.

The results of this query are presented in Tables 5 and 6.

**Table 5: Later negative treatment of opinions sorted by area of law involved.**

Area of Law	Overruled	Percentage Overruled	Criticized	Percentage Criticized	Questioned	Percentage Questioned
Criminal Procedure	62	1.76%	61	1.73%	96	2.72%
Civil Rights	19	0.79%	30	1.25%	49	2.03%
First Amendment	11	0.68%	38	2.34%	26	1.60%
Due Process	3	0.56%	8	1.49%	3	0.56%
Privacy	7	3.04%	10	4.35%	3	1.30%
Attorneys	0	0.00%	3	1.66%	2	1.10%
Unions	8	1.81%	2	0.45%	14	3.16%
Economic Activity	31	1.87%	25	1.50%	45	2.71%
Judicial Power	9	0.96%	12	1.28%	11	1.17%
Federalism	8	1.57%	8	1.57%	6	1.18%
Interstate Relations	0	0.00%	1	5.00%	2	10.00%
Federal Taxation	0	0.00%	0	0.00%	2	1.35%
<b>Averages:</b>		<b>1.29%</b>		<b>1.62%</b>		<b>2.11%</b>

**Table 6: Ratio of positive to negative treatment of cases sorted by area of law involved. Green figures are higher than the average ratio; red figures are lower than the average ratio.**

<b>Area of Law</b>	<b>Ratio of Positive to Negative Treatment</b>
Criminal Procedure	1.582723
Civil Rights	1.331075
First Amendment	1.161333
Due Process	1.497674
Privacy	1.527473
Attorneys	1.320513
Unions	1.447514
Economic Activity	1.158442
Judicial Power	1.340796
Federalism	1.193966
Interstate Relations	1.222222
Federal Taxation	1.276923
<b>Averages:</b>	<b>1.354219</b>

As can be seen by the results, some areas of the law fare much better than others in later Supreme Court decisions. From a legal standpoint, these results make some sense. Take the Civil Rights area as an example. The ratio of positive to negative treatment is below average, but the percentage of very negative treatments is also below average. Most importantly, the number of overruled decisions in this area is much lower than average. This makes sense because the Court is very reticent to overturn cases that deal with a person's fundamental rights. So instead of overruling these cases, the Court may instead choose to cite previous decisions more negatively without going so far as to overrule them.

A similar analysis holds for the Due Process area as well. Due Process represents the area of law that deals with the procedure that must be undertaken before a person's rights can be taken away (like a trial by jury). Once again, the Court seems reticent to give harsh treatment to earlier decisions in this area since doing so could have tumultuous effects on society. Figure 8 presents these results in graphical form.

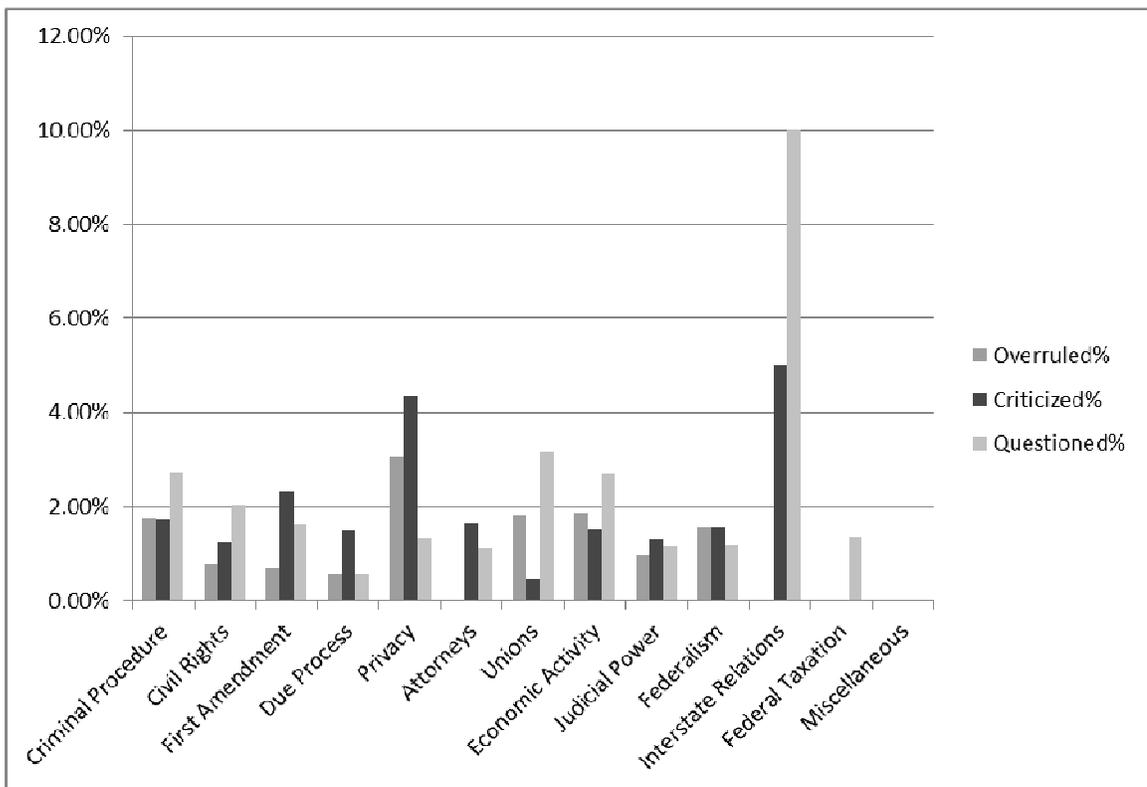


Figure 8: Chart of negative treatment by area of law.

### 5.1.3 Subsequent Treatment by Case Origin

As discussed in Chapter 2, a case can make it to the Supreme Court through a variety of channels. One of the more interesting distinctions for the origin of a case for scholars has been whether the case came from a state court or a federal court. The

results in Table 7 make it clear that there is no appreciable difference in treatment for opinions that dealt with state court cases as opposed to those on federal court cases.

**Table 7: Later negative treatment of cases that came to the Supreme Court from state courts versus federal courts.**

<b>Court of Origin</b>	<b>Overruled</b>	<b>Percentage Overruled</b>	<b>Criticized</b>	<b>Percentage Criticized</b>	<b>Questioned</b>	<b>Percentage Questioned</b>
<b>State</b>	52	1.41%	73	1.97%	80	2.16%
<b>Federal</b>	103	1.23%	124	1.48%	174	2.07%
<b>Averages:</b>		<b>1.28%</b>		<b>1.63%</b>		<b>2.10%</b>

The ratios of positive to negative treatment in this result set are nearly identical:

1.334 for state court and 1.353 for federal court.

#### **5.1.4 Subsequent Treatment by Justice Who Authored the Opinion**

Surprisingly, the identity of the justice who writes the opinion seems to have a significant impact on the opinion’s subsequent treatment.

**Table 8: Ratio of Positive to Negative Treatment by Opinion Author**

<b>Opinion Author</b>	<b>Ratio of Positive to Negative Treatment</b>
JHClarke	<b>0.382353</b>
HLBlack	<b>1.116279</b>
SFReed	<b>0.392157</b>
FFrankfurter	<b>0.554054</b>
WODouglas	<b>0.716667</b>
FMurphy	<b>0.433333</b>
RHJackson	<b>0.601852</b>
WBRutledge	<b>0.75</b>
HHBurton	<b>0.309524</b>
FMVinson	<b>0.842105</b>
TCClarke	<b>0.605442</b>
SMinton	<b>0.361702</b>

EWarren	1.028846
JHarlan	0.844444
WJBrennan	1.194444
CEWhittaker	0.548387
PStewart	1.266254
BRWhite	1.707617
AJGoldberg	0.692308
AFortas	0.942857
TMarshall	1.18
WEBurger	2.458716
HABlackmun	1.483395
LFPowell	1.590604
WHRehnquist	1.755853
JPStevens	2.265306
SDOConnor	2.937984
AScalia	2.285714
AMKennedy	2.609375
DHSouter	2.638889
CThomas	1.666667
RBGinsburg	4.7
SGBreyer	2.916667
JGRoberts	3.5
SAAlito	1.5

This table also shows another interesting trend—as an opinion is on the books for a longer period of time, it seems that it is more likely to garner negative treatment. Also of note, Justice Minton, who has one of the lowest ratios among all judges, had over 9% of the opinions he wrote overturned. This is an overturn rate over 7.5 times that of the average justice!

More interesting data can be gleaned from the database if we separate out how a justice cites his own previous opinions versus how other justices cite that justice's previous opinions. These results are presented in Table 9.

**Table 9: Subsequent treatment of opinions by author separated by whether the justice is citing his own earlier opinion or whether another justice is citing that earlier opinion.**

Justice Name	Cited by Self or Others?	Ratio	Difference
JHClarke	Self	NO DATA	N/A
JHClarke	Others	0.352941	
HLBlack	Self	2.333333	1.533333
HLBlack	Others	0.8	
SFReed	Self	1	0.676768
SFReed	Others	0.323232	
FFrankfurter	Self	0.625	0.121403
FFrankfurter	Others	0.503597	
WODouglas	Self	0.764706	0.187645
WODouglas	Others	0.577061	
FMurphy	Self	1	0.6
FMurphy	Others	0.4	
RHJackson	Self	0.5	-0.07692
RHJackson	Others	0.576923	
WBRutledge	Self	NO DATA	N/A
WBRutledge	Others	0.75	
HHBurton	Self	0.833333	0.583333
HHBurton	Others	0.25	
FMVinson	Self	2.5	1.75
FMVinson	Others	0.75	
TCClark	Self	1.5	1.040146
TCClark	Others	0.459854	
SMinton	Self	3	2.73913
SMinton	Others	0.26087	
EWarren	Self	1.125	0.278846
EWarren	Others	0.846154	

JHarlan	Self	<b>1</b>	<b>0.452381</b>
JHarlan	Others	<b>0.547619</b>	
WJBrennan	Self	<b>1.72093</b>	<b>0.921376</b>
WJBrennan	Others	<b>0.799555</b>	
CEWhittaker	Self	<b>1</b>	<b>0.533333</b>
CEWhittaker	Others	<b>0.466667</b>	
PStewart	Self	<b>1</b>	<b>0.010417</b>
PStewart	Others	<b>0.989583</b>	
BRWhite	Self	<b>2.407407</b>	<b>1.355636</b>
BRWhite	Others	<b>1.051771</b>	
AJGoldberg	Self	<b>1</b>	<b>0.473684</b>
AJGoldberg	Others	<b>0.526316</b>	
AFortas	Self	<b>1</b>	<b>0.25</b>
AFortas	Others	<b>0.75</b>	
TMarshall	Self	<b>1.071429</b>	<b>0.404762</b>
TMarshall	Others	<b>0.666667</b>	
WEBurger	Self	<b>1.809524</b>	<b>0.714787</b>
WEBurger	Others	<b>1.094737</b>	
HABlackmun	Self	<b>0.92</b>	<b>0.101034</b>
HABlackmun	Others	<b>0.818966</b>	
LFPowell	Self	<b>1.5</b>	<b>0.480843</b>
LFPowell	Others	<b>1.019157</b>	
WHRehnquist	Self	<b>2.189189</b>	<b>1.064691</b>
WHRehnquist	Others	<b>1.124498</b>	
JPStevens	Self	<b>0.9</b>	<b>-0.45484</b>
JPStevens	Others	<b>1.354839</b>	
SDOConnor	Self	<b>2.176471</b>	<b>0.123839</b>
SDOConnor	Others	<b>2.052632</b>	
AScalia	Self	<b>1.777778</b>	<b>0.444444</b>
AScalia	Others	<b>1.333333</b>	
AMKennedy	Self	<b>3</b>	<b>1.627451</b>
AMKennedy	Others	<b>1.372549</b>	
DHSouter	Self	<b>4</b>	<b>2.466667</b>
DHSouter	Others	<b>1.533333</b>	
CThomas	Self	<b>4</b>	<b>3.038462</b>
CThomas	Others	<b>0.961538</b>	
RBGinsburg	Self	<b>0.666667</b>	<b>-0.80392</b>
RBGinsburg	Others	<b>1.470588</b>	

SGBreyer	Self	1	-0.2
SGBreyer	Others	1.2	
JGRoberts	Self	1	-1.5
JGRoberts	Others	2.5	
SAAlito	Self	1	0.333333
SAAlito	Others	0.666667	

Of the 35 justices analyzed, 28 of them cite their own opinions more positively than other justices do. In some instances, the difference in ratio is striking. For example, Justice Minton cited his own previous opinions positively 3 times more often than he cited them negatively. His fellow justices were not even close to as kind to his work—they cited his opinions negatively almost 4 times more often than they cited them positively. Justice Stevens, a very well-respected member of the Court, is an interesting outlier; he cited himself negatively more often than he cited himself positively. His fellow justices did the opposite and cited him positively more often than negatively.

One could interpret this data as demonstrating how static or dynamic a particular justice’s views are. Justices who cite themselves more negatively (and thus have a negative or near zero difference value) could be seen as having more dynamic views. If they are willing to denigrate their own earlier opinions, it seems likely that these justices’ views are more fluid than those who constantly cite themselves positively. With all the interesting outliers and caveats in this results set, this area seems ripe for further research and analysis.

### 5.1.5 Subsequent Treatment by Ideological Persuasion

The Spaeth dataset includes a field that classifies each opinion as either ideologically conservative or liberal. Not surprisingly, liberal opinions cite earlier liberal opinions positively more often than they cite earlier conservative opinions. And, of course, conservative opinions cite earlier conservative opinions positively more often than they cite earlier liberal opinions. The difference in the ratios was striking and can be seen in Table 10.

**Table 10: Subsequent treatment by ideology of citing opinion and ideology of original opinion.**

Original Opinion Ideology	Cited by	Ratio	Difference
Liberal	Liberal	1.777251	1.323949
Liberal	Conservative	0.41038	
Conservative	Conservative	1.819444	1.366872
Conservative	Liberal	0.495495	

## 5.2 Using the Framework to Predict the Outcomes of Future Cases

Being able to obtain the results discussed in Section 5.1 is a giant leap forward in the field. Taking these results and using them to predict how the Court will rule on pending cases could be an even more important use of this combined database.

### 5.2.1 The General Prediction Framework

The first step in this process is to determine a baseline prediction based upon how previous Supreme Court decisions have ruled. For example, if the Court is

reviewing a law that says that all naval ships must be painted tan and the Court has previously said that painting naval ships beige was acceptable, then the baseline prediction would be that the Court would probably find the law constitutional.

This baseline prediction can then be shifted using results gleaned from the combined database. If the database shows that the previous opinions used to form the baseline are more likely to be treated negatively by later decisions, this would shift the prediction away from the baseline. Whether the underlying prediction would change would depend upon the number and severity of shifts from the baseline. If, on the other hand, the database shows that the previous opinions are likely to be treated positively by later decisions, then the prediction would gain support and would become more resistant to change from the baseline.

### **5.2.2 Validating the Framework: Analysis of a Recently Decided Case**

On April 2, 2012, the Supreme Court decided a case titled *Florence v. Board of Chosen Freeholders of the County of Burlington*. The issue in that case was whether prison strip searches require reasonable suspicion before they can be performed. The majority, in a slim five to four vote decision, held that reasonable suspicion is not required for prison strip searches as long as the subject is being admitted into the general jail population.

Assuming for a moment that the outcome of this case were unknown and that this analysis were being performed before April 2, 2012, this section will show how this framework would have helped legal scholars predict this outcome.

#### **5.2.2.1 Finding the baseline prediction for *Florence***

Supreme Court cases have generally held that prisons have a large amount of leeway in administering their prisons, especially when issues of health and safety are involved. Indeed, the Court has held that after a person has convicted of a felony, he loses some important rights. These include the right to vote (until civil rights are restored after incarceration) and the right to recover civil penalties for certain types of mistreatment. While the Supreme Court has disapproved of strip searches in other opinions, these opinions dealt with strip searches of school children, a far cry from the prisoners at issue in *Florence*.

Therefore, looking at these lines of cases together, it seems that the correct baseline prediction is that the Court would hold that strip searches of prisoners are acceptable in almost all circumstances.

#### **5.2.2.2 Strengthening or Deviating from the Baseline Prediction in *Florence***

The *Florence* case lies squarely within the issue area of Criminal Procedure. Looking back at Table 6 and forward to Figure 9, it appears that earlier Criminal Procedure opinions, like those referenced above, are usually treated positively in future opinions. The ratio for Criminal Procedure opinions is 1.583, much higher than the

average ratio of 1.354. Also, earlier Criminal Procedure opinions are followed over 61% of the time, the highest followed rate of any issue area. This data thus supports the notion that the Court will likely follow its previous decisions and rule that strip searches of prisoners may continue without any need for reasonable suspicion. The baseline prediction is thus strengthened by this data.

The baseline prediction is further strengthened by the fact that most of the opinions that the Court would rely upon were penned while Justice Rehnquist or Justice Roberts served as chief justices. According to Figure 11, opinions decided under these chief justices are treated much more favorably by later opinions than the average.

Through these observations and the hard data made available by the combined database, a researcher would likely come to the conclusion that the baseline prediction is correct and that the Court would allow for these strip searches. And, indeed, this was the conclusion reached by the Court in the *Florence* decision.

While this is just single example of where the framework provides a correct prediction, it seems likely that other previously decided cases would further validate the framework.

### **5.2.3 Validating the Framework: The Health Care Bill Case**

One of the most anticipated cases currently before the Court concerns the constitutionality of the current health care bill. The Court's decision in this case will likely have significant impacts on future legislative actions and even on the presidential

election in 2012. Hundreds of scholars have written pieces trying to predict how the Court will come out on this issue. None of the scholars' pieces, however, has used the data available in the combined database to make a prediction based upon analytical analysis. Such an approach is now possible and is considered below.

#### **5.2.3.1 Finding the Baseline Prediction for the Health Care Bill Case**

The health care bill is being challenged on multiple grounds. First, its opponents contend that the bill impermissibly regulates people's personal economic choices by forcing them to obtain medical insurance or pay a penalty. The Court's previous cases have generally held that Congress has the power regulate almost any activity that has an effect on interstate commerce. The health care bill seeks to regulate people's health care choices—choices that have a great impact on interstate commerce. Therefore, it seems that the Court's previous opinions would support a baseline prediction that the Court would uphold the constitutionality of the bill.

Opponents of the bill also challenge the bill on the grounds that it causes the federal government to overwrite laws passed by the individual states. The Court's previous opinions have generally held that the federal government can engage in "preemption"; that is, that the federal government can enact laws that overwrite state laws as long as the laws do not require the states to use state resources to enforce the federal law. The federal health care bill at issue would overwrite a number of states' laws but would not require any outlay of state resources to enforce them. So, a decision

to uphold the constitutionality of the health care bill would again coincide with the Court's previous opinions. Thus, the baseline prediction should be that the Court will uphold the health care bill.

### **5.2.3.2 Strengthening or Deviating from the Baseline Prediction in the Health Care Bill Case**

The prominent issues in the health care bill case arise in the areas of Economic Activity and Federalism. The ratios for the Economic Activity and Federalism issue categories are 1.158 and 1.193, two of the lowest ratios and definitely lower than the 1.354 average. The distinguished rates are higher than average, and the followed rates are lower than average. These statistics seem to push the prediction away from the baseline and towards a prediction that the Court would find the bill unconstitutional.

Further, earlier decisions in this area have generally been hotly contested—that is, the majority decisions usually garnered only 5 or 6 votes. This is because these kinds of decisions are highly political, so the justices tend to split along ideological lines. According to Table 4, decisions that have a lower number of majority votes are treated much more negatively in future opinions than those that have a higher number of majority votes. Thus, this factor also seems to push the prediction away from the baseline.

In conclusion, the Court's decision in the health care bill case may very well deviate from the baseline prediction that the Court will uphold the constitutionality of the law. This is because the hard data made available by the combined database shows

that the earlier opinions that would support a finding of constitutionality may be looked upon negatively by the current Court.

### ***5.3 More Results Possibilities and Future Work***

The results presented in the previous section are just a small subset of the full results that can be drawn from this database. Decisions that declare a federal law unconstitutional are cited much more negatively than opinions with no such declaration (1.059 and 1.409 ratios, respectively). Opinions that affirm a lower court's decision fare about the same as those that reverse a lower court's opinion; however, those that both reverse and remand the case for more consideration fare much better (affirm: 1.128, reverse: 1.150, reverse and remand: 1.640). Results from all queries run on the combined database are available in Appendix B.

The queries run so far, however, barely scratch the surface of what kind of conclusions can be drawn from this database. Despite that fact, the data presented in Section 5.1.1 about the correlation between majority votes and future treatment has formed the basis of a published piece of legal scholarship in a prestigious law journal. If more queries are run and the database becomes accessible to a larger audience, the amount of new knowledge that can come from this database could be enormous.

Therefore, one direction for future work will be to publish the database online for use by a much wider audience. Ideally, the online database would not require difficult SQL queries to run and could return results based upon natural language requests. This

functionality would be necessary since the main users of the database will likely be legal and public policy scholars—users who usually lack database programming skills.

Also, the combined database will need to be updated continuously as new opinions are published and as the Spaeth dataset captures data on cases before 1946. Adding more data to the database will make the universe of available results larger while increasing the overall accuracy of the statistics that can be extracted from the results.

Additionally, the Shepard's data contains information about how lower courts cite the Supreme Court decisions. This data could be added to the database to see how lower courts treat certain kinds of Supreme Court decisions. Such a study could be significant, especially since there are tens of thousands of lower court decisions each year—two levels of magnitude higher than the 100 decisions the Supreme Court publishes in year.

# 6

## Conclusion

This thesis presents a first-of-its-kind framework that future scholars can use to study the dynamic nature of Supreme Court jurisprudence. By leveraging the static Supreme Court data available from the Spaeth dataset and combining it elegantly with the dynamic Supreme Court data available from the Shepard's dataset, researchers can gain a better understanding of how the Court operates. The combined database can be used for a variety of purposes, including demystifying past Supreme Court behavior and predicting future Supreme Court behavior with increased accuracy.

The full power of this database has yet to be harnessed. The first query run on the combined database has already yielded an interesting piece of published legal

scholarship. As the database gains more data and becomes more widely available, the public's understanding of the highest Court in America will hopefully continue to grow.

# Appendix A – Source Code for Lexis-Nexis Shepard’s Data Extraction Program

```
package com.selenium.example;

import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;
import java.util.StringTokenizer;

public class ScotusParse
{
    public static void main(String[] args)
    {
        try
        {
            //open input file
            String txtFile = "C:/Selenium/DocParser/Input/fullFinalInput.txt";
            FileInputStream fstream = new FileInputStream(txtFile);
            DataInputStream in = new DataInputStream(fstream);
            BufferedReader txt = new BufferedReader(new InputStreamReader(in));

            //declare variables
            String txtLine = "";

            String baseCaseFinal = "";
            String citingCaseFinal = "";
            String treatmentFinal = "";
            String[] singleTreatment = null;
            String[] singlePin = null;

            //open output file
            FileOutputStream writer = new FileOutputStream("c:\\Selenium\\DocParser\\Output\\finalOutput(withPins).csv");

            //declare variables
            String citingNumber = "";
            Integer citesToFind = new Integer(0);
            String pageNum = "";

            int x = 0;
            int firstDot = 0;
            int pinsLeft = 0;
            int totalTreatments = 0;

            boolean newTreatment = false;
            boolean searchingForBase = true;
            boolean searchingForCiteNum = false;
            boolean searchingForTreatment = false;
            boolean searchingForCite = false;
            boolean searchingForPin = false;

            //begin iterations
            txtLine = txt.readLine();
            while(true)
            {
                //find the baseCase
                while(searchingForBase)
                {
                    //baseCase found
                    if(txtLine.indexOf("Citation #") != -1)
                    {
                        System.out.println('\n' + "FOUND NEXT BASE CITATION: " + txtLine);
                        txtLine = txt.readLine();
                        txtLine = txt.readLine();
                        baseCaseFinal = txtLine;
                        System.out.println("THE BASE CASE IS: " + baseCaseFinal);
                        searchingForBase = false;
                        searchingForCiteNum = true;
                    }
                }
            }
        }
    }
}
```

```

        //otherwise, get next line to check
        else
        {
            txtLine = txt.readLine();
        }
    }

    //find number of citingCases
    while(searchingForCiteNum)
    {
        //found number of citingCases line
        if(txtLine.indexOf("CITING DECISIONS") != -1)
        {
            int start = txtLine.indexOf(" ( ") + 3;
            int end = txtLine.indexOf(" ", start);
            citingNumber = txtLine.substring(start, end);

            //get number of citingCases
            citesToFind = Integer.parseInt(citingNumber);
            System.out.println("Looking for this many citing decisions: " + citesToFind);
            searchingForCiteNum = false;
            searchingForTreatment = true;
        }

        //otherwise, see if there are no citingCases or get next line to check
        else
        {
            if(txtLine.indexOf("Citing References: None") != -1)
            {
                citesToFind = 0;
                citingCaseFinal = "NONE";
                searchingForCiteNum = false;
                searchingForBase = true;
                writer.write(baseCaseFinal);
                writer.write(",");
                writer.write(citingCaseFinal);
                writer.write('\n');
            }
            else
            {
                if(txtLine.indexOf("Citation #") != -1)
                {
                    searchingForCiteNum = false;
                    searchingForBase = true;
                }
                else
                {
                    txtLine = txt.readLine();
                }
            }
        }
    }

    //find the treatment
    while(searchingForTreatment)
    {
        firstDot = txtLine.indexOf(".");
        newTreatment = (firstDot >= 1 && firstDot < 5 && txtLine.charAt(firstDot-1) >= '0' &&
txtLine.charAt(firstDot - 1) <= '9');
        if(newTreatment)
        {
            treatmentFinal = txtLine.substring(firstDot + 2, txtLine.indexOf(":"));

            //check if there are multiple treatments by a single citingCase
            if(treatmentFinal.indexOf(",") != -1)
            {
                StringTokenizer st = new StringTokenizer(treatmentFinal, ",");
                totalTreatments = st.countTokens();
                singleTreatment = new String[totalTreatments];
                singlePin = new String[totalTreatments];
                for(int i = 0; i < totalTreatments; i++)
                {
                    singleTreatment[i] = st.nextToken();
                    singlePin[i] = "NO PIN";
                }

                pinsLeft = totalTreatments;
            }
            else
            {
                totalTreatments = 1;
                pinsLeft = 1;
            }
        }

        searchingForTreatment = false;
        searchingForCite = true;
    }
}

```

```

        txtLine = txt.readLine();
    }

    //check if we messed up and found a baseCase instead
    else
    {
        if(txtLine.indexOf("Citation #") != -1)
        {
            searchingForTreatment = false;
            searchingForBase = true;
        }
        //get next line, continue searching for treatment
        else
        {
            txtLine = txt.readLine();
        }
    }
}

//find the citingCase
while(searchingForCite)
{
    //make sure there are citingCases to find still
    if(citesToFind <= 0)
    {
        if(searchingForCite)
        {
            searchingForCite = false;
            searchingForPin = true;
        }
        else
        {
            searchingForPin = true;
        }
    }

    //still more to find, so start searching for more citingCases
    else
    {
        firstDot = txtLine.indexOf(".");
        newTreatment = (firstDot >= 1 && firstDot < 5 && txtLine.charAt(firstDot-1) >= '0' &&
txtLine.charAt(firstDot - 1) <= '9');

        //missed the cite? gotten a treatment line
        if(newTreatment)
        {
            searchingForCite = false;
            searchingForPin = false;
            searchingForTreatment = true;
            citingCaseFinal = "CITING CASE ERROR";
        }
        else
        {
            //get the citingCase
            if (txtLine.indexOf(" U.S. ") != -1 || txtLine.indexOf(" S. Ct. ") != -1 ||
txtLine.indexOf(" L. Ed. ") != -1)
            {
                x = 0;
                //three possible citation formats
                if(txtLine.indexOf(" U.S. ") != -1 && txtLine.indexOf(" S. Ct. ") != -1 &&
txtLine.indexOf(" L. Ed. ") != -1)
                {
                    x = Math.min(txtLine.indexOf(" U.S. "), txtLine.indexOf(" S. Ct. "));
                    x = Math.min(x, txtLine.indexOf(" L. Ed. "));
                }
                else
                {
                    //two possible citation formats
                    if(txtLine.indexOf(" L. Ed. ") != -1 && txtLine.indexOf(" S. Ct. ") != -1)
                    {
                        x = Math.min(txtLine.indexOf(" L. Ed. "), txtLine.indexOf(" S. Ct. "));
                    }
                    if(txtLine.indexOf(" U.S. ") != -1 && txtLine.indexOf(" S. Ct. ") != -1)
                    {
                        x = Math.min(txtLine.indexOf(" U.S. "), txtLine.indexOf(" S. Ct. "));
                    }
                    if(txtLine.indexOf(" L. Ed. ") != -1 && txtLine.indexOf(" U.S. ") != -1)
                    {
                        x = Math.min(txtLine.indexOf(" L. Ed. "), txtLine.indexOf(" U.S. "));
                    }
                }

                //only one possible citation format
                if(txtLine.indexOf(" L. Ed. ") == -1 && txtLine.indexOf(" S. Ct. ") == -1)

```

```

        {
            x = txtLine.indexOf(" U.S. ");
        }
        if(txtLine.indexOf(" L. Ed. ") == -1 && txtLine.indexOf(" U.S. ") == -1)
        {
            x = txtLine.indexOf(" S. Ct. ");
        }
        if(txtLine.indexOf(" U.S. ") == -1 && txtLine.indexOf(" S. Ct. ") == -1)
        {
            x = txtLine.indexOf(" L. Ed. ");
        }
    }

    //grab the citingCase using beginning of best citation format found above
    if((txtLine.charAt(x-4) == ' ') && ((txtLine.charAt(x-3) >= '0' && (txtLine.charAt(x-3)
<= '9'))))
    {
        if(txtLine.indexOf(",", x) < 0)
        {
            citingCaseFinal = txtLine.substring(x-3, txtLine.indexOf(",", x));
            citesToFind--;
            searchingForCite = false;
            searchingForPin = true;
            writer.write(baseCaseFinal + "," + citingCaseFinal + ",");
        }
        else
        {
            citingCaseFinal = txtLine.substring(x-3, txtLine.indexOf(",", x));
            citesToFind--;
            searchingForCite = false;
            searchingForPin = true;
            writer.write(baseCaseFinal + "," + citingCaseFinal + ",");
        }
    }
    else if((txtLine.charAt(x-3) == ' ') && ((txtLine.charAt(x-2) >= '0' &&
(txtLine.charAt(x-2) <= '9'))))
    {
        if(txtLine.indexOf(",", x) < 0)
        {
            citingCaseFinal = txtLine.substring(x-2, txtLine.indexOf(",", x));
            citesToFind--;
            searchingForCite = false;
            searchingForPin = true;
            writer.write(baseCaseFinal + "," + citingCaseFinal + ",");
        }
        else
        {
            citingCaseFinal = txtLine.substring(x-2, txtLine.indexOf(",", x));
            citesToFind--;
            searchingForCite = false;
            searchingForPin = true;
            writer.write(baseCaseFinal + "," + citingCaseFinal + ",");
        }
    }
    else if((txtLine.charAt(x-2) == ' ') && ((txtLine.charAt(x-1) >= '0' &&
(txtLine.charAt(x-1) <= '9'))))
    {
        if(txtLine.indexOf(",", x) < 0)
        {
            citingCaseFinal = txtLine.substring(x-1, txtLine.indexOf(",", x));
            citesToFind--;
            searchingForCite = false;
            searchingForPin = true;
            writer.write(baseCaseFinal + "," + citingCaseFinal + ",");
        }
        else
        {
            citingCaseFinal = txtLine.substring(x-1, txtLine.indexOf(",", x));
            citesToFind--;
            searchingForCite = false;
            searchingForPin = true;
            writer.write(baseCaseFinal + "," + citingCaseFinal + ",");
        }
    }
    }
    else
    {
        citesToFind--;
        searchingForCite = false;
        searchingForTreatment = true;
        citingCaseFinal = "CITING CASE ERROR";
    }
}
else
{

```

```

        citingCaseFinal = "CITING CASE ERROR";
    }
}
}

//looking for pincites
while(searchingForPin)
{
    //looking for only one pincite
    if(totalTreatments < 2)
    {
        firstDot = txtLine.indexOf(".");
        newTreatment = (firstDot >= 1 && firstDot < 5 && txtLine.charAt(firstDot-1) >= '0' &&
txtLine.charAt(firstDot - 1) <= '9');

        //missed the pincite? gotten a treatment line
        if(newTreatment)
        {
            pinsLeft = 0;
            searchingForCite = false;
            searchingForPin = false;
            searchingForTreatment = true;
            writer.write(treatmentFinal + ", NO PIN" + '\n');
        }
        //missed the pincite? gotten a baseCase line
        else
        {
            if(txtLine.indexOf("Citation #") != -1)
            {
                System.out.println("BASE: " + baseCaseFinal + " " + treatmentFinal + " " +
citingCaseFinal + ", FAILED TO GET PIN");
                writer.write(treatmentFinal + ", NO PIN" + '\n');

                pinsLeft = 0;
                citesToFind = 0;
                searchingForPin = false;
                searchingForBase = true;
            }

            //good to go, look for the pincite
            else
            {
                pageNum = "NO PIN";
                if(pinsLeft > 0)
                {
                    if(txtLine.indexOf(citingCaseFinal) != -1 && txtLine.indexOf(" p.") != -1 &&
(txtLine.indexOf(" p.") - txtLine.lastIndexOf(citingCaseFinal) - citingCaseFinal.length()) < 3)
                    {
                        pageNum = txtLine.substring(txtLine.indexOf(" p.",
txtLine.indexOf(citingCaseFinal), txtLine.indexOf(citingCaseFinal) + 1) + 3);

                        if(pinsLeft == totalTreatments)
                        {
                            System.out.println("BASE: " + baseCaseFinal + " " + treatmentFinal + " " +
citingCaseFinal + ", " + pageNum);
                            writer.write(treatmentFinal + ", " + pageNum + '\n');
                        }
                        else
                        {
                            System.out.println(citingCaseFinal + ", " + pageNum);
                            writer.write(treatmentFinal + ", " + pageNum + '\n');
                        }

                        pinsLeft--;
                    }
                    else
                    {
                        if(txtLine.indexOf(":") != -1)
                        {
                            if(pinsLeft == totalTreatments)
                            {
                                System.out.println("BASE: " + baseCaseFinal + " " + treatmentFinal + "
" + citingCaseFinal + ", " + pageNum);
                                writer.write(treatmentFinal + ", NO PIN" + '\n');
                            }
                            else
                            {
                                System.out.println(citingCaseFinal + ", " + pageNum);
                                writer.write(treatmentFinal + ", NO PIN" + '\n');
                            }
                        }
                    }
                }
            }
        }
    }
}
}
}

```

```

        }
        pinsLeft--;
    }
    else
    {
        txtLine = txt.readLine();
    }
}
else
{
    searchingForPin = false;
    searchingForTreatment = true;
    pinsLeft = 0;
}
}

}

}
//multiple pincites to find
else
{
    if(pinsLeft > 0)
    {
        //on last of multiple pincites
        if(pinsLeft == 1)
        {
            firstDot = txtLine.indexOf(".");
            newTreatment = (firstDot >= 1 && firstDot < 5 && txtLine.charAt(firstDot-1) >= '0' &&
txtLine.charAt(firstDot - 1) <= '9');

            //missed the pincite? gotten a treatment line
            if(newTreatment)
            {
                pinsLeft = 0;
                searchingForCite = false;
                searchingForPin = false;
                searchingForTreatment = true;
                singlePin[totalTreatments - 1] = "NO PIN";
                for(int i = 0; i < totalTreatments; i++)
                {
                    writer.write(singleTreatment[i] + "," + singlePin[i] + ",");
                    System.out.print(" " + singleTreatment[i] + " at " + singlePin[i]);
                }
                writer.write('\n');
                System.out.println();
            }
            //missed the pincite? gotten a baseCase line
            else
            {
                if(txtLine.indexOf("Citation #") != -1)
                {
                    pinsLeft = 0;
                    citesToFind = 0;
                    searchingForPin = false;
                    searchingForBase = true;
                    singlePin[totalTreatments - 1] = "NO PIN";
                    for(int i = 0; i < totalTreatments; i++)
                    {
                        writer.write(singleTreatment[i] + "," + singlePin[i] + ",");
                        System.out.print(" " + singleTreatment[i] + " at " + singlePin[i]);
                    }
                    writer.write('\n');
                    System.out.println();
                }
                //find the pincite?
                else
                {
                    //found the final pincite!
                    if(txtLine.indexOf(citingCaseFinal) != -1 && txtLine.indexOf(" p.") != -1 &&
(txtLine.indexOf(" p.") - txtLine.lastIndexOf(citingCaseFinal) - citingCaseFinal.length()) < 3)
                    {
                        singlePin[totalTreatments - 1] = txtLine.substring(txtLine.indexOf(" p.",
txtLine.indexOf(citingCaseFinal, txtLine.indexOf(citingCaseFinal) + 1)) + 3);
                        pinsLeft = 0;
                        searchingForPin = false;
                        if(citesToFind > 0)
                        {

```

```

        searchingForTreatment = true;
    }
    else
    {
        searchingForBase = true;
    }
    for(int i = 0; i < totalTreatments; i++)
    {
        writer.write(singleTreatment[i] + "," + singlePin[i] + ",");
        System.out.print(" " + singleTreatment[i] + " at " + singlePin[i]);
    }
    writer.write('\n');
    System.out.println();

    txtLine = txt.readLine();
}
else
{
    txtLine = txt.readLine();
}
}
}
}
//not on final pincite
else
{
    firstDot = txtLine.indexOf(".");
    newTreatment = (firstDot >= 1 && firstDot < 5 && txtLine.charAt(firstDot-1) >= '0' &&
txtLine.charAt(firstDot - 1) <= '9');

    //missed the pincite? gotten a treatment line
    if(newTreatment)
    {
        pinsLeft = 0;
        searchingForCite = false;
        searchingForPin = false;
        searchingForTreatment = true;
        singlePin[totalTreatments - 1] = "NO PIN";
        for(int i = 0; i < totalTreatments; i++)
        {
            writer.write(singleTreatment[i] + "," + singlePin[i] + ",");
            System.out.print(" " + singleTreatment[i] + " at " + singlePin[i]);
        }
        writer.write('\n');
        System.out.println();
    }

    //missed the pincite? gotten a baseCase line
    else
    {
        if(txtLine.indexOf("Citation #") != -1)
        {
            pinsLeft = 0;
            citesToFind = 0;
            searchingForPin = false;
            searchingForBase = true;
            singlePin[totalTreatments - 1] = "NO PIN";
            for(int i = 0; i < totalTreatments; i++)
            {
                writer.write(singleTreatment[i] + "," + singlePin[i] + ",");
                System.out.print(" " + singleTreatment[i] + " at " + singlePin[i]);
            }
            writer.write('\n');
            System.out.println();
        }
        //see if you found a pincite
        else
        {
            //found a pincite!
            if(txtLine.indexOf(citingCaseFinal) != -1 && txtLine.indexOf(" p.") != -1 &&
(txtLine.indexOf(" p.") - txtLine.lastIndexOf(citingCaseFinal) - citingCaseFinal.length()) < 3)
            {
                singlePin[totalTreatments - pinsLeft] = txtLine.substring(txtLine.indexOf("
p.", txtLine.indexOf(citingCaseFinal, txtLine.indexOf(citingCaseFinal) + 1)) + 3);
                pinsLeft--;
                txtLine = txt.readLine();
            }
            //pincite not found on this line, get the next line
            else
            {
                txtLine = txt.readLine();
            }
        }
    }
}
}
}
}
//no more pincites to find

```



## **Appendix B – Full Query Results**

Full results are included on the following pages.

issue	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
<b>1 Criminal Procedu</b>	62	1.76%	61	1.73%	96	2.72%	15	0.43%	1132	32.09%	2	0.06%	2160	61.22%	2162	1366	1.582723
<b>2 Civil Rights</b>	19	0.79%	30	1.25%	49	2.03%	6	0.25%	929	38.58%	1	0.04%	1374	57.06%	1375	1033	1.331075
<b>3 First Amendment</b>	11	0.68%	38	2.34%	26	1.60%	1	0.06%	674	41.58%	3	0.19%	868	53.55%	871	750	1.161333
<b>4 Due Process</b>	3	0.56%	8	1.49%	3	0.56%	1	0.19%	200	37.24%	0	0.00%	322	59.96%	322	215	1.497674
<b>5 Privacy</b>	7	3.04%	10	4.35%	3	1.30%	0	0.00%	71	30.87%	0	0.00%	139	60.43%	139	91	1.527473
<b>6 Attorneys</b>	0	0.00%	3	1.66%	2	1.10%	1	0.55%	72	39.78%	0	0.00%	103	56.91%	103	78	1.320513
<b>7 Unions</b>	8	1.81%	2	0.45%	14	3.16%	0	0.00%	157	35.44%	1	0.23%	261	58.92%	262	181	1.447514
<b>8 Economic Activity</b>	31	1.87%	25	1.50%	45	2.71%	7	0.42%	662	39.83%	4	0.24%	888	53.43%	892	770	1.158442
<b>9 Judicial Power</b>	9	0.96%	12	1.28%	11	1.17%	10	1.06%	360	38.26%	1	0.11%	538	57.17%	539	402	1.340796
<b>10 Federalism</b>	8	1.57%	8	1.57%	6	1.18%	1	0.20%	209	41.06%	1	0.20%	276	54.22%	277	232	1.193966
<b>11 Interstate Relatic</b>	0	0.00%	1	5.00%	2	10.00%	1	5.00%	5	25.00%	0	0.00%	11	55.00%	11	9	1.222222
<b>12 Federal Taxation</b>	0	0.00%	0	0.00%	2	1.35%	0	0.00%	63	42.57%	0	0.00%	83	56.08%	83	65	1.276923
<b>13 Miscellaneous</b>	0	0.00%	0	0.00%	0	0.00%	0	0.00%	11	52.38%	0	0.00%	10	47.62%	10	11	0.909091
<b>AVERAGE VALUES:</b>		1.29%		1.62%		2.11%		0.35%		37.11%		0.11%		57.42%			1.354219

Figure 9: Subsequent treatment by area of law.

certf	certReason	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
1	case did not arise on cert or cert no	7	2.55%	6	2.18%	17	6.18%	0	0.00%	155	56.36%	2	0.73%	88	32.00%	90	185	0.486486
2	federal court conflict	6	0.50%	11	0.91%	10	0.83%	3	0.25%	333	27.68%	1	0.08%	839	69.74%	840	363	2.31405
3	federal court conflict and to resolve	3	1.15%	2	0.77%	11	4.21%	1	0.38%	95	36.40%	0	0.00%	149	57.09%	149	112	1.330357
4	putative conflict	1	0.62%	3	1.86%	7	4.35%	1	0.62%	59	36.65%	0	0.00%	90	55.90%	90	71	1.267606
5	conflict between federal court and	1	0.83%	3	2.50%	2	1.67%	0	0.00%	42	35.00%	0	0.00%	72	60.00%	72	48	1.5
6	state court conflict	0	0.00%	1	1.69%	0	0.00%	0	0.00%	29	49.15%	0	0.00%	29	49.15%	29	30	0.966667
7	federal court confusion or uncertai	0	0.00%	0	0.00%	3	11.11%	0	0.00%	13	48.15%	0	0.00%	11	40.74%	11	16	0.6875
8	state court confusion or uncertainty	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	50.00%	0	0.00%	4	50.00%	4	4	1
9	federal court and state court confus	0	0.00%	1	7.14%	0	0.00%	0	0.00%	3	21.43%	0	0.00%	10	71.43%	10	4	2.5
10	to resolve important or significant c	24	1.89%	21	1.66%	38	3.00%	7	0.55%	538	42.46%	0	0.00%	639	50.43%	639	628	1.017516
11	to resolve question presented	22	0.94%	41	1.75%	41	1.75%	11	0.47%	811	34.67%	0	0.00%	1413	60.41%	1413	926	1.525918
12	no reason given	55	1.50%	61	1.66%	77	2.10%	10	0.27%	1265	34.49%	4	0.11%	2196	59.87%	2200	1468	1.498638
13	other reason	8	5.84%	1	0.73%	15	10.95%	2	1.46%	45	32.85%	1	0.73%	65	47.45%	66	71	0.929577
<b>AVERAGE VALUES:</b>			<b>1.33%</b>		<b>1.58%</b>		<b>2.32%</b>		<b>0.37%</b>		<b>35.56%</b>		<b>0.08%</b>		<b>58.76%</b>			<b>1.429699</b>

Figure 10: Subsequent treatment by reason the Supreme Court took the case.

ChiefName	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
Vinson	24	2.60%	25	2.71%	73	7.90%	3	0.32%	472	51.08%	2	0.22%	325	35.17%	327	597	0.547739
Warren	64	2.11%	58	1.91%	115	3.79%	14	0.46%	1423	46.84%	9	0.30%	1355	44.60%	1364	1674	0.814815
Burger	46	0.78%	100	1.70%	57	0.97%	18	0.31%	2031	34.52%	2	0.03%	3630	61.69%	3632	2252	1.612789
Rehnquist	24	1.08%	15	0.68%	14	0.63%	8	0.36%	593	26.77%	0	0.00%	1561	70.47%	1561	654	2.38685
Roberts	0	0.00%	0	0.00%	0	0.00%	0	0.00%	37	16.23%	0	0.00%	191	83.77%	191	37	5.162162
		1.29%		1.61%		2.11%		0.35%		37.07%		0.11%		57.47%			1.356924

Figure 11: Subsequent treatment by chief justice at time the opinion was written.

ChiefName	CitedByLater	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
Vinson	Conservative	7	1.68%	11	2.64%	39	9.38%	0	0.00%	223	53.61%	0	0.00%	136	32.69%	136	280	0.485714
Vinson	Liberal	15	3.25%	14	3.04%	33	7.16%	2	0.43%	240	52.06%	2	0.43%	155	33.62%	157	304	0.516447
Warren	Conservative	37	2.57%	23	1.60%	65	4.51%	7	0.49%	867	60.21%	4	0.28%	437	30.35%	441	999	0.441441
Warren	Liberal	25	1.94%	32	2.49%	48	3.73%	7	0.54%	524	40.71%	4	0.31%	647	50.27%	651	636	1.023585
Burger	Conservative	23	0.88%	56	2.14%	32	1.22%	12	0.46%	1164	44.55%	0	0.00%	1326	50.75%	1326	1287	1.030303
Burger	Liberal	17	0.95%	32	1.79%	18	1.01%	5	0.28%	763	42.75%	2	0.11%	948	53.11%	950	835	1.137725
Rehnquist	Conservative	13	1.71%	8	1.05%	9	1.19%	3	0.40%	280	36.89%	0	0.00%	446	58.76%	446	313	1.42492
Rehnquist	Liberal	8	1.50%	4	0.75%	5	0.94%	4	0.75%	234	43.90%	0	0.00%	278	52.16%	278	255	1.090196
AVERAGE VALUES:			1.56%		1.94%		2.68%		0.43%		46.21%		0.13%		47.05%			0.893257

Figure 12: Subsequent treatment of opinions written under a chief by the ideology of the later citing opinion.

courtOrigin	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
state court	52	1.41%	73	1.97%	80	2.16%	13	0.35%	1367	36.95%	4	0.11%	2111	57.05%	2115	1585	1.334385
federal court	103	1.23%	124	1.48%	174	2.07%	28	0.33%	3138	37.38%	9	0.11%	4819	57.40%	4828	3567	1.353518
<b>AVERAGE VALUES:</b>		<b>1.28%</b>		<b>1.63%</b>		<b>2.10%</b>		<b>0.34%</b>		<b>37.25%</b>		<b>0.11%</b>		<b>57.30%</b>			<b>1.347632</b>

Figure 13: Subsequent treatment by court of origin.

decid decisionType	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
1 opinion of the court (orally argue	144	1.28%	183	1.62%	236	2.09%	39	0.35%	4155	36.84%	12	0.11%	6511	57.72%	6523	4757	1.371242
2 per curiam (no oral argument)	6	2.27%	0	0.00%	1	0.38%	1	0.38%	107	40.53%	1	0.38%	148	56.06%	149	115	1.295652
4 decrees	0	0.00%	0	0.00%	1	20.00%	0	0.00%	1	20.00%	0	0.00%	3	60.00%	3	2	1.5
5 equally divided vote	0	0.00%	0	0.00%	1	50.00%	0	0.00%	1	50.00%	0	0.00%	0	0.00%	0	2	0
6 per curiam (orally argued)	5	1.93%	3	1.16%	6	2.32%	3	1.16%	105	40.54%	0	0.00%	137	52.90%	137	122	1.122951
7 judgment of the Court (orally arg	3	0.68%	11	2.48%	14	3.16%	0	0.00%	180	40.63%	0	0.00%	235	53.05%	235	208	1.129808
<b>AVERAGE VALUES:</b>		<b>1.29%</b>		<b>1.61%</b>		<b>2.11%</b>		<b>0.35%</b>		<b>37.13%</b>		<b>0.11%</b>		<b>57.41%</b>			<b>1.35363</b>

Figure 14: Subsequent treatment by type of decision rendered by the Supreme Court.

dec declarationUncon	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
1 no declaration of unconstitutionality	139	1.32%	160	1.52%	244	2.31%	38	0.36%	3796	36.00%	12	0.11%	6156	58.38%	6168	4377	1.409184
2 act of congress declared unconstitutio	4	1.43%	7	2.50%	5	1.79%	1	0.36%	119	42.50%	0	0.00%	144	51.43%	144	136	1.058824
3 state or territorial law, reg, or const pr	12	0.92%	27	2.06%	7	0.53%	4	0.31%	567	43.25%	1	0.08%	693	52.86%	694	617	1.124797
4 municipal or other local ordinance unc	3	2.52%	4	3.36%	3	2.52%	0	0.00%	67	56.30%	0	0.00%	42	35.29%	42	77	0.545455
<b>AVERAGE VALUES:</b>		<b>1.29%</b>		<b>1.62%</b>		<b>2.11%</b>		<b>0.35%</b>		<b>37.12%</b>		<b>0.11%</b>		<b>57.41%</b>			<b>1.353563</b>

Figure 15: Subsequent treatment by whether the opinion made a declaration of unconstitutionality.

OriginalOpinion	Cited By Later	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
Conservative	Conservative	19	0.78%	40	1.64%	74	3.04%	4	0.16%	727	29.84%	3	0.12%	1569	64.41%	1572	864	1.819444
Conservative	Liberal	44	2.41%	45	2.46%	68	3.72%	12	0.66%	1052	57.61%	1	0.05%	604	33.08%	605	1221	0.495495
Liberal	Liberal	21	0.90%	38	1.62%	36	1.54%	5	0.21%	744	31.74%	7	0.30%	1493	63.69%	1500	844	1.777251
Liberal	Conservative	68	2.32%	64	2.18%	73	2.49%	20	0.68%	1856	63.24%	1	0.03%	853	29.06%	854	2081	0.41038
<b>AVERAGE VALUES:</b>			<b>1.59%</b>		<b>1.96%</b>		<b>2.63%</b>		<b>0.43%</b>		<b>45.90%</b>		<b>0.13%</b>		<b>47.36%</b>			<b>0.904391</b>

Figure 16: Subsequent treatment by ideological persuasion.

disposition	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
1 stay, petition, or motion granted	1	5.00%	0	0.00%	1	5.00%	0	0.00%	6	30.00%	0	0.00%	12	60.00%	12	8	1.5
2 affirmed	75	2.03%	71	1.92%	135	3.65%	12	0.32%	1443	39.06%	3	0.08%	1955	52.92%	1958	1736	1.12788
3 reversed	32	1.04%	48	1.56%	62	2.01%	12	0.39%	1279	41.51%	4	0.13%	1644	53.36%	1648	1433	1.150035
4 reversed and remanded	27	0.78%	56	1.62%	40	1.15%	12	0.35%	1177	33.98%	4	0.12%	2148	62.01%	2152	1312	1.640244
5 vacated and remanded	11	0.86%	12	0.94%	9	0.70%	4	0.31%	371	29.01%	2	0.16%	870	68.02%	872	407	2.142506
6 affirmed and reversed (or vacated) in part	6	2.69%	3	1.35%	6	2.69%	2	0.90%	85	38.12%	0	0.00%	121	54.26%	121	102	1.186275
7 affirmed and reversed (or vacated) in part and rem	3	0.85%	6	1.69%	3	0.85%	1	0.28%	122	34.37%	0	0.00%	220	61.97%	220	135	1.62963
8 vacated	1	2.33%	0	0.00%	0	0.00%	0	0.00%	23	53.49%	0	0.00%	19	44.19%	19	24	0.791667
9 petition denied or appeal dismissed	2	3.23%	2	3.23%	1	1.61%	0	0.00%	33	53.23%	0	0.00%	24	38.71%	24	38	0.631579
10 certification to a lower court	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	100.00%	0	0.00%	0	0.00%	0	1	0
<b>AVERAGE VALUES:</b>		1.29%		1.62%		2.10%		0.35%		37.15%		0.11%		57.38%			1.352194

Figure 17: Subsequent treatment by final disposition in the decision rendered by the Supreme Court.

jurisdiction	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
1 cert	119	1.29%	144	1.56%	200	2.17%	35	0.38%	3220	34.91%	6	0.07%	5500	59.63%	5506	3718	1.480904
2 appeal	38	1.29%	54	1.83%	55	1.86%	8	0.27%	1301	44.06%	6	0.20%	1491	50.49%	1497	1456	1.028159
4 certification	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	100.00%	0	0.00%	0	0.00%	0	1	0
5 docketing fee	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	100.00%	4	0	4
6 rehearing	0	0.00%	0	0.00%	1	4.17%	0	0.00%	11	45.83%	1	4.17%	11	45.83%	12	12	1
8 mandamus	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	20.00%	0	0.00%	4	80.00%	4	1	4
9 original	1	2.27%	0	0.00%	3	6.82%	0	0.00%	15	34.09%	0	0.00%	25	56.82%	25	19	1.315789
<b>AVERAGE VALUES:</b>		<b>1.29%</b>		<b>1.62%</b>		<b>2.11%</b>		<b>0.35%</b>		<b>37.12%</b>		<b>0.11%</b>		<b>57.41%</b>			<b>1.353563</b>

Figure 18: Subsequent treatment by method that the Supreme Court took jurisdiction of the case.

Justi	JusticeName	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
68	JHClarke	0	0.00%	0	0.00%	2	4.26%	0	0.00%	32	68.09%	0	0.00%	13	27.66%	13	34	0.382353
77	HLBlack	5	0.92%	6	1.10%	5	0.92%	1	0.18%	241	44.14%	0	0.00%	288	52.75%	288	258	1.116279
78	SFReed	11	7.75%	3	2.11%	11	7.75%	1	0.70%	76	53.52%	0	0.00%	40	28.17%	40	102	0.392157
79	FFrankfurter	11	4.78%	7	3.04%	23	10.00%	1	0.43%	106	46.09%	2	0.87%	80	34.78%	82	148	0.554054
80	WODouglas	7	1.36%	11	2.14%	19	3.69%	2	0.39%	261	50.68%	2	0.39%	213	41.36%	215	300	0.716667
81	FMurphy	2	4.65%	3	6.98%	5	11.63%	0	0.00%	20	46.51%	0	0.00%	13	30.23%	13	30	0.433333
83	RHJackson	2	1.16%	5	2.89%	14	8.09%	1	0.58%	86	49.71%	0	0.00%	65	37.57%	65	108	0.601852
84	WBRutledge	0	0.00%	0	0.00%	1	4.76%	0	0.00%	11	52.38%	0	0.00%	9	42.86%	9	12	0.75
85	HHBurton	3	2.73%	4	3.64%	14	12.73%	1	0.91%	62	56.36%	0	0.00%	26	23.64%	26	84	0.309524
86	FMVinson	2	1.90%	3	2.86%	2	1.90%	0	0.00%	50	47.62%	1	0.95%	47	44.76%	48	57	0.842105
87	TCClark	4	1.69%	6	2.54%	15	6.36%	1	0.42%	121	51.27%	2	0.85%	87	36.86%	89	147	0.605442
88	SMinton	6	9.38%	2	3.13%	14	21.88%	0	0.00%	25	39.06%	0	0.00%	17	26.56%	17	47	0.361702
89	EWarren	1	0.24%	11	2.61%	4	0.95%	3	0.71%	189	44.79%	0	0.00%	214	50.71%	214	208	1.028846
90	JHarlan2	8	2.41%	5	1.51%	16	4.82%	1	0.30%	150	45.18%	1	0.30%	151	45.48%	152	180	0.844444
91	WJBrennan	22	1.99%	22	1.99%	34	3.07%	3	0.27%	423	38.25%	2	0.18%	600	54.25%	602	504	1.194444
92	CEWhittaker	0	0.00%	1	2.08%	0	0.00%	2	4.17%	28	58.33%	0	0.00%	17	35.42%	17	31	0.548387
93	PStewart	5	0.68%	16	2.19%	10	1.37%	4	0.55%	288	39.34%	0	0.00%	409	55.87%	409	323	1.266254
94	BRWhite	8	0.73%	12	1.09%	23	2.09%	4	0.36%	360	32.67%	0	0.00%	695	63.07%	695	407	1.707617
95	AJGoldberg	3	4.55%	0	0.00%	3	4.55%	0	0.00%	33	50.00%	0	0.00%	27	40.91%	27	39	0.692308
96	AFortas	2	2.94%	1	1.47%	3	4.41%	0	0.00%	29	42.65%	0	0.00%	33	48.53%	33	35	0.942857
97	TMarshall	3	0.55%	8	1.47%	8	1.47%	1	0.18%	230	42.20%	1	0.18%	294	53.94%	295	250	1.18
98	WEBurger	2	0.27%	7	0.93%	2	0.27%	0	0.00%	207	27.45%	1	0.13%	535	70.95%	536	218	2.458716
99	HABlackmun	13	1.93%	18	2.67%	5	0.74%	3	0.45%	232	34.47%	0	0.00%	402	59.73%	402	271	1.483395
100	LFPowell	8	1.04%	23	2.98%	4	0.52%	2	0.26%	261	33.81%	0	0.00%	474	61.40%	474	298	1.590604
101	WHRehnquist	8	0.97%	8	0.97%	11	1.33%	2	0.24%	270	32.77%	0	0.00%	525	63.71%	525	299	1.755853
102	JPStevens	4	0.63%	4	0.63%	0	0.00%	2	0.31%	186	29.06%	0	0.00%	444	69.38%	444	196	2.265306
103	SDOConnor	2	0.39%	8	1.57%	2	0.39%	1	0.20%	116	22.83%	0	0.00%	379	74.61%	379	129	2.937984
104	AScalia	1	0.40%	1	0.40%	0	0.00%	2	0.79%	73	28.85%	0	0.00%	176	69.57%	176	77	2.285714
105	AMKennedy	2	0.87%	0	0.00%	1	0.43%	1	0.43%	60	25.97%	0	0.00%	167	72.29%	167	64	2.609375
106	DHSouter	2	1.53%	0	0.00%	0	0.00%	0	0.00%	34	25.95%	0	0.00%	95	72.52%	95	36	2.638889
107	CThomas	0	0.00%	0	0.00%	0	0.00%	0	0.00%	30	37.50%	0	0.00%	50	62.50%	50	30	1.666667
108	RBGinsburg	0	0.00%	0	0.00%	0	0.00%	0	0.00%	20	17.54%	0	0.00%	94	82.46%	94	20	4.7
109	SGBreyer	0	0.00%	0	0.00%	0	0.00%	0	0.00%	24	25.53%	0	0.00%	70	74.47%	70	24	2.916667
110	JGRoberts	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	22.22%	0	0.00%	14	77.78%	14	4	3.5
111	SAALito	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	40.00%	0	0.00%	6	60.00%	6	4	1.5
<b>AVERAGE VALUES:</b>			<b>1.25%</b>		<b>1.66%</b>		<b>2.14%</b>		<b>0.33%</b>		<b>36.94%</b>		<b>0.10%</b>		<b>57.58%</b>			<b>1.363289</b>

Figure 19: Subsequent treatment by justice who wrote the opinion.

JusticeID	JusticeName	CitedBySelf/Others?	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
68	JHClarke	Self	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	0	#DIV/0!
	JHClarke	Others	0	0.00%	0	0.00%	2	4.35%	0	0.00%	32	69.57%	0	0.00%	12	26.09%	12	34	0.352941
77	HLBlack	Self	0	0.00%	1	5.00%	0	0.00%	0	0.00%	5	25.00%	0	0.00%	14	70.00%	14	6	2.333333
	HLBlack	Others	5	1.11%	5	1.11%	5	1.11%	1	0.22%	234	52.00%	0	0.00%	200	44.44%	200	250	0.8
78	SFReed	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	50.00%	0	0.00%	4	50.00%	4	4	1
	SFReed	Others	11	8.40%	3	2.29%	11	8.40%	1	0.76%	73	55.73%	0	0.00%	32	24.43%	32	99	0.323232
79	FFrankfurter	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	8	61.54%	0	0.00%	5	38.46%	5	8	0.625
	FFrankfurter	Others	11	5.26%	7	3.35%	22	10.53%	1	0.48%	98	46.89%	1	0.48%	69	33.01%	70	139	0.503597
80	WODouglas	Self	0	0.00%	0	0.00%	1	3.33%	0	0.00%	16	53.33%	0	0.00%	13	43.33%	13	17	0.764706
	WODouglas	Others	7	1.59%	11	2.50%	18	4.09%	2	0.45%	241	54.77%	2	0.45%	159	36.14%	161	279	0.577061
81	FMurphy	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	100.00%	1	0	1
	FMurphy	Others	2	4.76%	3	7.14%	5	11.90%	0	0.00%	20	47.62%	0	0.00%	12	28.57%	12	30	0.4
83	RHJackson	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	66.67%	0	0.00%	1	33.33%	1	2	0.5
	RHJackson	Others	2	1.22%	5	3.05%	14	8.54%	1	0.61%	82	50.00%	0	0.00%	60	36.59%	60	104	0.576923
84	WBRutledge	Self	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	0	#DIV/0!
	WBRutledge	Others	0	0.00%	0	0.00%	1	4.76%	0	0.00%	11	52.38%	0	0.00%	9	42.86%	9	12	0.75
85	HHBurton	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	6	54.55%	0	0.00%	5	45.45%	5	6	0.833333
	HHBurton	Others	3	3.16%	4	4.21%	14	14.74%	1	1.05%	54	56.84%	0	0.00%	19	20.00%	19	76	0.25
86	FMVinson	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	28.57%	0	0.00%	5	71.43%	5	2	2.5
	FMVinson	Others	2	2.20%	3	3.30%	2	2.20%	0	0.00%	45	49.45%	1	1.10%	38	41.76%	39	52	0.75
87	TCClark	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	8	40.00%	2	10.00%	10	50.00%	12	8	1.5
	TCClark	Others	3	1.50%	6	3.00%	15	7.50%	1	0.50%	112	56.00%	0	0.00%	63	31.50%	63	137	0.459854
88	SMinton	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	25.00%	0	0.00%	3	75.00%	3	1	3
	SMinton	Others	6	10.34%	2	3.45%	14	24.14%	0	0.00%	24	41.38%	0	0.00%	12	20.69%	12	46	0.26087
89	EWarren	Self	0	0.00%	1	5.88%	0	0.00%	0	0.00%	7	41.18%	0	0.00%	9	52.94%	9	8	1.125
	EWarren	Others	1	0.28%	9	2.50%	4	1.11%	3	0.83%	178	49.44%	0	0.00%	165	45.83%	165	195	0.846154
90	JHarlan2	Self	0	0.00%	1	4.55%	0	0.00%	0	0.00%	10	45.45%	0	0.00%	11	50.00%	11	11	1
	JHarlan2	Others	8	3.08%	4	1.54%	15	5.77%	1	0.38%	140	53.85%	1	0.38%	91	35.00%	92	168	0.547619
91	WJBrennan	Self	0	0.00%	7	5.98%	2	1.71%	0	0.00%	34	29.06%	1	0.85%	73	62.39%	74	43	1.72093
	WJBrennan	Others	22	2.72%	15	1.86%	32	3.96%	3	0.37%	377	46.66%	1	0.12%	358	44.31%	359	449	0.799555
92	CEWhittaker	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	100.00%	1	0	1
	CEWhittaker	Others	0	0.00%	1	2.27%	0	0.00%	2	4.55%	27	61.36%	0	0.00%	14	31.82%	14	30	0.466667
93	PStewart	Self	0	0.00%	2	3.45%	0	0.00%	0	0.00%	27	46.55%	0	0.00%	29	50.00%	29	29	1
	PStewart	Others	4	0.70%	13	2.27%	10	1.75%	4	0.70%	257	44.85%	0	0.00%	285	49.74%	285	288	0.989583
94	BRWhite	Self	0	0.00%	1	1.09%	3	3.26%	0	0.00%	23	25.00%	0	0.00%	65	70.65%	65	27	2.407407
	BRWhite	Others	8	1.06%	10	1.33%	20	2.66%	4	0.53%	325	43.16%	0	0.00%	386	51.26%	386	367	1.051771
95	AJGoldberg	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	100.00%	1	0	1
	AJGoldberg	Others	3	5.17%	0	0.00%	3	5.17%	0	0.00%	32	55.17%	0	0.00%	20	34.48%	20	38	0.526316

Figure 20: Subsequent treatment by justice who wrote the opinion, separated by whether the justice is citing to his own opinion or whether other justices are citing to that justice's opinion (continued in Figure 21).

96	AFortas	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	50.00%	0	0.00%	1	50.00%	1	1	1
	AFortas	Others	2	3.57%	1	1.79%	3	5.36%	0	0.00%	26	46.43%	0	0.00%	24	42.86%	24	32	0.75
97	TMarshall	Self	0	0.00%	1	3.45%	1	3.45%	0	0.00%	12	41.38%	0	0.00%	15	51.72%	15	14	1.071429
	TMarshall	Others	3	0.77%	6	1.54%	7	1.79%	1	0.26%	217	55.64%	1	0.26%	155	39.74%	156	234	0.666667
98	WEBurger	Self	0	0.00%	1	1.69%	0	0.00%	0	0.00%	20	33.90%	1	1.69%	37	62.71%	38	21	1.809524
	WEBurger	Others	2	0.50%	6	1.51%	2	0.50%	0	0.00%	180	45.23%	0	0.00%	208	52.26%	208	190	1.094737
99	HABlackmun	Self	0	0.00%	1	2.08%	0	0.00%	0	0.00%	24	50.00%	0	0.00%	23	47.92%	23	25	0.92
	HABlackmun	Others	10	2.37%	15	3.55%	4	0.95%	3	0.71%	200	47.39%	0	0.00%	190	45.02%	190	232	0.818966
100	LFPowell	Self	0	0.00%	3	4.29%	1	1.43%	0	0.00%	24	34.29%	0	0.00%	42	60.00%	42	28	1.5
	LFPowell	Others	8	1.52%	19	3.61%	3	0.57%	2	0.38%	229	43.45%	0	0.00%	266	50.47%	266	261	1.019157
101	WHRehnquist	Self	3	2.54%	2	1.69%	0	0.00%	0	0.00%	32	27.12%	0	0.00%	81	68.64%	81	37	2.189189
	WHRehnquist	Others	5	0.95%	6	1.13%	10	1.89%	2	0.38%	226	42.72%	0	0.00%	280	52.93%	280	249	1.124498
102	JPStevens	Self	1	1.75%	1	1.75%	0	0.00%	0	0.00%	28	49.12%	0	0.00%	27	47.37%	27	30	0.9
	JPStevens	Others	2	0.55%	3	0.82%	0	0.00%	2	0.55%	148	40.55%	0	0.00%	210	57.53%	210	155	1.354839
103	SDOConnor	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	17	31.48%	0	0.00%	37	68.52%	37	17	2.176471
	SDOConnor	Others	2	0.69%	6	2.07%	2	0.69%	1	0.34%	84	28.97%	0	0.00%	195	67.24%	195	95	2.052632
104	AScalia	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	9	36.00%	0	0.00%	16	64.00%	16	9	1.777778
	AScalia	Others	1	0.71%	1	0.71%	0	0.00%	1	0.71%	57	40.71%	0	0.00%	80	57.14%	80	60	1.333333
105	AMKennedy	Self	1	5.00%	0	0.00%	0	0.00%	0	0.00%	4	20.00%	0	0.00%	15	75.00%	15	5	3
	AMKennedy	Others	1	0.83%	0	0.00%	1	0.83%	1	0.83%	48	39.67%	0	0.00%	70	57.85%	70	51	1.372549
106	DHSouter	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	20.00%	0	0.00%	8	80.00%	8	2	4
	DHSouter	Others	2	2.63%	0	0.00%	0	0.00%	0	0.00%	28	36.84%	0	0.00%	46	60.53%	46	30	1.533333
107	CThomas	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	20.00%	0	0.00%	8	80.00%	8	2	4
	CThomas	Others	0	0.00%	0	0.00%	0	0.00%	0	0.00%	26	50.98%	0	0.00%	25	49.02%	25	26	0.961538
108	RBGinsburg	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	3	60.00%	0	0.00%	2	40.00%	2	3	0.666667
	RBGinsburg	Others	0	0.00%	0	0.00%	0	0.00%	0	0.00%	17	40.48%	0	0.00%	25	59.52%	25	17	1.470588
109	SGBreyer	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	4	50.00%	0	0.00%	4	50.00%	4	4	1
	SGBreyer	Others	0	0.00%	0	0.00%	0	0.00%	0	0.00%	15	45.45%	0	0.00%	18	54.55%	18	15	1.2
110	JGRoberts	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	50.00%	0	0.00%	1	50.00%	1	1	1
	JGRoberts	Others	0	0.00%	0	0.00%	0	0.00%	0	0.00%	2	28.57%	0	0.00%	5	71.43%	5	2	2.5
111	SAAlito	Self	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	1	100.00%	1	0	1
	SAAlito	Others	0	0.00%	0	0.00%	0	0.00%	0	0.00%	3	60.00%	0	0.00%	2	40.00%	2	3	0.666667
<b>AVERAGE VALUES:</b>				1.53%		2.02%		2.69%		0.41%		45.70%		0.12%		47.53%			0.910035

Figure 21: Subsequent treatment by justice who wrote the opinion, separated by whether the justice is citing to his own opinion or whether other justices are citing to that justice's opinion (continued from Figure 20).

lawTy	lawType	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
1	Constitution	13	1.95%	16	2.40%	23	3.45%	4	0.60%	278	41.68%	2	0.30%	331	49.63%	333	334	0.997006
2	Constitutional Amendme	74	1.32%	98	1.75%	99	1.76%	17	0.30%	2108	37.57%	3	0.05%	3212	57.24%	3215	2396	1.34182
3	Federal Statute	37	1.15%	41	1.28%	70	2.18%	7	0.22%	1182	36.85%	5	0.16%	1866	58.17%	1871	1337	1.399402
4	Court Rules	5	1.88%	4	1.50%	6	2.26%	0	0.00%	87	32.71%	0	0.00%	164	61.65%	164	102	1.607843
5	Other	5	1.16%	8	1.86%	16	3.72%	5	1.16%	114	26.51%	1	0.23%	281	65.35%	282	148	1.905405
6	Infrequently litigated sta	11	0.88%	19	1.52%	21	1.68%	5	0.40%	459	36.66%	2	0.16%	735	58.71%	737	515	1.431068
<b>AVERAGE VALUES:</b>			1.27%		1.63%		2.06%		0.33%		36.98%		0.11%		57.63%			1.366308

Figure 22: Subsequent treatment by type of law at issue.

majorityVotes	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio
9	14	0.56%	26	1.05%	25	1.01%	7	0.28%	895	36.10%	3	0.12%	1509	60.87%	1512	967	1.563599
8	16	0.89%	20	1.12%	25	1.40%	9	0.50%	707	39.48%	3	0.17%	1011	56.45%	1014	777	1.305019
7	16	0.84%	32	1.69%	20	1.06%	11	0.58%	745	39.33%	3	0.16%	1067	56.34%	1070	824	1.298544
6	45	1.58%	56	1.97%	85	2.99%	2	0.07%	1030	36.25%	3	0.11%	1620	57.02%	1623	1218	1.332512
5	67	2.12%	64	2.03%	100	3.17%	13	0.41%	1124	35.61%	1	0.03%	1787	56.62%	1788	1368	1.307018
4	0	0.00%	0	0.00%	4	4.26%	1	1.06%	48	51.06%	0	0.00%	41	43.62%	41	53	0.773585
<b>AVERAGE VALUES:</b>		<b>1.29%</b>		<b>1.62%</b>		<b>2.11%</b>		<b>0.35%</b>		<b>37.12%</b>		<b>0.11%</b>		<b>57.41%</b>			<b>1.353563</b>

Figure 23: Subsequent treatment by number of votes for the majority opinion.

minorityVotes	Overruled	Overruled%	Criticized	Criticized%	Questioned	Questioned%	Limited	Limited%	Distinguished	Distinguished%	Parallel	Parallel%	Followed	Followed%	TotalPos	TotalNeg	Ratio	
0	158	1.29%	198	1.62%	259	2.11%	43	0.35%	4549	37.12%	13	0.11%	7035	57.41%	7048	5207	1.353563	
1	15	0.98%	19	1.24%	24	1.57%	9	0.59%	614	40.08%	3	0.20%	848	55.35%	851	681	1.249633	
2	24	1.23%	36	1.84%	26	1.33%	10	0.51%	776	39.65%	1	0.05%	1084	55.39%	1085	872	1.244266	
3	48	1.75%	55	2.00%	105	3.82%	4	0.15%	998	36.33%	3	0.11%	1534	55.84%	1537	1210	1.270248	
4	51	2.06%	49	1.98%	70	2.82%	10	0.40%	857	34.54%	0	0.00%	1444	58.20%	1444	1037	1.392478	
<b>AVERAGE VALUES:</b>				<b>1.41%</b>		<b>1.70%</b>		<b>2.31%</b>		<b>0.36%</b>		<b>37.16%</b>		<b>0.10%</b>		<b>56.96%</b>		<b>1.328411</b>

Figure 24: Subsequent treatment by number of minority votes.

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