Quit Your Complaining?
Considering the Impact of Supreme Court Decisions on Strategic Litigants

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Abstract

The impact of judicial decisions on those individuals that the opinions primarily benefit or harm is rarely the subject of scholarly inquiry. In fact, despite the common belief that an essential function of law is to allow individuals to plan, researchers often ignore the possibility of anticipatory actions by litigants when studying the impact of legal change. By neglecting the potential for strategic behavior, researchers risk producing biased results. Furthermore, the impact of law is likely hidden by such distortions when we focus on outcomes without accounting for selection and the response of the consumer population. In this paper, I consider if recent Supreme Court decisions regarding the federal pleading standard have changed the way represented litigants state their claims. The decisions are widely believed to have increased the level of detailed allegation required in a complaint in order to avoid dismissal but empirical studies on the matter have generally failed to find an effect. I focus on measuring specificity in the complaints using Natural Language Processing (NLP) tools, as strategic litigant behavior should have serious implications for these pleadings. The results indicate that the underlying specificity of certain complaints varied among the relevant periods surrounding the decisions. They also indicate that plaintiffs in so-called "hard to plead" cases, such as civil rights cases, may be disproportionately impacted by the decisions. These findings have potentially serious implications for empirical studies of the impact of these cases specifically and measuring judicial impact and legal change generally. Furthermore, the ramifications of these decisions pertain to serious issues of access to justice and separation of powers. The project also provides an approach to measuring specificity that can be used in future inquiries regarding dismissals and other political texts.

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1 Introduction

Beyond the rather artificial question of *if* law matters, most scholars of judicial politics and law agree that the real concern is *when*, *how*, and *why* law matters (*see, e.g.,* Friedman and Martin, 2011; Lax, 2011; Tamanaha, 2009, 145-49). Unfortunately, for a number of reasons, researchers struggle to capture the effects of law and the impact of judicial decisions. For example, scholars often use blunt measures of case disposition as dependent variables (*see* Fischman and Law, 2009; Lax, 2011; McGuire et al., 2009). This outcome-based approach focuses on the actions of judges to the exclusion of litigant behavior (*see* Baum, 1988; Cross, 2007; McGuire et al., 2009). Additionally, studies tend to focus on the small minority of cases that proceed to high courts after multiple layers of filtration and selection (*see, e.g.,* Friedman and Martin, 2011).

Legal scholars have long focused on the extent to which law engenders stability and predictability, as well as perceptions of fairness and legitimacy (*see, e.g.,* Schauer, 1987). A key assumption in this work is that law allows individuals to order their affairs in light of expected outcomes (*see* Law, 2009). There is a wealth of important theoretical and empirical work which indicates that individuals determine how to act based on their expectations (*see, e.g.,* Baum, 1988; Galanter, 1974; Hall, 2010; McGuire et al., 2009; Priest and Klein, 1984; Songer, Cameron and Segal, 1995). Additionally, political scientists have also long been concerned with the use of power to induce inaction (*see, e.g.,* Bachrach and Baratz, 1962; Cox and McCubbins, 2005). Thus, we would not anticipate that law simply dictates results. Rather, the circumstances in which litigation occurs should influence many types of litigant behavior, such as the decision to pursue a specific claim or settlement.

To understand the impact of law and judicial policy, we must look to the effects that legal change has generally (*see, e.g.,* Becker and Feeley, 1973; Canon and Johnson, 1999; Hall, 2010; Wasby, 1984; Wheeler, 2010). Unfortunately, most studies of such impact focus only on lower-court compliance with doctrine (Becker and Feeley, 1973; Canon and Johnson, 1999; Wasby, 1984; Wheeler, 2010). Such a limited view likely misses many important changes in the legal and political environments. Canon and Johnson (1999, 92-93) conceptualize the persons affected, either directly or indirectly, by a judicial policy as the consumer population. The core of this population are those individuals "who actually engage in acceptance and adjustment behavior" (Canon and Johnson, 1999, 93). It

is particularly difficult to identify such consumers and assess their responses: "This deficiency is unfortunate because knowledge about consumption is crucial to understanding the ultimate impact of judicial politics[.]" (Canon and Johnson, 1999, 95-6). Litigants are clearly consumers of judicial policy.

Despite the fundamental expectation that law influences citizens' activities based on changes in expectations, due to the difficulties in capturing such behavior we know relatively little regarding strategic actions by litigants.[1] Although most political science research focuses on judicial behavior, the strongest effects of law likely occur outside the courtroom and among regular citizens. Additionally, due to the systemically non-random selection of cases throughout litigation, we likely do not know the extent to which various aspects of the legal system (such as the changes in statutory and case law) and judicial politics (such as ideology) matter. This is because we expect that participants in litigation will adapt their behavior to maximize benefits, and that such actions will often result in minimal changes in the distribution of specific outcomes (*see, e.g.,* Epstein, Landes and Posner, 2013; Priest and Klein, 1984). Such sorting can bias the results of statistical analyses which rely on an assumption of random selection (Heckman, 1979). Unfortunately, differences in the types of behavior of parties before the court are generally ignored. These lurking problems likely obscure the affect of law.

As part of the attempt to understand the impact of law, which is quintessentially a study of how institutions influence behavior, some researchers have considered the impact of procedural rules (*see, e.g.,* Binder and Smith, 1997; Cox, Thomas and Bai, 2008; Kessler, 1996; McCubbins, Noll and Weingast, 1987; Spiller and Ferejohn, 1992; Yackee and Yackee, 2010; Yoon and Baker, 2006). Unfortunately, such studies have generally focused on differences in outcomes, as have studies of the impact of Supreme Court decisions on lower courts (*see, e.g.,* Gruhl, 1980; Johnson 1987; Songer 1987; Songer and Sheehan, 1990; *but see, e.g.,* Hall 2010; Songer et al., 1994; Spriggs, 1996). We would, of course, anticipate that if procedural rules have meaning and Supreme Court decisions are influential, litigants would adapt their behavior in light of such changes, including their decisions regarding if and how to engage the courts.

Additionally, while judicial proceedings at the trial court level are exceedingly important, as

[1] I use the term litigant to refer to the unit formed by the represented party and its lawyer(s) (*see, e.g.,* Wedeking, 2010).

they are the most common type of and often final proceeding, they are generally understudied (*see* Boyd, 2009; Boyd and Hoffman, 2013; Levin, 2008; Rowland and Carp, 1996). If citizens engage the courts, trial courts are almost always the only courts they ever engage (Boyd, 2010*a*). In the federal system, for example, in the 2012 fiscal year there were 372,563 cases[2] filed in the federal district courts, 57,501 appeals filed in the courts of appeals, and 8,806 cases pending on the Supreme Court docket (with only 77 cases being heard by the Court) (United States Courts, 2013). Thus, the district courts dealt with seven times as many cases as the circuit courts and 42 times more than the Supreme Court.

This paper is a piece in a larger project regarding the influence of legal change through the lens of litigant behavior and judicial decision-making in light of such behavior. This work is also part of a re-emerging interest in judicial impact (*see, e.g.,* Hall, 2010; Sweet, 2010); it is also related to a larger movement by some scholars to consider and account for selection in the legal system (*see, e.g.,* Lax and Rader, 2010; Kastellec and Lax, 2008). In this paper, I consider how changes to the federal pleading standard announced by the Supreme Court in *Bell Atlantic Corp. v. Twombly* (2007) and *Ashcroft v. Iqbal* (2009) altered the way in which parties plead. These decisions provide a unique vantage point due to their sweeping nature and prominence.

The decisions are understood by many scholars to have raised the bar regarding which cases would be allowed to remain in federal court at least through the stage of a formal exchange of information among the parties (discovery) by changing the requirements for how detailed allegations must be to avoid dismissal. The pleading standard before these decisions were made was generally to be a liberal approach which allowed for rather broad claims. This more lenient benchmark, combined with procedural rules that incentivize maximizing potential avenues of recovery, created circumstances that favored relatively broad pleadings. Furthermore, based on the nature of different types of claims, there is variation in the amount of information that is available to litigants before they file suit. To the extent that the Supreme Court's decisions represent a heightened pleading standard, we would anticipate that litigants would respond to them by altering the ways they assert and state claims. Specifically, litigants should become more narrow and specific in their claims. I anticipate this shift will be most pronounced for types of claims where information is readily

[2]Of the filings, 278,442 were civil matters and 94,121 were criminal matters (United States Courts, 2013).

available to the plaintiff before filing.

Using hand coding and machine coding based on a supervised model of complaint specificity, I find evidence that litigants changed the level of specificity they include in pleadings in cases where information is more readily accessible (torts cases). I do not find evidence of a significant change in cases that are considered hard to plead (civil rights cases). This change in pleading behavior likely accounts for many of the findings that these landmark decisions have little to no impact on filings and dismissals: to the extent that the bulk of change brought about by the cases occurred in the claim-stating stage, the change has not been detected or fully appreciated because complaint content is difficult to quantify and, thus, generally ignored. The differences in the changes in filing may also indicate that litigants who need discovery the most, such as plaintiffs claiming conspiracy or official misconduct, are less able to adapt than other litigants. Thus, the Supreme Court's decisions may have altered the standards and consequently the allocation of judicial resources without the benefit of Congressional action (which is required for a change in procedural rules), and in a way that may change the ways in which courts are involved in monitoring the other branches. The measure and related findings provide a strong basis for continuing work in understanding the impact of these decisions and considering the consequences of selection for our understanding of legal change and judicial impact.

My paper proceeds in six sections. First, I discuss the background regarding federal pleading standards, the *Twombly* and *Iqbal* decisions, and the incentive structures created by them. Building from this background, I then survey the relevant literature and further develop my theory regarding strategic litigant behavior with regard to pleading. Next, I set forth the logistic classifier that I have developed to measure the specificity of the complaints and the analyses of filings and dismissals that I will undertake using this measure. Finally, I discuss the implications and limitations of this research.

2 Background: Pleading Standards and Incentive Structures

Generally, civil litigation commences with the filing of a complaint by the plaintiff. The codified standard for federal civil pleadings is that they "must contain ... a short and plain statement of the claim showing that the pleader is entitled to relief" (Fed. R. Civ. P. 8(a)). The purpose of the

complaint has generally been understood as a means to "give defendants fair notice of its claims and the grounds for them" (Baicker-McKee, Janssen and Corr, 2010). In the absence of such notice, complainants are generally not allowed to pursue related claims. This may include the ability to undertake discovery.[3] Thus, the avenues of recovery laid out in the complaint set out the ground work for all legal proceedings that follow, including trials and appeals. Thus, pleaders have an incentive to cover as many claims as possible to maximize flexibility in pursuing redress. So, in the absence of a requirement of specificity, we would expect litigants to plead broadly.[4]

Complainants have an incentive to include all claims in their complaints[5] because the rules create serious risk that claims not brought at the outset may be disallowed (*see* FED. R. CIV. P. 15). Otherwise, the party must receive the consent (at least implicitly) of the opposing party or the court in order to amend her pleadings (*see* FED. R. CIV. P. 15(a)(2)). Furthermore, later amendments may fall outside the statute of limitations unless they are found to relate back to the subject matter of the original filing (*see* FED. R. CIV. P. 15(c)). Thus, there is strong incentive to assert as many claims as possible from the outset, or, at the very least, during the period of amendment without leave.

Of course, not all claims are equal. Litigants have varying ability to identify wrongdoing on the part of defendants due to differences in defendants' culpability and plaintiffs' access to information. Some types of claims are "hard to plead" as discovery is likely necessary to allow the plaintiff sufficient information to set forth specific facts supporting her claim (*see, e.g.,* Gelbach, 2012*b*; Reinert, 2010). Such causes of action potentially include: "antitrust, conspiracy cases, employment discrimination, medical malpractice, eminent domain challenges, and violations of civil rights" (Curry and Ward, 2013, citations omitted). The ability to identify wrongdoing is also affected by the claimant's ability to shoulder the costs of pre-filing investigation (Gordon, 2011). Despite this variation in the complainant's underlying ability to plead with specificity, all claimants have incentives to plead

[3]Discovery is the formal exchange of information within litigation.

[4]This does not mean that attorneys would never include specific facts. There is indication that at least some attorneys have included some level of specific facts in complaints for some time (Willging and Lee, 2010). Reasons to include such facts might include signaling strength for settlement negotiations (Hubbard, 2013*a*). But, in the absence of a requirement of specificity, an attorney will generally be broader in her claims as to avoid unduly limiting avenues of recovery for her client (*see, e.g.,* Lee and Willging, 2010*b*; Willging and Lee, 2010).

[5]In federal court, there is a brief window (21 days after service or filing of a responsive pleading) in which a party may amend without leave (FED. R. CIV. P. 15(a)(1)).

broadly within a permissive environment (*see* Schwartz and Appel, 2010). The biggest difference among litigants is their ability to adapt to a stricter setting (Gordon, 2011; Wasserman, 2012).

Pursuant to Rule 12(b)(6), a party can move the court to dismiss a claim on the basis that there is a "failure to state a claim upon which relief can be granted" (*Federal Rules of Civil Procedure*, 2013). Before 2007, the canonical interpretation of the requirements of Rules 8(a) and 12(b)(6) came from *Conley v. Gibson* (1957) which stood for the proposition that a complaint should only be dismissed for failure to state a claim if no possible set of facts could support it (Hatamyar, 2010; Miller, 2010; Reinert, 2010). This approach was known as the conceivability standard (Stewart, 2010, 169). This was the well-established standard throughout the federal system (*see, e.g.,* Hatamyar, 2010), though some courts may have required more in some cases (Miller, 2010; Schwartz and Appel, 2010). Coyle (2013, 223) aptly described the *Conley* standard as "a very low hurdle designed essentially to keep lawsuits in court, not out." Generally speaking motions to dismiss are filed near the outset of a case and before discovery has been conducted (*see* Gelbach, 2012*b*).

The conceivability benchmark defined the federal pleading standard for fifty years. In 2007 in *Twombly*, an antitrust case, the Court held that a complaint must state a plausible claim in order for it to be sustained. *Twombly* caught the legal world by surprise (*see, e.g.,* Janssen, 2011; McMahon, 2007; Redish and Epstein, 2008): "*Twombly* was a bombshell" (Hubbard, 2013*b*); "[t]here was certainly no groundswell to reexamine *Conley*, and no one thought that it was in danger of being altered" (McMahon, 2007). After the decision in *Twombly* there was debate within the legal community as to applicability of this plausibility standard beyond antitrust cases[6] and the nature of the standard (*see* Hatamyar, 2010; Redish and Epstein, 2008). Redish and Epstein (2008) undertook an empirical study of district courts' application of the *Twombly* standard and found general incoherence. This is in keeping with some public reactions by judges to the decisions: for example, Federal District Judge Rudolph Randa was reported to have said that when he read the *Twombly* decision that his response was: "What the hell?" (Henthorne, 2010).

Two years later in *Iqbal*, the Supreme Court applied the standard in a civil rights case, thereby dispelling most doubt that it did not apply to all cases (*see* Noll, 2010). In *Iqbal* the Court also attempted to further clarify its rule:

[6]District courts applied *Twombly* to cases in a variety of areas, and Redish and Epstein (2008) found no published ruling in which a judge stated that *Twombly* did not apply outside of antitrust cases.

> Two working principles underlie *Twombly*. First, the tenet that a court must accept a complaint's allegations as true is inapplicable to threadbare recitals of a cause of action's elements, supported by mere conclusory statements. [...] Second, determining whether a complaint states a plausible claim is context-specific, requiring the reviewing court to draw on its experience and common sense. [...] A court considering a motion to dismiss may begin by identifying allegations that, because they are mere conclusions, are not entitled to the assumption of truth. While legal conclusions can provide the complaint's framework, they must be supported by factual allegations. When there are well-pleaded factual allegations, a court should assume their veracity and then determine whether they plausibly give rise to an entitlement to relief.

Thus, the transition to a general plausibility standard was complete. While the Court took pains to clarify that the plausibility standard did not harken a return to a fact-pleading or specific-fact standard, it is clear that the standard requires more factual allegations and specificity than a reading of *Conley* would imply.

3 Literature and Theory

3.1 Judicial Impact, Strategic Behavior, and Consumers of Judicial Decisions

Measuring the extent to which law, as opposed to ideology or other preferences dictate outcomes, has been a major undertaking among Judicial Politics scholars (*see, e.g.,* Bailey and Maltzman, 2008; George and Epstein, 1992). In conjunction with this inquiry regarding the impact of law, some scholars in the field have considered the impact of law in the form of judicial decisions (*see, e.g.,* Canon and Johnson, 1999; Klein and Hume, 2003).[7] In fact, after a relative lull in political science scholarship on the matter (*see* Baum, 2011), there has been a renewed interest in judicial impact (*see, e.g.* Hall, 2010).

In understanding the impact of judicial policies generally, and Supreme Court decisions specifically, we must look to "the general reactions and changes (or lack thereof) that follow a judicial decision" (Canon and Johnson, 1999, 17). Such impact is by no means limited to compliance by lower courts with higher-court doctrine (Becker and Feeley, 1973; Canon and Johnson, 1999; Wasby, 1984; Wheeler, 2010). Scholars have an abundance of reasons to believe that changes in law influence underlying behavior among litigants (*see, e.g.,* Baum, 1988; Galanter, 1974; Hall, 2010; McGuire

[7] Of course, in a common law system such as the American system, decisions create precedent which governs how later cases are to be handled (Schauer, 1987). Thus, Supreme Court decisions have the potential to influence decisions in all levels of courts within the United States due to the Court's supreme position in the judicial hierarchy.

et al., 2009; Priest and Klein, 1984). We begin with the assumption that litigants are rational - that is they wish to maximize utility (*see, e.g.,* Songer, Cameron and Segal, 1995). In the case of civil litigation, rational plaintiffs want to maximize recovery,[8] while defendants want to limit what they pay[9] (*see, e.g.,* Priest and Klein, 1984). Thus, litigants behave strategically - they form expectations about the likely outcomes of actions and choose the course that is most advantageous to them: "Litigation strategy is predicated on prediction" (Singer, Forthcoming, 9). Litigants form their beliefs about potential outcomes based, in part, on how they expect the other parties and the judge in the suit to behave based on what they know about the preferences of these actors (*see, e.g.,* Fox and Birke, 2002; Priest and Klein, 1984; Singer, Forthcoming).

One particularly helpful framework for conceptualizing judicial impact was provided by Canon and Johnson (1999) (*see also* Bowen, 1995). In considering the impact of legal change, Canon and Johnson (1999) theorize there are four main populations in considering judicial impact: interpreting, secondary, implementing, and consumer. Lower courts and other officials charged with authoritative interpretation of the policy, such as attorney generals, make up the interpreting population (Canon and Johnson, 1999, 18). Judicial impact research often focuses on the response of the implementing population in that it generally focuses on compliance by lower courts (*see* Wheeler, 2010). The implementing population generally consists of authorities affected by the decision, such as police officers or prosecutors (Canon and Johnson, 1999, 19). Though the implementing population is more rarely studied, there are some notable exceptions (Bond and Johnson, 1982; Hume, 2009; O'Leary, 1989; Spriggs, 1996): for example, Spriggs (1996) investigated the factors influencing administrative agency implementation of Supreme Court decisions. While, the consumer population represents those individuals who are generally the target of and directly affected,[10] either positively and negatively, by the decision (Canon and Johnson, 1999, 20). The consumer population is more rarely the target of academic research (*but see, e.g.,* Bowen, 1995; Levine, 1973). Everyone else is part of the secondary population (Canon and Johnson, 1999, 22). The secondary population is only indirectly affected by the policy. Research regarding the impact on the secondary population generally takes the form of studies of public opinion regarding Supreme Court decisions (*see, e.g.,*

[8]This recovery is not limited to monetary damages, it may also include equitable relief, vindication, publicity, etc.

[9]Defendants may pay in the form of money, reputation, etc.

[10]This impact can be potential, rather than actual, in nature (Canon and Johnson, 1999, 93).

Franklin and Kosaki, 1989; Johnson and Martin, 1998; Hoekstra, 2000; Wasby, 1984).

The primary consumer population for the *Twombly* and *Iqbal* decisions are parties to potential civil claims, both plaintiffs and defendants, that can be brought in federal court as they are directly affected by the requirements of pleading standard. In this paper, I focus on the impact of these decisions on parties represented by attorneys.[11] An attorney acting on behalf of his or her clients plays a multifaceted role regarding the impact of Supreme Court decisions (Canon and Johnson, 1999). This varied function arises from the relationship of the attorney to the client and beyond: lawyers are expert agents for their clients, but at the same time they are also bound by professional codes of conduct (*see* American Bar Association and the Center for Professional Responsibility, 2013; Pierce, Cornett and Long, 2011; Richmond, Faughnan and Matula, 2011). Canon and Johnson (1999) describe attorneys as acting as quasi-consumers of the decisions when they advise clients regarding decisions. Attorneys also act to interpret and implement decisions (Canon and Johnson, 1999; Wasby, 1984, 23). Based on the multiple roles of the attorney, they often act as linkages between populations (Canon and Johnson, 1999, 24).

In regards to the *Twombly* and *Iqbal* decisions, attorneys representing clients are intricately involved in a critical act (among many other important decisions): attorneys representing plaintiffs draft complaints and determine what level of factual specificity to include in describing the claims (*see generally* Fox and Birke, 2002; Singer, Forthcoming). When an attorney drafts a pleading on behalf of clients, an attorney must act as a consumer, interpreter, and implementer. The importance of decisions by attorneys regarding when to engage the court should not be underestimated. Attorneys play an essential role in the formation of law by judges: "[g]reat care is taken to exclude from judicial consideration all matters except those which lawyers introduce." (Peltason, 1955, 25).

Clients rely on their attorneys to help them maximize outcomes in litigation. Attorneys act based

[11]The reasons for focusing on represented parties were multifold. First, if we wish to measure the impact of legal change on consumers, we need to look at cases in which the litigants are aware of the change in order to react (or not) to it. The conduit for this information is generally counsel. Pro se litigants are unlikely to be aware of such change or understand the implications of it for their calculations. Next, a different pleading standard applies in pro se cases (*Erickson v. Pardus*, 551 U.S. 89 (2007); *Harris v. Mills*, 572 F.3d 66, 72 (2011); Cecil, Cort, Williams, Bataillon and Campbell, 2011b). Furthermore, pro se cases represent a very distinct group of matters. A large number of pro se litigants asserting civil rights claims are prisoners. Also, many pro se litigants appear to suffer from mental illness. The complaints are often handwritten. Additionally, prisoner litigation is concentrated in specific districts due to the locations of prisons. This is not to imply that pro se cases are not of interest. Patricia Hatamyar Moore has expressed concern that excluding pro se plaintiffs from studies of *Iqbal* and *Twombly* obscures the true effects of the decisions because many civil rights claims are brought by pro se individuals (Moore, 2011). Such cases are however outside the scope of my theory and study.

on strategy formed in light of expectations regarding the judges in front of whom they practice: "In any scenario, predicting what the court is likely to do permits an attorney to organize her strategies and arguments in specific and beneficial ways" (Singer, Forthcoming). In fact, commentators and scholars have identified predicting outcomes and formulating strategy based on those expectations to be among attorneys' most important functions with regard to clients (Singer, Forthcoming, 9, citing Goodman-Delahunty, Granhag, Anders, Hartwig, and Loftus, 2010; *see also* Kritzer, 1997; 1998). As described by, Fox and Birke (2002):

> Litigation is fraught with uncertainty. Clients depend on their lawyers to help them predict what might happen should their case proceed to trial. Lawyers' judgments of the likelihood of potential outcomes may be the most important factor underlying clients' decisions whether to proceed to trial or pursue settlement, whether or not to drop a case, and whether or not to invest more time and money in discovery.

Therefore, the role of attorney is very much defined by his perceptions of the likely responses of judges, which are at least in part formed by the law and legal precedent.

The complex role of the attorney in litigation is further illustrated by their legal responsibilities: attorneys owe legal duties to both their clients and the courts they practice in (*see* Pierce, Cornett and Long, 2011; Richmond, Faughnan and Matula, 2011). The duties that a lawyer owes to his client include zealous advocacy, loyalty, and competence (American Bar Association and the Center for Professional Responsibility, 2013, 1.1, 1.3, 1.7). A failure to carry out such duties can result in a number of sanctions, including suits for malpractice and bar disciplinary proceedings (*see* American Bar Association, 2002; Leubsdorf, 1995). Furthermore, attorneys who fail to live up to these standards can harm their professional reputation and ability to attract clients.

At the same time, a breach of duties owed to the court can also result in sanctions. Attorneys are considered officers of the court and are bound by rules of conduct and are subject to discipline, which includes suspension and disbarment, for failure to adhere to such rules (*see* Pierce, Cornett and Long, 2011; Richmond, Faughnan and Matula, 2011). Generally, attorneys are prohibited from bringing frivolous claims: "A lawyer shall not bring or defend a proceeding, or assert or controvert an issue therein, unless there is a basis in law and fact for doing so that is not frivolous, which includes a good faith argument for an extension, modification or reversal of existing law" (*see, e.g.,* American Bar Association and the Center for Professional Responsibility, 2013, 3.1). This

can be understood as "a duty not to abuse legal procedure" (*see, e.g., Texas Disciplinary Rules of Professional Conduct*, 1995, 3.01, cmt. 1). Furthermore, attorneys have a duty of candor to the court (*see, e.g.,* American Bar Association and the Center for Professional Responsibility, 2013, 3.3). Furthermore, in the federal courts, Rule 11(b) sets forth that:

> By presenting to the court a pleading, written motion, or other paper - whether by signing, filing, submitting, or later advocating it - an attorney or unrepresented party certifies that to the best of the person's knowledge, information, and belief, formed after an inquiry reasonable under the circumstances:
>
> 1. it is not being presented for any improper purpose, such as to harass, cause unnecessary delay, or needlessly increase the cost of litigation;
> 2. the claims, defenses, and other legal contentions are warranted by existing law or by a nonfrivolous argument for extending, modifying, or reversing existing law or for establishing new law;
> 3. the factual contentions have evidentiary support or, if specifically so identified, will likely have evidentiary support after a reasonable opportunity for further investigation or discovery; and
> 4. the denials of factual contentions are warranted on the evidence or, if specifically so identified, are reasonably based on belief or a lack of information.

(*Federal Rules of Civil Procedure*, 2013, 11(b))

Attorneys who violate this rule are subject to sanctions (*Federal Rules of Civil Procedure*, 2013, 11). Therefore, attorneys are likely keenly interested in changes in the pleading standard in order to provide competent representation and avoid sanctions.

Based on their relationships with clients and courts, they are highly incentivized to be aware of and react to changes in the pleading standard. Thus, we would anticipate that complaints filed by represented litigants will reflect the expert judgment of their agents, the attorneys. Thus, in considering the impact of the *Twombly* and *Iqbal* decisions, strategic actor and judicial impact theory dictate that we must consider the responses of litigants to the decisions in measuring the impact of the cases. With this in mind, I now turn to existing research on the impact of these cases.

3.2 Interest and Research Regarding the Plausibility Standard

The legal community and officials have been keenly interested in the ramifications of *Twombly* and *Iqbal* (*see, e.g.,* Gordon, 2011; Gelbach, 2012*b*; Hatamyar, 2010; U.S. Congress, 2009*a*; *"Restoring Access to the Courts."* New York Times, 2009). As noted by two practicing attorneys:

> Few issues are more important in federal litigation than determining whether a case will be dismissed for failure to state a claim or instead slog on into discovery, potential fights over class certification, and beyond. And following the Supreme Court's decisions in *Bell Atlantic v. Twombly* (2007) and *Ashcroft v. Iqbal* (2009), few issues have generated as many questions.

(Marshall and Postman, 2010). Though potential impact of the decisions is far-reaching, the decisions have garnered much less attention from political scientists (*but see* Epstein, Landes and Posner, 2013; Yacobucci and McGovern, 2011). Also, despite the relative dearth of media attention to the decisions, the decisions are more widespread in their implications than many higher profile cases (Coyle, 2013, 221). In both the House and Senate there have been proposed bills and committee hearings regarding the apparent changes to the pleading standard (U.S. Congress, 2009*a*, 2011, 2009*b*, 2010). To date, both decisions are among the most cited U.S. Supreme Court cases of all time (*see, e.g.,* Fitzpatrick, 2012). Comparing the number and rate of citations[12] for these decisions to other famous Supreme Court opinions is illuminating:

Table 1: Citations to Important Cases as of June 23, 2014

Case	Year	Total Citations	Citations Per Year
Bell Atlantic Corp. v. Twombly	2007	228,023	32,575
Ashcroft v. Iqbal	2009	158,849	31,770
Brown v. Board of Education	1954	20,649	344
Chevron v. N.R.D.C.	1984	67,169	2,239
Marbury v. Madison	1803	22,772	108
Miranda v. Arizona	1966	104,479	2,177
Nat'l Fed. of Ind. Bus. v. Sebelius	2012	2,395	1,198
Roe v. Wade	1973	22,641	552

[12]These citation numbers were obtained from KeyCite via Westlaw.

Figure 1: Total Citations

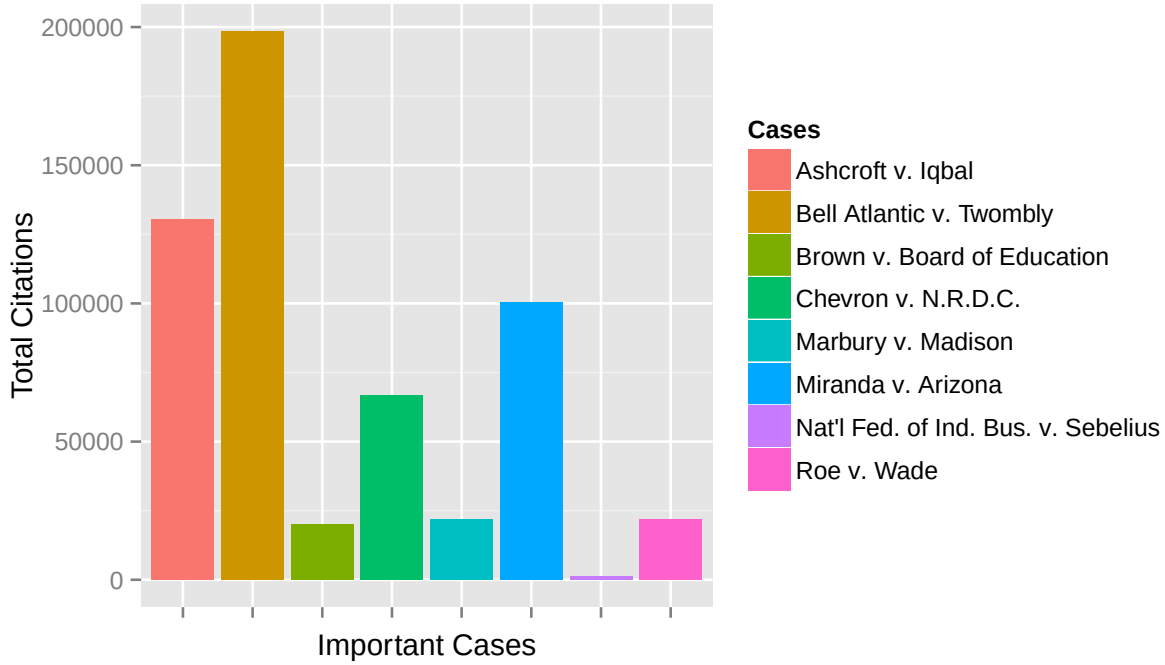
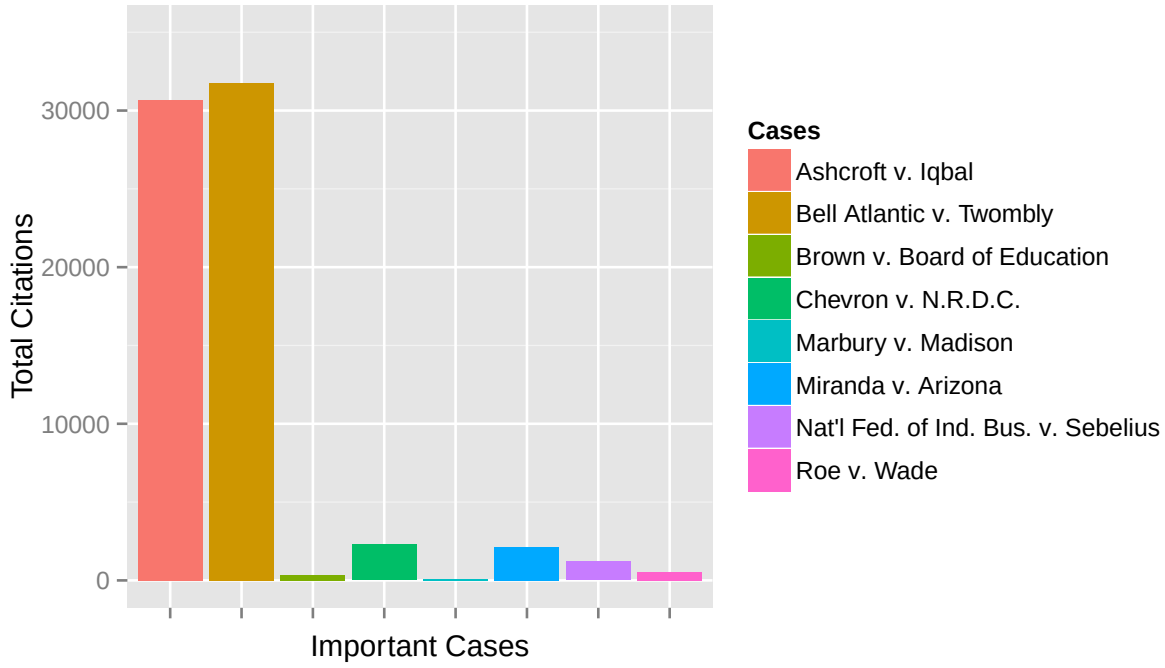


Figure 2: Citations Per Years Since Decision



A significant portion of the legal academy believes that the decisions represent an upward shift in the level of specificity that litigants are required to provide in pleadings in order to avoid dismissal for failure to state a claim (a 12(b)(6) dismissal) (*see, e.g.,* Hatamyar, 2010; Miller 2010; Reinert, 2010; Schwartz, 2010; *but see* Garre, 2009; Moller, 2009).[13] Such scholars believe that these precedents have a profound effect on the ability of some parties to seek redress via the federal courts, though they disagree regarding the normative implications (*see, e.g.*, Hatamyar, 2010; *but see, e.g.,* Schwartz and Appel, 2010). Thus, there are potential ramifications as to redress and redistribution, as well as access to courts. Additionally, there are concerns regarding the separation of powers and the role of the Court, as substantive changes to the Federal Rules of Civil Procedure are the province of Congress (Miller, 2010). Furthermore, some scholars are concerned that the new standard disproportionately impacts hard to plead causes of action, including civil rights cases (*see, e.g.,* Gelbach, 2012*b*; Hatamyar, 2010; U.S. Congress, 2009*a*; Schneider, 2010). In both the House and Senate there have been proposed bills and committee hearings regarding the apparent changes to the pleading standard (U.S. Congress, 2009*a*, 2011, 2009*b*, 2010).

A number of empirical studies have been undertaken to determine if the Court's adoption of the plausibility standard has resulted in more cases being dismissed (*see, e.g.,* Cecil, Cort, Williams and Bataillon, 2011; Cecil, Cort, Williams, Bataillon and Campbell, 2011; Dodson, 2012; Engstrom, 2013; Epstein, Landes and Posner, 2013; Gelbach, 2012*b*; Hatamyar, 2010; Hannon, 2007; Hubbard, 2013*b*; Janssen, 2011; Martinez, 2009; Seiner, 2009, 2010; Yacobucci and McGovern, 2011). The majority of these studies have simply looked at the differences in dismissal rates and numbers before and after the decisions and ignored the potential for selection bias (*see* Engstrom, 2013; Gelbach, 2012*b*; Hubbard, 2013*b*). Generally, the results of this type of study have been mixed, and there is not strong evidence that these cases have had much of an impact (*but see* Dodson, 2012, finding a significant effect, but without accounting for interdependence among claims in the same complaint). Attorney surveys on the subject have also yielded a mixed picture regarding dismissals (*see* Hamburg and Koski, 2010; Lee and Willging, 2010*b*,*a*; Willging and Lee, 2010).

[13]Of course, even if the decisions did not alter the standards that were being applied by at least some courts, that does not mean that the decisions did not have an impact. Such decisions could operate to create more consistency across lower courts: in fact, creating such consistency is an important function of the Court (*The Rules of the Supreme Court*, 2010, 10(b)). Furthermore, decisions which are in keeping with existing practices may legitimize and entrench such approaches (Klarman, 2004, 47).

Unfortunately, due to limitations in the available data and measures, the bulk of these studies are potentially unreliable. The majority, but not all (*see* Cecil, Cort, Williams and Bataillon, 2011; Cecil, Cort, Williams, Bataillon and Campbell, 2011; Engstrom, 2013; Gelbach, 2012*b*), of these studies are based on published opinions. Concerns regarding bias that could be caused by using published cases are well documented (*see* Keele et al., 2009; Law, 2005; Merritt and Brudney, 2001; Songer, 1989; Swenson, 2004).

Moreover, these studies generally ignore the possibility of selection effects among litigants in the form of differences in the decision to file suit, file a motion to dismiss, and settle (*see* Gelbach, 2012*b*; Hubbard, 2013*b*; Michalski and Wood, 2014). As Gelbach (2012*b*) notes:

> Simple comparisons of adjudicative results, like how often plaintiffs win at trial, tend to mix together (i) the effects of changes in legal rules on cases that would be litigated regardless of the choice of legal rules and (ii) changes in case composition that result from the change in legal rules.

Thus, merely considering grant rates does not provide us with reliable information regarding judicial decision-making in the face of litigant selection (Engstrom, 2013; Gelbach, 2012*b*; Hubbard, 2013*b*). Political scientists studying the impact of judicial decisions and policies, like judicial politics scholars as a whole, have tended to focus solely on the actions of officials - judges, executives, legislatures, and bureaucrats (*see, e.g.* Becker and Feeley, 1973; Canon and Johnson, 1999; Gruhl, 1980; Hall, 2010; Klein and Hume, 2003; Spriggs, 1996). These approaches neglect the well-theorized role of law in shaping the behavior of individuals (*see, e.g.,* Baum, 1988; Canon and Johnson, 1999; Galanter, 1974; Hall, 2010; McGuire et al., 2009; Priest and Klein, 1984; Schauer, 1987).

There have been a few promising studies that move us away from ignoring selection bias when considering the effect of the decisions. Gelbach (2012*b*) and Hubbard (2013*b*) both considered the effect of the decisions on filings in federal district courts. Neither found evidence of differences. Additionally, Hubbard also analyzed if filing rates have changed post-*Twombly* by comparing filings in the district/month from 2001 to 2008. He found no significant difference in filings generally or in civil rights cases specifically. Gelbach (2012*b*) additionally noted that data from the Federal Judiciary Center indicated little change and no decreases in filing rates from before and after *Iqbal* (*see also* Caseload Highlights).[14] Also, a survey of employment attorneys found that only a small

[14]Of course, the lack of an obvious decrease in filings does not preclude the possibility that plaintiffs have chosen not to file due to the change in pleading standards (*see* Gelbach, 2012*b*).

percentage of attorneys (less than eight percent of attorneys who had filed an employment discrimination claim after *Twombly*) reported that they had changed their case screening practices due to the decision(s) (Hamburg and Koski, 2010).

Relatedly, Curry and Ward (2013) considered if the decisions have changed where plaintiffs are filing suit. They hypothesized that a heightened pleading standard in federal courts would encourage plaintiffs to file in state courts that apply a more lenient notice standard. Defendants, on the other hand, would be encouraged to remove these cases to federal court to take advantage of the federal pleading standard. Thus, they anticipated an increase in removals from notice pleading states after the change in the standard. They compared removal rates before and after the decisions between states with notice pleading and fact pleading standards. They found that "[t]here was no systematic increase in the rate of removal from state to federal courts after *Twombly* and *Iqbal* and the effect was not more pronounced in notice pleading states compared to fact pleading states."[15]

Additionally, a few scholars have considered selection and dismissal rates. For example, due to concerns about selection bias, Hubbard (2013*b*) looked at cases where a 12(b)(6) motion was filed before *Twombly* was handed down but the court did not rule on the motion until after the announcement. Hubbard (2013*b*) did not find a significant difference in the dismissals either in overall dismissal rates based on administrative data or a data set based on cases reported on Westlaw. Unfortunately, the administrative data only covers cases where the entire case was dismissed due to a "Judgment on Motion Before Trial" (Hubbard, 2013*b*). These figures also include cases disposed of by summary judgment and potentially other types of motions to dismiss (Hubbard, 2013*b*). In an attempt to avoid potential problems, Hubbard (2013*b*) only considered cases pending between 45 and 225 days for which the prevailing party was the defendant or unknown. I am aware of no theoretical or empirical evidence that such restrictions would cleanly identify Rule 12(b)(6) motions. In Hubbard (2013*c*), the analysis was extended to *Iqbal* decision using only updated administrative data. He did not find significant differences in either study. Despite his very principled and clever research design, the results may not be reliable. The failure to find an effect for *Twombly* may

[15]The inverse nature of change in incentives for plaintiffs and defendants likely explains the fact that a change in where plaintiffs are filing has not been detected: in diversity cases, the plaintiff can only maintain the lawsuit in state court if the defendant does not remove the case. The very cases where a plaintiff would want to be in state court rather than federal court are the same cases in which the defendant is highly motivate to litigate the case in federal court. Because the defendant can force the suit into federal court, the anticipated payoff to a plaintiff for initially filing in state court is very low, if not negative due to added complexity resulting from removal.

have been due to uncertainty in the legal community regarding whether the standard was broadly applicable. The second study regarding *Iqbal* relies only on very coarse data and a limited conception of what the impact of the plausibility standard could be (only full dismissal). In both studies, Hubbard's null results may be due to the failure to account for the specificity in the petitions and the limited nature of the data sources. Furthermore, as pointed out by Engstrom (2013), Hubbard's study does not and can not address any chilling effect the cases may have had.

Additionally, Gelbach offered a conceptual model of litigant behavior to help account for the types of selection bias scholars anticipate exist (Gelbach, 2012*b*). He then used this conceptual model to estimate the lower bound of negatively affected claims due to the change in the pleading standard based on data from Cecil, Cort, Williams and Bataillon (2011). Gelbach (2012*b*) calculated the lower bounds of negatively affected cases using this dismissal data in conjunction with rulings data; he also based his estimates of the standard errors of the lower bounds based on the assumption that the two data sets are independent (Gelbach, 2012*a*). His results indicated that the change in pleading standards had a significant affect on plaintiffs. There have been, however, challenges to the results (*see, e.g.,* Engstrom, 2013). Some have expressed concern that the motions and orders data should not be used together because they do not represent the same cohort of cases (Engstrom, 2013; Gelbach, 2012*b*). Gelbach (2012*b*) has generally dismissed these concerns; he assumes that the data sets are independent of each other and that using them together will not bias his results despite the concerns (Gelbach, 2012*b*). There is evidence that such assumptions may not be warranted (Hazelton, 2014)

There are some other concerns regarding the Gelbach (2012*b*) study. Unfortunately, the FJC data has been recently discovered to include cases from different relevant periods - specifically it includes cases filed before and after the *Iqbal* decision was handed down but were decided after (Engstrom, 2013).[16][17] Additionally, Gelbach's results may misstate the lower bounds to the extent that there has been instability or growth in the underlying types of cases.

Other research targeted more specifically targeted at the pleading behavior, however, indicates

[16]This is of course a complicating factor because scholars anticipate and my study shows that litigants appear to have adapted to the decision.

[17]Engstrom (2013) also finds that when one uses data regarding entire cases, as opposed to specific claims, within the Gelbach (2012*b*) model that the estimates are generally much lower and in one instance (employment discrimination cases) the effect is no longer significant. As Engstrom (2013) notes, there is debate and many open questions as to the appropriate unit of analysis for considering dismissals - claims vs. cases (*see also, e.g.,* Dodson, 2012).

that the decisions had a significant impact. In one survey in which attorneys practicing in the area of employment law were asked about the influence of the decisions on their pleading practices, seventy percent of attorneys reported that the decisions had influenced how they structured complaints and ninety-four percent of those respondents stated that they had changed approaches to include more factual allegations (Hamburg and Koski, 2010; Lee and Willging, 2010*a*). Overall, federal judges and attorneys practicing in federal court whom I interviewed report differences in the level of specificity seen in complaints before and after the decisions (Hazelton, 2014). Furthermore, Boyd et al. (2013) offer one means of measuring the differences in complaints before and after *Twombly* - they consider the number of distinct causes of action using topic modeling. They find some evidence that plaintiffs asserted fewer causes of action after *Twombly*, though they caution that the results may not be reliable because they used a non-random sample. This study helps further our understanding of the decisions in a way the other studies do not (Engstrom, 2013). No known attempt has been made to investigate these dismissals in light of differences in the specificity of complaints.[18] Further consideration of selection is warranted; in the case of a change in pleading standards we must consider how incentives regarding pleading may have changed and what effect we would expect. We need to consider how the pleadings themselves have changed. Ignoring the content of the pleadings could potentially obscure the true effect of the decisions.

While the task of measuring specificity is a difficult one, the potential benefits of developing such a measure are vast. Such a measure would help us understand the extent to which litigants have altered their behavior in light of the decisions. It may be that the rulings encouraged litigants to be more specific in their pleadings, leaving only the weakest cases vulnerable to dismissal. Or, the change may have dissuaded litigants from filing if they could not state their claims with specificity.[19] Either effect of this change in law, or a combination thereof, could be very difficult to detect if we fail

[18]Michalski and Wood (2014) investigated the impact of *Twombly* and *Iqbal* on pleadings in the states by comparing various litigant behaviors in Nebraska, which adopted the plausibility standard, with other states that did not. Among their analyses, Michalski and Wood (2014) considered if the adoption of the higher standard resulted in changes in various types of torts-based complaints in regards to length, number of claims, or amendments. They did not find significant differences. The independence of state legal systems from the federal system, even where they borrow from the federal standards, in addition to important institutional differences, such as judicial selection and hierarchy, means that state systems do not provide a good proxy for the federal system in terms of considering changes in pleading standards. Furthermore, Michalski and Wood (2014) limit their investigation of complaints to a few blunt measure that do not isolate factual allegations within the complaints.

[19]Though the available empirical evidence indicates that changes in the way in which claims are stated, as opposed to filings, represent the bulk of any effect (Hamburg and Koski, 2010; Lee and Willging, 2010*a*).

to consider the actual pleadings. One of the major concerns regarding the existing empirical research regarding the impact of *Twombly* and *Iqbal* is that complaints likely vary in nature before and after the decisions in ways that are not captured by any covariate.[20] A measure of specificity would also allow us one means of comparing rulings before and after the decisions even where selection bias may have changed the mix of complaints. It is with these goals in mind that I developed a measure of specificity.

Hypotheses

I theorize that litigants, guided by their attorneys, began drafting and filing more detailed complaints in light of the higher standard defined by *Twombly* and *Iqbal*. This increase in specificity was a result of the anticipated costs of broadness. These costs include: having to defend against a motion to dismiss for failure to state a claim, which includes the loss of valuable time to draft responses and amend petitions and to prepare for and carry out hearings; the time and fees associated with redrafting and refiling the petition if it were dismissed with leave to refile; and, finally, the rare chance that a petition could be dismissed without leave to amend and the party would face either having to abandon the cause or take on the costs of appeals (*see, e. g.* Hamburg and Koski, 2010; Lee and Willging, 2010*a*).[21]

I anticipate that overall the level of specificity in complaints rose after each of the decisions increased the likelihood that a stricter pleading standard would be applied by a judge. Furthermore, I hypothesize that the most significant increase occurred after *Iqbal* because that decision quelled most doubts as to the general applicability of the plausibility standard. Whereas, in the period between *Twombly* and *Iqbal* there was still a fair amount of uncertainty as to the applicability of the new standards to different types of cases. (Furthermore, even when the plausibility standard was applied during this period, it was often done so in a chaotic fashion.) Additionally, I anticipate

[20]This is not the only concern. Gelbach is also concerned with the affect on pre-litigation settlement. This measure and my analyses do not address those issues. Thus, my work does not attempt to capture all the ways that *Twombly* and *Iqbal* have affected litigants. Rather, I attempt to provide a new means of considering the influence on filings and dismissals.

[21]In practice, the latter two events, a petition being dismissed with or without leave to amend, generally occur only after opportunities to amend. Furthermore, a dismissal without leave to amend is very rare. Regardless, these are long term costs that the litigants would consider, though the litigants likely do not weigh these possibilities very heavily. It should be noted, however, that in the periods directly after the decisions, litigants had greater uncertainty about the possibility of either of those outcomes.

that this increase in specific allegations will be more pronounced within issue areas that are not considered hard to plead (such as tort cases) as compared to those types of cases in which pleading is inherently more challenging (such as civil rights cases), as additional facts are more readily available to complainants in such easy to plead cases.

4 Methods

Text analytical tools are offering new avenues of research in the social sciences (Grimmer and Stewart, 2013; Hopkins and King, 2010). In my project,[22] I use natural language processing (NLP) tools to consider the specificity of the complaints with the ultimate goal of including these measures in analyses of the effect of the decisions on the dismissal rate. In the following subsections, I detail the data that I collected, the classifier that I developed, and my results.

4.1 Data

The unit of analysis is the factual allegations section in complaints filed in federal district courts by attorneys. The factual allegations are from complaints filed six months before and after each decision in non-ADA[23] civil rights cases (which are hard to plead) and torts cases involving injury (which are relatively easy to plead) from eleven federal district courts. I randomly sampled one district court from each geographic circuit from the relevant district courts from which I obtained exemptions from fees.[24] My sampling resulted in the selection of the following courts:
Sampling from each court was carried out via the sampling scheme detailed in Appendix 3.5.2.

My choice to focus on distinct causes of action enables me to narrow the moving parts for these analyses and avoid common types of omitted variable bias (*see* Friedman and Martin, 2011). I chose civil rights cases since much of the intellectual debate regarding the effect of the decisions has centered on these types of cases. I also looked at torts cases involving injuries because they are an area for which scholars have not voiced concerns regarding a disproportionate impact from

[22]This project builds on a previous pilot study. An outline of that study can be found at: `https://www.elssociety.org/faculty/programs/colloquium/politicaleconomy`.

[23]I, like Gelbach (2012*b*), exclude ADA cases due to the liberalization that occurred in 2008. Such changes could bias my results.

[24]A list of district courts from which I had exemptions may be found in Appendix 3.5.1.

Table 2: Federal District Courts in Sample

Circuit	Court
1	District of Rhode Island
2	Western District of New York
3	District of New Jersey
4	Southern District of West Virginia
5	Western District of Texas
6	Western District of Kentucky
7	Southern District of Illinois
8	District of South Dakota
9	Eastern District of California
10	District of Colorado
11	Southern District of Alabama

the decisions, and, thus, allow for comparison. Furthermore, civil rights and torts are areas of law where heightened pleading standards generally do not apply.[25]

Additionally, only allegations from original complaints were considered. These original complaints represent the litigants' initial statement of their claims. They encapsulate the litigant's first calculated statement aimed at leaving as many claims open as possible, while still meeting a minimum threshold for those claims. It is also the statement they make before they know which judge the case has been assigned to and what the defendant has stated in its answer, both of which could influence the content. Therefore, it is the appropriate group of complaints to consider.

I also only considered complaints that were initially filed in federal court. Cases can be filed by the plaintiff in federal court or removed by a defendant from a state court to the federal court when a ground for such removal exists. Complaints initially filed in state court were outside the scope of my consideration as they were drafted to comply with state, rather than federal, rules of civil procedure. Furthermore, such complaints are not readily accessible.

Using the Search Dockets functions in the Bloomberg Law database,[26] I then identified the population of civil rights and relevant torts cases filed in each district between six months before and after *Twombly* and *Iqbal* respectively. To identify civil rights cases, I narrowed my search to

[25]Some areas, such as fraud, have always required more detailed allegations (see FED. R. CIV. P. 9).

[26]Bloomberg Law is a legal research system akin to Westlaw or LEXIS. In addition to the legal research capabilities of these other research systems, Bloomberg Law has integrated the PACER system into its own system. This allows users much greater ability to search through these entries.

those cases assigned one of the following Nature of Suit codes[27]:

440 Other Civil Rights
441 Voting
442 Employment
443 Housing/Accommodations
444 Welfare
448 Education

Likewise, torts cases involving injury were identified using the following codes:

310 Airplane
315 Airplane Product Liability
320 Assault
330 Federal Employers Liability
340 Marine
345 Marine Product Liability
350 Personal Injury: Motor Vehicle
355 Motor Vehicle Product Liability
360 Other
362 Personal Injury: Medical Malpractice
365 Product Liability
367 Health Care/Pharmaceutical Personal Injury/Product Liability
368 Asbestos

Using the CM/ECF systems, the original complaints in the actions were identified from the docket sheets. Each docket sheet was also reviewed to determine if the matter had been filed pro se or removed from state court. If the docket sheet did not indicate that the matter was pro se or a removed case, the complaint was reviewed to ensure that it was eligible. If so, the original complaint was downloaded. The complaints were converted to plain text format (.txt).[28]

The analyses reported in the next section were run on the factual allegations. This excludes the text of the caption, jurisdictional and venue statements, party information, prayer for relief, and signature block. Luckily, most complaints contain fairly consistent headings that allowed the process of trimming the complaints to be mostly automated. Where automated tagging was not possible,

[27]There are well-known limitations associated with using the Nature of Suit codes (Boyd et al., 2013). It remains, however, the only feasible means of a priori identifying a type of case within the federal filing system.

[28]Conversion of the complaints to .txt was a multi-staged process. First, many of the complaints were in .pl format and had to be converted to .pdf via Adobe Acrobat Pro X. From there the documents were converted to Word documents again using Adobe Acrobat. This was because after quite a bit of experimentation it was discovered that this step resulted in better conversions. The documents were then opened in Word and converted to text documents with special care taken to preserve the lines.

research assistants tagged the factual allegations by hand and made other necessary changes[29]. Additionally, some documents incorporated exhibits or other complaints by reference or attachment. The text of those documents is not included.

4.2 Classifier

For this project, I developed a logistic regression classifier to measure the specificity of the factual allegations in the complaints. A classifier is simply a model that helps one classify text into categories (Bird, Klein and Loper, 2009). In my case, I used logistic regression to build the model. My classifier is a supervised model that is trained on a set of hand-coded complaints. A research team, consisting of myself and law student research assistants, classified the factual allegations of twenty percent of civil rights and torts-injury cases we sampled as to specificity, based on the scale in Appendix 3.5.3 and truncated to a binary format. The hand-coded specificity variable was the dependent variable in a logistic regression, with features of the texts, described below, as independent variables. The coefficient and covariance estimates from the logistic regression were used to generate predicted probabilities regarding specificity of the complaints that were not coded. These predicted probabilities serve as the measure of specificity (*see generally* Louis and Nenkova, 2011; Genkin, Lewis and Madigan, 2007; Hopkins and King, 2010).

4.2.1 Elements of the Classifier

This classifier is based on one developed by Louis and Nenkova (2011) to consider the specificity of sentences in news summaries.[30] I used the the Louis and Nenkova (2011) classifier as a basis for

[29]For example, some attorneys list a separate prayer for relief after each cause of action. In such cases, the separate prayers were stripped from the text to allow for consistent information to be compared.

[30]Many components of my classifier are the same as Louis and Nenkova's classifier. There are, however, some differences. First, my unit of analysis is the factual allegations section of the complaint rather than a sentence in a news summary. I also consider two additional types of language that I believe are relevant in pleadings: causation and certainty language. A count for the number of claims is also included (Boyd et al., 2013). Additionally, I use the target words for negative and positive emotions in the Linguistic Inquiry and Word Count (LIWC), a commercially available text analysis program, to help identify polar words.[31] Louis and Nenkova (2011) also use measures based on the General Inquirer (Stone, Dunphy and Smith, 1966) and MPQA Subjectivity Lexicon (Wilson, Wiebe and Hoffmann, 2009). The General Inquirer (Stone, Dunphy and Smith, 1966) is currently unavailable. I have made several inquiries regarding obtaining access, but have been unable to do so. The MPQA Subjectivity Lexicon (Wilson, Wiebe and Hoffmann, 2009), on the other hand, is accessible and available for further development of the classifier. Furthermore, I will only use the WordNet scores for nouns, not nouns and verbs, as these scores are most useful for nouns (Hazelton, Hinkle and Spriggs, 2010). I do not include all measures of NE+CS. Specifically, dollar signs and plural nouns are not obviously related to specificity in complaints due to the nature of legal drafting. Finally, they use other syntax

my classifier as they have a proven track record in distinguishing between general and specific text. The features of my adapted classifier are:

Word Count

Length generally indicates specificity (Huber and Shipan, 2002; Louis and Nenkova, 2011). In fact, the potential relationship between the length of complaints and the specificity demanded by *Twombly* and *Iqbal* has been identified by judges and attorneys. For example, Judge Posner recently noted: "Since a plaintiff must now show plausibility, complaints are likely to be longer – and legitimately so – than before *Twombly* and *Iqbal*."[32] A complaint littered with vague claims, however, may be long due to the number of causes of action (Boyd et al., 2013). Therefore, I included a measure for the length of the complaint and the length divided by the number of claims. The word count was obtained via the Linguistic Inquiry and Word Count (LIWC), a commercially available text analysis program. The number of claims was hand coded by research assistants.

Polarity

Louis and Nenkova (2011) find that non-neutral words, such as negative and positive words, are associated with general statements. This is not surprising as such language is generally associated with subjective rather than objective description. To capture polarity, I measured the number of these polar words normalized by word count based on LIWC target words for negative and positive emotion (Pennebaker et al., 2007).

Word Specificity

In order to capture the specificity of the individual words, I utilized five measures:

WordNet Depth

The first measure is based on the publicly available content-analytic algorithm WordNet. The WordNet lexical database provides groups of words (synsets) that share a common meaning (i.e., synonyms) (Miller, 1995). These synsets are linked to other synsets through semantic relationships. All synsets are ultimately linked to the root synset, which is the word with the broadest meaning within the group. Thus, the distance of a word from the root synset provides a measure of specificity: the closer a word is to the root synset, the broader the meaning (*see* Hazelton, Hinkle and Spriggs,

features that apply to news summaries that I do not believe carry over to legal writing. Therefore, I do not use those measures. Finally, Louis and Nenkova (2011) include language models based on unigrams, bigrams, and trigrams, which I do not, due to the unavailability of corpus of relevant text upon which to build the dictionary.

[32] *Kadamovas v. Stevens*, No. 12-2669 (7th Cir. 2013).

2010; Louis and Nenkova, 2011).[33] Using the algorithm via Python, I measured the longest distances between each recognized noun in the complaint to a root synset. Then I calculated the mean distances for each factual allegation. This measure indicates the average specificity of the words used in the complaint.

Inverse Document Frequency

Additionally, the classifier includes measures based on inverse document frequencies ("IDF") to capture how many complaints the word appears in, out of all relevant complaints (Louis and Nenkova, 2011, citing Joho and Sanderson, 2007). I measured the IDF of the words in complaints by each cause of action using the NLTK Toolkit in Python. The IDF for the 50th percentile and 95th percentile of the distributions are used in the classifier.[34] This allowed me to capture how rare the median words are in addition to the rarest set of the words. The more unusual the words, the more likely the document is specific.

Specific Types of Words

Finally, a normalized count of the appearance of numbers in the text[35] and a count of proper nouns[36] are also included in the measure to capture specificity. The use of both numbers and proper nouns indicate detailed descriptions. The numbers measure was calculated via LIWC. Proper nouns were identified using logical statements in Python.

Causation

Establishing how a defendant caused harm to the plaintiff is a defining feature of civil claims in the American legal system (Hart and Honoré, 1959). Thus, the percentage of causation words found in factual allegations is an important marker of a specific claim. The measure is based on the LIWC dictionary for causation language. To the extent that litigants are describing casual mechanisms, they should be more likely to be specific in their allegations.

Certainty

[33]Like Hazelton, Hinkle and Spriggs (2010) and Louis and Nenkova (2011), I use the length of the distance of the words as an indication of the rarity of the words. Unlike Hazelton, Hinkle and Spriggs (2010), but like Louis and Nenkova (2011), I do not include the standard deviation of the nouns. The goal in Hazelton, Hinkle and Spriggs (2010) was to measure the breadth of a legal rule. For this purpose, it made sense to include the standard deviation. In considering specificity, however, there is not a theoretical reason to include it.

[34]There is insufficient variation in the 5th percentile to warrant its inclusion.

[35]The measure is based on those numbers that are spelled out in the text. Including numbers represented by numerals is a more complicated process due to the inclusion of docket numbers, paragraph numbers, etc.

[36]Proper nouns are identified as words tagged as nouns that are capitalized and not at the beginning of a sentence.

Additionally, the new pleading standard was crafted to deal with speculative claims. Speculative claims tend to be housed in more tentative language to avoid potential sanctions. Thus, the percentage of language reflecting certainty is potentially an important measure of the type of specificity the Supreme Court sought. This measure was calculated via LIWC.

Number of Claims

One way of conceptualizing complaint specificity is the number of causes of action (Boyd et al., 2013). When a plaintiff is pleading broadly, he will often use a shotgun effect - pleading many claims that do little more than restate the elements (*See Fowler v. UPMC Shadyside*, 578 F.3d 203, 210-11 (3rd Cir. 2009)). More specific complaints should contain fewer causes of action. Therefore, I include the count of claims in the classifier. Where the drafting attorney included headers identifying claims, the count was based on those demarcations. Where the attorney did not identify separate claims, the research team read the claims and counted the distinct claims based on common elements of a cause of action.

5 Analyses & Results

To consider the affect of the decisions on complaint specificity, I undertook three types of analyses. First, I simply considered how specificity varied among the periods in the hand-coded complaints. Next, I built the logistic regression classifier and tested its validity. Finally, I used the estimates from the classifier to consider specificity over the periods, which allows for a much larger number of observations.

Subjective Coding

First, I considered only those complaints that were hand coded (n=552.).[37] I estimated the differences in specificity over the four periods using a logit with a binary indicator of specificity.[38]

[37]The distribution of complaints by period was: pre-*Twombly* - 113; post-*Twombly* - 122; pre-*Iqbal* - 149; and post-*Iqbal* - 168.

[38]The binary indicator was used, in part, due to limited number of hand-coded cases available with which to estimate the classifier. There were not enough observations for some coding levels to estimate the model. The dependent variable was coded as specific if specificity was coded as a 6 or above based on the coding instructions that were provided and for purposes of symmetry. This truncated version of the coding is simple and, thus, least susceptible to small variances in coding. The model based on the hand-coded observations reported in Table 3.1 was also run as an ordinal logit with the ten-point coding (reported in Appendix 3.5.5) and all the results were consistent. The major distinction is that the differences between the post-*Twombly* and post-*Iqbal* periods is statistically significant when the 10-point scale is used.

I analyzed the extent to which there is evidence that the specificity of the complaints varied in relation to the Court's decisions. The main independent variable of interest is the period in which the complaint was filed: pre-*Twombly* (the six months before the opinion); post-*Twombly* (the six months after the opinion); pre-*Iqbal* (the six months before the opinion); and post-*Iqbal* (the six month after the opinion). I ran analyses with controls for issue area, including interactions with issue area, as there is likely to be variation by area in the detail required to state a claim even under the most lenient standards. This is particularly important in light of the theory that the change in the pleading standard matters more in some issue areas, such as civil rights, than others. My interviews with judges and attorneys indicated that practices vary across the federal judiciary and that local legal culture, such as state court practices, had an influence on judges and attorneys. Thus, fixed effects for courts were included in order to deal with variation in circuit precedents, as well as local rules and cultures.

Litigants do not know the identity of the judge they will be in front of before they file their complaints, but they do have information as to the general ideological make-up of the district. As we have evidence that ideology influences judges' decisions (*see, e.g.,* Carp et al., 1992; Rowland and Carp, 1996), I assume that the ideology of a district influences the extent to which litigants feel the need to justify their claims and protect themselves from dismissal under any standard. Specifically, I anticipate that attorneys will file more specific complaints when they are in front of conservative judges, who are generally considered to be disposed towards defendants and their insurers, who tend to be businesses (*see, e.g.,* Carp et al., 1992; Spaeth et al., 2011). In federal court, however, plaintiffs generally do not know the identity of the judge they will be in front of before they file due to random assignment (Federal Judicial Center, 2014). Thus, I calculated and included the median Judicial Common Space (JCS) score[39] for Article III judges in the district at the time the complaint was filed. For the first set of models, the baseline category for the periods was the post-*Iqbal* period

[39]Like Boyd (2010*b*), I calculated JCS scores for district judges based on the approach created by Giles, Hettinger and Peppers (2001) and extended by Epstein et al. (2007). The underlying data for these scores was obtained from *History of the Federal Judiciary* (2014) and Poole (2012). The methodology used by Poole (2012) to create the legislator common space scores is set forth in Poole (1998). The JCS score takes into account the political conditions surrounding the nomination of the judge. If the senators in the state the judge was being appointed in are of the same party as the nominating president, it is assumed that their preferences governed the appointment and the mean common space scores for the senators was used. If only one senator was of the same party as the president, that senator's common space score was assigned to the judge. If no senators are from the same party, then the President's score became the judge's score. JCS scores can range from -1 (the most liberal) to 1 (the most conservative).

and for the courts it was the Southern District of Alabama. The results are found in Table 3.2,[40] along with predicted probabilities based on simulations in Tables 3.3 and 3.4. [41] The differences are illustrated in Figure 3.1.

[40] All directional hypotheses are tested for significance at the .05, one-tailed level. The fixed effects for courts are assessed at the .05, two-tailed level, as I have no hypotheses as to their direction.

[41] I take advantage of simulation to illustrate the impact of interactions with the other variables held at central values (Imai, King and Lau, 2008; King, Tomz and Wittenberg, 2000; Zelner, 2009). The simulation is based on 10,000 draws from a multi-variate normal distribution defined by the point estimates and variance-covariance matrix of the parameters. The point estimates are the median of the distribution, with confidence intervals defined by the .05 and .95 quantiles of the distribution.

Table 3: Logit: Hand-Coded

Variable	**Coefficient** (Std. Error)	**p-value**
Pre-*Twombly* (Torts)	-1.14**	0.01
	(0.50)	
Post-*Twombly* (Torts)	-0.73	0.08
	(0.51)	
Pre-*Iqbal* (Torts)	-0.89**	0.01
	(0.40)	
Civil Rights	-0.64	0.06
	(0.40)	
Pre-*Twombly* × Civil Rights	1.59	0.99
	(0.67)	
Post-*Twombly* × Civil Rights	0.52	0.78
	(0.65)	
Pre-*Iqbal* × Civil Rights	1.16	0.98
	(0.57)	
California Eastern	1.81*	0.01
	(0.70)	
Colorado	-0.10	0.40
	(0.40)	
Illinois Southern	-3.92*	0.03
	(1.97)	
Kentucky Western	-4.91*	0.00
	(1.72)	
New Jersey	1.40*	0.03
	(0.72)	
New York Western	-1.17	0.06
	(0.74)	
Rhode Island	-2.29	0.07
	(1.54)	
South Dakota	-3.22	0.04
	(1.84)	
Texas Western	-0.84*	0.02
	(0.41)	
West Virginia Southern	0.52	0.17
	(0.54)	
District Median Ideology	-5.59	0.99
	(2.27)	
Intercept	3.30*	0.00
	(1.13)	

*Indicates significant at the .05 two-tailed level; **Indicates significant at the .05, one-tailed level.

Table 4: Simulation: Pre-*Twombly* vs. Post-*Iqbal*, Civil Rights v. Torts, Hand Coded

	Civil Rights	Torts	Differences
Pre-*Twombly*	.63 [.45, .8]	.40 [.23, .6]	.23** [.02, .42]
Post-*Iqbal*	.52 [.36, .68]	.68 [.52, .8]	-.15 [-.30, .01]
Differences	.11 [-.07, .27]	-.27** [-.44, -.08]	.38** [.12, .62]

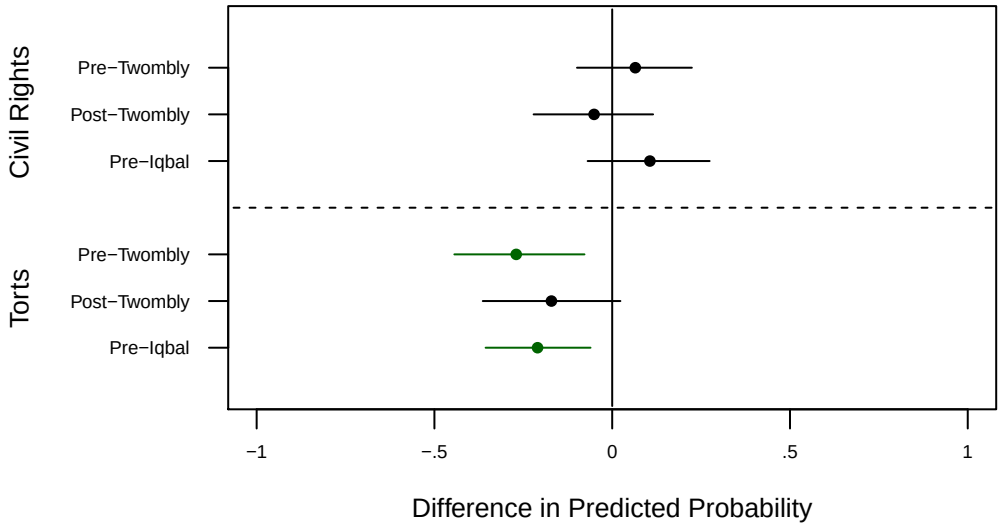
**Indicates significant at the .05, one-tailed level.

Table 5: Simulation: Pre-*Iqbal* vs. Post-*Iqbal*, Civil Rights v. Torts, Hand Coded

	Civil Rights	Torts	Differences
Pre-*Iqbal*	.59 [.43, .73]	.46 [.31, .62]	.13 [-.03, .28]
Post-*Iqbal*	.52 [.26, .61]	.68 [.56, .88]	-.15 [-.55, -.06]
Differences	.07 [-.1, .22]	-.21** [-.36, -.06]	.27** [.05, .5]

**Indicates significant at the .10, two-tailed level.

Figure 3: Differences in Probability of Specific Complaint, Hand Coded



The results indicate that the level of specificity seen in complaints within a district was significantly higher in torts cases in the post-*Iqbal* period than in the pre-*Twombly* and pre-*Iqbal* periods. Whereas for civil rights cases, the level of specificity does not significantly vary over the periods. Simulations, reported in Tables 3.3 and 3.4, indicate that the differences between pre-*Twombly* and post-*Iqbal* periods and the pre-*Iqbal* and post-*Iqbal* periods across the models for torts and civil rights are statistically significant from each other. These results indicate that complaints in the post-*Iqbal* period were more specific than in the periods immediately before either of the decisions. The difference between the post-*Twombly* and post-*Iqbal* periods is not significant, but the estimate is in the anticipated direction. We do see some significant fixed effects by court, which is unsurprising given reports of variation. The influence of median district ideology within the districts is in the opposite direction than anticipated: the more conservative the median judge in the district, the less specific the complaint is while holding period and court constant. These results are encouraging and interesting, but ultimately rest on relatively few observations given the fixed effects by period and court. The classifier will allow us to expand the number of available observations without having to hand code thousands of complaints.

Classifier

Next, I turn to the fitting of the classifier and its use. The model was estimated using two-thirds of the hand-coded data (n=362) that was randomly selected. The results are displayed in Table 4:

Table 6: Logit: Classifier

Variable	**Coefficient** (Std. Error)	**p-value**
Word Count	0.002**	0.001
	(0.001)	
Positive Emotion	0.210	0.106
	(0.168)	
Negative Emotion	0.043	0.329
	(0.097)	
Word Count by Claim	0.001	0.068
	(0.001)	
WordNet Depth	1.065**	0.011
	(0.466)	
Inverse Document Frequency 50%	2.354	0.113
	(1.945)	
Inverse Document Frequency 95%	-0.774	0.970
	(0.357)	
Numerals	0.136	0.148
	(0.130)	
Proper Nouns	-0.002	0.772
	(0.003)	
Causation	0.171	0.150
	(0.165)	
Certainty	-0.011	0.485
	(0.296)	
Claims	-0.052	0.340
	(0.126)	
Intercept	-10.611**	0.002
	(3.683)	

**Indicates significant at the .05, one-tailed level.

Ultimately, the role of the classifier is to create accurate classifications, as opposed to confirming or denying hypotheses regarding the use of language. Regardless, the estimates are interesting. The roles of Word Count and WordNet Depth are significant and operated as anticipated. Inverse Document Frequency for the 95% of the complaint operated in the opposite way than anticipated: the rarer these words are, the less likely the complaint is to be specific holding all other variable constant. This unexpected estimate is likely the results of the inclusion of the Inverse Document Frequency for the 50% of the complaint. Holding the rarity of the words in the middle of the distributions constant, those complaints with exceedingly rare words near the tail tend to be less specific.

The remaining one-third of the data (n=190) was held in reserve to test and validate the model. Comparing the fitted values for the unseen data to the hand-coded values reveals a recall of a little over 83%. That is, around 83% of the observations were predicted correctly. This represents an approximately 60% proportional reduction in error. The classification rates over the periods and discussion of those patterns is provided in Appendix 3.5.6.

Furthermore the classifier produced results that are facially valid. For example, the classifier identified the following set of factual allegations as being very likely to be broad: "Each of the Defendants owed one or more common law duties of care to Plaintiffs. Defendants breached those duties, proximately causing damages to Plaintiffs." These allegations are a textbook example of doing more than stating the elements of a cause. On the other end of the spectrum, the classifier identified the complaint that following extract is from as being very likely to be specific:

> On March 9 and March 10, 2008, and at all times material, the Defendant, the Office of the Sheriff of Crawford County, owned, operated, and maintained the Crawford County Jail, for purposes of housing inmates and pretrial detainees, and, as such, was acting under the color of State Law. On March 9 and March 10, 2008, Plaintiffs' decedent, Corbin Turner, was a detainee in the care, custody, and control of the Office of the Sheriff of Crawford County. On March 9 and March 10, 2008, and at all time material, the Office of the Sheriff of Crawford County, by and through its agents and employees, knew that Corbin Turner was a detainee who was under the influence of alcohol and drugs, and was suffering from acute physical problems. [...]
>
> On March 9 and March 10, 2008, notwithstanding the duties and obligations described above, the Defendant, Office of the Sheriff of Crawford County, by and through its agents and employees, committed one or more of the following acts of utter indifference or conscious disregard: A. Had no policies or procedures in place to ensure that Corbin Turner was closely monitored for signs of alcohol or drug overdose; or B. Failed to provide

> or intentionally deprived Mr. Turner of the medicine that he needed upon his arrival when it first knew, or should have known, that he had ingested alcohol and drugs; or C. Failed to provide or intentionally deprive Mr. Turner of necessary medical attention throughout his incarceration when it knew, or should have known, that he was suffering from cocaine intoxication; [...]

Clearly these allegations provide much richer factual allegations regarding the claims being presented.

Classified Observations

Next, I used a binary variable[42] based on the fitted values from the classifier to consider specificity over the periods considering the period, issue area, court, and the median JCS score for the district. The analysis was run on 2,629 observations (civil rights complaints accounted for 1,348 of the observations; torts cases accounted for 1,281 observations).[43] Table 3.6 contains the results, Tables 3.7 through 3.9 provided the simulated predicted probabilities, and Figure 3.2 illustrates the differences in predicted probabilities:

[42]The variable is coded as 1 where the predicted probability is greater than .5, it is coded 0 otherwise.

[43]The distribution of complaints by period was: pre-*Twombly* - 542; post-*Twombly* - 576; pre-*Iqbal* - 712; and post-*Iqbal* - 799.

Table 7: Logit: Classified

Variable	**Coefficient** (Std. Error)	**p-value**
Pre-*Twombly* (Torts)	-0.42**	0.02
	(0.21)	
Post-*Twombly* (Torts)	-0.53**	0.01
	(0.21)	
Pre-*Iqbal* (Torts)	-0.51**	0.01
	(0.18)	
Civil Rights	-0.20	0.14
	(0.18)	
Pre-*Twombly* × Civil Rights	0.36	0.90
	(0.29)	
Post-*Twombly* × Civil Rights	0.54	0.97
	(0.28)	
Pre-*Iqbal* × Civil Rights	0.46	0.96
	(0.26)	
California Eastern	0.85*	0.00
	(0.22)	
Colorado	0.60*	0.00
	(0.19)	
Illinois Southern	2.26*	0.00
	(0.60)	
Kentucky Western	0.88	0.10
	(0.54)	
New Jersey	-0.01	0.96
	(0.26)	
New York Western	1.42*	0.00
	(0.28)	
Rhode Island	2.63*	0.00
	(0.53)	
South Dakota	0.66	0.26
	(0.58)	
Texas Western	0.19	0.31
	(0.19)	
West Virginia Southern	-0.73*	0.02
	(0.30)	
District Median Ideology	1.57*	0.02
	(0.68)	
Intercept	-0.69*	0.05
	(0.35)	

*Indicates significant at the .05 two-tailed level; **Indicates significant at the .05, one-tailed level.

Table 8: Simulation: Pre-*Twombly* vs. Post-*Iqbal*, Civil Rights v. Torts, Classified

	Civil Rights	Torts	Differences
Pre-*Twombly*	.44 [.32, .52]	.40 [.32,.5]	.04 [-.05,.13]
Post-*Iqbal*	.46 [.38, .54]	.51 [.44, .58]	-.05 [-.13, .03]
Differences	-.01 [-.09, .06]	-.10** [-.23, -.04]	.09 [-.03, .20]

**Indicates significant at the .05, one-tailed level.

Table 9: Simulation: Post-*Twombly* vs. Post-*Iqbal*, Civil Rights v. Torts, Classified

	Civil Rights	Torts	Differences
Post-*Twombly*	.46 [.38, .54]	.38 [.3, .47]	.08 [-.01,.16]
Post-*Iqbal*	.46 [.38, .54]	.51 [.44, .58]	-.05 [-.13, .03]
Differences	-.00 [-.07, .07]	-.13** [-.21, -.05]	-.13** [-.24, -.02]

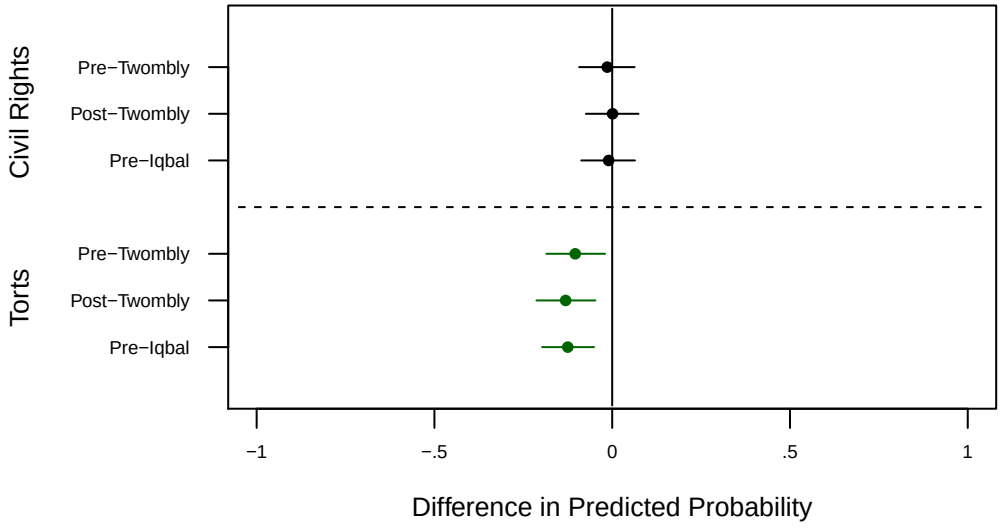
**Indicates significant at the .05, one-tailed level.

Table 10: Simulation: Pre-*Iqbal* vs. Post-*Iqbal*, Civil Rights v. Torts, Classified

	Civil Rights	Torts	Differences
Pre-*Iqbal*	.45 [.37, .53]	.38 [.31, .46]	.06 [-.01,.14]
Post-*Iqbal*	.46 [.38, .54]	.51 [.44, .58]	-.05 [-.13, .03]
Differences	-.01 [-.09, .06]	-.13** [-.2, -.05]	-.11** [-.22, -.01]

**Indicates significant at the .05, one-tailed level.

Figure 4: Differences in Probability of Specific Complaint, Classified



A comparison of the estimates over the time periods reveals some similarities and differences with the earlier analyses.[44] [45] In both the hand-coded and classified analyses, the results indicate that the level of specificity seen in complaints was significantly higher in torts cases in the post-*Iqbal* period than in the pre-*Twombly*. Whereas for civil rights cases, the level of specificity does not vary significantly over the periods. The differences between the estimates by issue area are not significantly different from each other based on simulations.[46] The differences between the post-*Twombly* and post-*Iqbal* and pre-*Iqbal* and post-*Iqbal* periods for torts cases are also significant. And the differences between torts and civil rights cases between these periods are significant. Overall, there is evidence of a post-*Iqbal* effect, but not so for *Twombly*. This is likely a result of uncertainty surrounding the applicability of the pleading standard after *Twombly*. Thus, there is evidence that *Iqbal* had an impact on the specificity found in torts complaints. Additionally, there is an indication that this effect was significantly different in torts cases than in civil rights cases, as hypothesized. Additionally, the district median ideology has the anticipated effect: where litigants anticipate being in front of a conservative judge, they file more specific complaints. Finally, we again see significant court effects.

6 Discussion

The findings of this project have substantive and methodological implications regarding the impact of *Twombly* and *Iqbal* specifically and the study of legal change generally. I seek to understand the impact of the introduction of the plausibility standard via two landmark Supreme Court decisions. More precisely, the goal of this project is to measure if litigants altered their pleading behavior based on the *Twombly* and *Iqbal* decisions. These results indicate that some plaintiffs, those in torts cases involving injuries, did change their pleading practices. There is not, however, significant evidence of such changes in civil rights cases. Additionally, the differences in the changes in specificity between

[44] A GLM model using the binomial family and logit link with the fitted values as the dependent variables yielded consistent results. Results tables for theses analyses are found in Appendix 3.5.7.

[45] I also specified a regression model with word count as the dependent variable. Results of those analyses are also found in Appendix 3.5.7. For civil rights cases, the differences between post-*Iqbal* and post-*Twombly* are statistically significant. For torts cases, the differences between post-*Iqbal* and all other periods are statistically significant.

[46] The differences between the pre-*Twombly* and post-*Twombly* periods and the post-*Twombly* and pre-*Iqbal* periods are also not significant for torts cases.

civil rights and torts cases are generally statistically significant. These results are consistent with commentators and scholars who have expressed concerns that plaintiffs in some issue areas may be unable to adapt to a higher pleading standard. Finally there is evidence that litigants file more specific complaints where they are likely to be before conservative judges.

While these results are promising, as with any research, limitations should be considered. Though these results indicate change and strategic behavior, the exact nature of this change is unclear. A significant increase in the specificity of the language in the complaints could result from strategic decisions regarding filing or pleading. It could be that the pool of litigants stayed the same after the change but changed the way in which they stated factual allegations or the pool of litigants may have changed after the decision. Likely, both types of behavior took place to some extent and reflect strategic behavior on the part of the litigant. Though the existing evidence, discussed above, indicates that the vast majority of such changes appear to have occurred in how claims are stated, as opposed to if cases are brought at all.

At the very least, these findings call into question the assumption that specificity among complaints was unaltered by the Supreme Court's decisions and that such changes are consistent across issue areas. Additionally, the results indicate that at least in some areas, such as torts cases involving injuries, the majority of existing studies likely underestimate the impact of the decisions. Further consideration of such dismissals in light of the specificity of the complaint, and made possible by the development of the measure and this study, will help shed light on these issues. I am pursuing such inquiries in other research.

The apparent inability of plaintiffs in civil rights cases to increase the level of specificity with which they plead is in keeping with the concerns of many legal scholars. Hard to plead issue areas include core constitutional issues, such as civil rights, and thus, these results indicate that government abuses may go unchecked to the extent that judges are applying a heightened pleading standard due to the inability of litigants to obtain additional facts in the absence of discovery in the course of litigation. While this study provides some evidence that a lack of information keeps civil rights claimants from being able to adapt to the new pleading standard in comparison with torts cases, further research should be done to verify that differences in specificity in complaints in fact are the result of differences in the available information. A more detailed study could be done by looking at the specificity of claims within issue areas and comparing the pleadings with

variables capturing the likelihood that such information is available, such factors include: if the plaintiff inherently was present for the wrongful acts, if the claim pertains to covert acts, etc.

There are other important implications of these findings. The change in specificity found in torts complaints indicates that litigants have understood these decisions to represent a change in the applicable standards for pleadings. Generally, such changes to the Federal Rules of Civil Procedure must be made by Congress, as they are legislative in nature. These findings can help inform the ongoing debate among legal scholars as to whether the rules have been amended in effect and the normative implications of any such amendment.

The potential for strategic litigant behavior must be considered when we seek to understand the impact of legal change and decisions in general. This project provides further evidence that litigants do adapt in light of legal change. Such adaptation means that special care must be taken in considering cases before and after a change in law. This adaptation calls into question earlier empirical work that assumed that the content of complaints remained constant before and after the decisions. This is a common assumption not only in studies of *Twombly* and *Iqbal*, but in studies through political science regarding legal change and judicial impact. We need to use new tools and approaches to help understand selection in the legal system.

These results also help highlight the potential pitfalls in conducting research without special attention to potential variation across issue areas. Though the Rules of Civil Procedure apply to all civil matters, the impact of the same rule can vary across issue areas due to differences in the nature of the claims and the available information. Thus, cross-issue area studies of the impact of *Twombly* and *Iqbal* specifically and judicial impact generally may provide misleading pictures of legal change and judicial impact. Additionally, the presence of differences in specificity that are area specific, calls into question interpretations of prior empirical work in this area.

This research also has implications beyond pleading standards. It touches on how litigants and citizens adapt to changes in law in subtle and complex ways. Furthermore, it relates to greater issues of information sharing and certainty. Moreover, tests regarding the measure of specificity indicate that it is effective in capturing specificity in complaints. This classifier could be used in other studies implicating the specificity in filings. It also could easily be adapted to consider other legal and political texts. For example, with minor adaptations, it could be used to consider the effect of specificity on the use of Supreme Court precedent by the lower courts. Additionally, an

adapted version could be used to consider the specificity of legislation and regulations in considering questions of delegation.

7 Appendix

7.1 Fee Exemptions from Federal District Courts

Table 11: Fee Exemptions from Federal District Courts

1st Circuit	*2nd Circuit*	*3rd Circuit*	*4th Circuit*	*5th Circuit*	*6th Circuit*
D. Me.	D. Conn.	D.N.J.	D. Md.	W.D. La.	E.D. Ky.
D. Mass.	N.D.N.Y.	E.D. Pa.	D.N.C.	S.D. Miss.	W.D. Ky.
D.N.H.	W.D.N.Y.	M.D. Pa.	D.S.C.	E.D. Tex.	E.D. Mich.
D.R.I.	D. Vt.	W.D. Pa.	W.D. Va.	N.D. Tex.	W.D. Mich.
			S.D.W. Va.	W.D. Tex.	N.D. Ohio
					W.D. Tenn.

7th Circuit	*8th Circuit*	*9th Circuit*	*10th Circuit*	*11th Circuit*	*D.C. Circuit*
C.D. Ill.	E.D. Ark.	E.D. Cal.	D. Col.	M.D. Ala.	D.D.C.
S.D. Ill.	N.D. Iowa	N.D. Cal.	D. Kan.	S.D. Ala.	
N.D. Ind.	S.D. Iowa	S.D. Cal.	D.N.M.	M.D. Fla.	
S.D. Ind.	E.D. Mo.	D. Mont.	N.D. Okla.	N.D. Fla.	
W.D. Wis.	D. Neb.	D. Or.	W.D. Okla.	N.D. Ga.	
	D.S.D.	E.D. Wash.	D. Utah		
		W.D. Wash.			

7.2 Sampling

There were a total of 15,329 cases that I identified over the relevant time periods and courts. Due to resource constraints, my goal was to sample approximately 7,665 with the understanding that a significant portion of these complaints would be ineligible (a determination that could not be made before the sampling). I stratified the sampling by issue area, time period, and court. The sampling was done to attempt to obtain one-half of the cases available by issue area in each of the time periods. Within this issue/period strata, I sampled with the following scheme: I divided the target number of observations by eleven (the number of district courts). I then automatically included all cases in districts with fewer observations than this number. I then calculated how many potential observations were left within the strata and divided by the number of remaining courts. I continued doing this until there were no courts with fewer observations than their potential share. Among these courts, I divided the remaining observations equally and sampled based on the share that remained. Thus, the districts were sampled with uneven probability. Finally, I identified and oversampled cases in which a motion to dismiss pursuant to Rule 12(b)(6) had been filed. In order to account for this non-random sampling, I used appropriate probability weights in all analyses.

7.3 Specificity Scale for Complaints

1. **Broadest possible pleading** - simply names the causes of action the plaintiff is claiming without discussing elements or facts.

2. **Very broad pleading** - names the causes of action the plaintiff is claiming and the elements of the claims but no specific facts.

3. **Broad** - provides basic factual information regarding the parties and nature of the claims.

4. **Somewhat broad** - provides a few specific factual details regarding the causes of actions.

5. **Middle, broad** - provides some specific factual allegations regarding the causes of actions generally.

6. **Middle, specific** - provides some specific factual allegations regarding some elements of the causes of action.

7. **Somewhat specific** - provides some specific factual allegations regarding most elements of the causes of action.

8. **Specific** - provides detailed specific factual allegations regarding most elements of the causes of action.

9. **Very specific** - provides detailed factual allegations regarding most elements of the causes of action.

10. **Most specific possible** - provides detailed factual allegations covering all elements of the causes of action.

7.4 LIWC2007 Target Words

LIWC2007 Cause Target Words [47]

activat* affect affected affecting affects aggravat* allow* attribut* based bases basis because boss* caus* change changed changes changing compel* compliance complie* comply* conclud* consequen* control* cos coz create* creati* cuz deduc* depend depended depending depends effect* elicit* experiment force* foundation* founded founder* generate* generating generator* hence how hows how's ignit* implica* implie* imply* inact* independ* induc* infer inferr* infers influenc* intend* intent* justif* launch* lead* led made make maker* makes making manipul* misle* motiv* obedien* obey* origin originat* origins outcome* permit* pick produc* provoc* provok* purpose* rational* react* reason* response result* root* since solution* solve solved solves solving source* stimul* therefor* thus trigger* use used uses using why

[47] LIWC2007 Dictionary Poster

LIWC2007 Certainty Target Words [48]

absolute absolutely accura* all altogether always apparent assur* blatant* certain* clear clearly commit commitment* commits committ* complete completed completely completes confidence confident confidently correct* defined definite definitely definitive* directly distinct* entire* essential ever every everybod* everything* evident* exact* explicit* extremely fact facts factual* forever frankly fundamental fundamentalis* fundamentally fundamentals guarant* implicit* indeed inevitab* infallib* invariab* irrefu* must mustnt must'nt mustn't mustve must've necessar* never obvious* perfect* positiv* precis* proof prove* pure* sure* total totally true truest truly truth* unambigu* undeniab* undoubt* unquestion* wholly

[48] LIWC2007 Dictionary Poster

LIWC2007 Negative Emotions Target Words [49]

partie* abandon* abuse* abusi* ache* aching advers* afraid aggravat* aggress* agitat* agoniz* agony alarm* alone anger* angr* anguish* annoy* antagoni* anxi* apath* appall* apprehens* argh* argu* arrogan* asham* assault* asshole* attack* aversi* avoid* awful awkward* bad bashful* bastard* battl* beaten bitch* bitter* blam* bore* boring bother* broke brutal* burden* careless* cheat* complain* confront* confus* contempt* contradic* crap crappy craz* cried cries critical critici* crude* cruel* crushed cry crying cunt* cut cynic* damag* damn* danger* daze* decay* defeat* defect* defenc* defens* degrad* depress* depriv* despair* desperat* despis* destroy* destruct* devastat* devil* difficult* disadvantage* disagree* disappoint* disaster* discomfort* discourag* disgust* dishearten* disillusion* dislike disliked dislikes disliking dismay* dissatisf* distract* distraught distress* distrust* disturb* domina* doom* dork* doubt* dread* dull* dumb* dump* dwell* egotis* embarrass* emotional empt* enemie* enemy* enrag* envie* envious envy* evil* excruciat* exhaust* fail* fake fatal* fatigu* fault* fear feared fearful* fearing fears feroc* feud* fiery fight* fired flunk* foe* fool* forbid* fought frantic* freak* fright* frustrat* fuck fucked* fucker* fuckin* fucks fume* fuming furious* fury geek* gloom* goddam* gossip* grave* greed* grief griev* grim* gross* grouch* grr* guilt* harass* harm harmed harmful* harming harms hate hated hateful* hater* hates hating hatred heartbreak* heartbroke* heartless* hell hellish helpless* hesita* homesick* hopeless* horr* hostil* humiliat* hurt* idiot ignor* immoral* impatien* impersonal impolite* inadequa* indecis* ineffect* inferior* inhib* insecur* insincer* insult* interrup* intimidat* irrational* irrita* isolat* jaded jealous* jerk jerked jerks kill* lame* lazie* lazy liabilit* liar* lied lies lone* longing* lose loser* loses losing loss* lost lous* low* luckless* ludicrous* lying mad maddening madder maddest maniac* masochis* melanchol* mess messy miser* miss missed misses missing mistak* mock mocked mocker* mocking mocks molest* mooch* moodi* moody moron* mourn* murder* nag* nast* needy neglect* nerd* nervous* neurotic* numb* obnoxious* obsess* offence* offend* offens* outrag* overwhelm* pain pained painf* paining pains panic* paranoi* pathetic* peculiar* perver* pessimis* petrif* pettie* petty* phobi* piss* piti* pity* poison* prejudic* pressur* prick* problem* protest protested protesting puk* punish* rage* raging rancid* rape* raping rapist* rebel* reek* regret* reject* reluctan* remorse* repress* resent* resign* restless* revenge* ridicul*

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rigid* risk* rotten rude* ruin* sad sadde* sadly sadness sarcas* savage* scare* scaring scary sceptic* scream* screw* selfish* serious seriously seriousness severe* shake* shaki* shaky shame* shit* shock* shook shy* sicken* sin sinister sins skeptic* slut* smother* smug* snob* sob sobbed sobbing sobs solemn* sorrow* sorry spite* stammer* stank startl* steal* stench* stink* strain* strange stress* struggl* stubborn* stunk stunned stuns stupid* stutter* submissive* suck sucked sucker* sucks sucky suffer suffered sufferer* suffering suffers suspicio* tantrum* tears teas* temper tempers tense* tensing tension* terribl* terrified terrifies terrify terrifying terror* thief thieve* threat* ticked timid* tortur* tough* traged* tragic* trauma* trembl* trick* trite trivi* troubl* turmoil ugh ugl* unattractive uncertain* uncomfortabl* uncontrol* uneas* unfortunate* unfriendly ungrateful* unhapp* unimportant unimpress* unkind unlov* unpleasant unprotected unsavo* unsuccessful* unsure* unwelcom* upset* uptight* useless* vain vanity vicious* victim* vile villain* violat* violent* vulnerab* vulture* war warfare* warred warring wars weak* weapon* weep* weird* wept whine* whining whore* wicked* wimp* witch woe* worr* worse* worst worthless* wrong* yearn*

LIWC2007 Positive Emotions Target Words [50]

accept accepta* accepted accepting accepts active* admir* ador* advantag* adventur* affection* agree agreeab* agreed agreeing agreement* agrees alright* amaz* amor* amus* aok appreciat* assur* attachment* attract* award* awesome beaut* beloved benefic* benefit benefits benefitt* benevolen* benign* best better bless* bold* bonus* brave* bright* brillian* calm* care cared carefree careful* cares caring casual casually certain* challeng* champ* charit* charm* cheer* cherish* chuckl* clever* comed* comfort* commitment* compassion* compliment* confidence confident confidently considerate contented* contentment convinc* cool courag* create* creati* credit* cute* cutie* daring darlin* dear* definite definitely delectabl* delicate* delicious* deligh* determina* determined devot* digni* divin* dynam* eager* ease* easie* easily easiness easing easy* ecsta* efficien* elegan* encourag* energ* engag* enjoy* entertain* enthus* excel* excit* fab fabulous* faith* fantastic* favor* favour* fearless* festiv* fiesta* fine flatter* flawless* flexib* flirt* fond fondly fondness forgave forgiv* free free* freeb* freed* freeing freely freeness freer frees* friend* fun funn* genero* gentle gentler gentlest gently giggl* giver* giving glad gladly glamor* glamour* glori* glory good goodness gorgeous* grace graced graceful* graces graci* grand grande* gratef* grati* great grin grinn* grins ha haha* handsom* happi* happy harmless* harmon* heartfelt heartwarm* heaven* heh* helper* helpful* helping helps hero* hilarious hoho* honest* honor* honour* hope hoped hopeful hopefully hopefulness hopes hoping hug hugg* hugs humor* humour* hurra* ideal* importan* impress* improve* improving incentive* innocen* inspir* intell* interest* invigor* joke* joking joll* joy* keen* kidding kind kindly kindn* kiss* laidback laugh* libert* like likeab* liked likes liking livel* LMAO LOL love loved lovely lover* loves loving* loyal* luck lucked lucki* lucks lucky madly magnific* merit* merr* neat* nice* nurtur* ok okay okays oks openminded* openness opportun* optimal* optimi* original outgoing painl* palatabl* paradise partie* party* passion* peace* perfect* play played playful* playing plays pleasant* please* pleasing pleasur* popular* positiv* prais* precious* prettie* pretty pride privileg* prize* profit* promis* proud* radian* readiness ready reassur* relax* relief reliev* resolv* respect revigor* reward* rich* ROFL romanc* romantic* safe* satisf* save scrumptious* secur* sentimental* share shared shares sharing silli* silly sincer* smart* smil* sociab* soulmate* special splend* strength* strong* succeed* success* sunnier sunniest sunny

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sunshin* super superior* support supported supporter* supporting supportive* supports suprem* sure* surpris* sweet sweetheart* sweetie* sweetly sweetness* sweets talent* tehe tender* terrific* thank thanked thankf* thanks thoughtful* thrill* toleran* tranquil* treasur* treat triumph* true trueness truer truest truly trust* truth* useful* valuabl* value valued values valuing vigor* vigour* virtue* virtuo* vital* warm* wealth* welcom* well* win winn* wins wisdom wise* won wonderf* worship* worthwhile wow* yay yays

7.5 Alternative Specifications: Hand-Coded

Table 12: Ordinal Logit: Hand-Coded

Variable	**Coefficient** (Std. Error)	**p-value**
Pre-*Twombly* (Torts)	-1.02**	0.01
	(0.42)	
Post-*Twombly* (Torts)	-0.92**	0.04
	(0.50)	
Pre-*Iqbal* (Torts)	-1.04**	0.01
	(0.38)	
Civil Rights	-0.84*	0.01
	(0.34)	
Pre-*Twombly* × Civil Rights	1.48	0.99
	(0.53)	
Post-*Twombly* × Civil Rights	0.79	0.91
	(0.59)	
Pre-*Iqbal* × Civil Rights	1.48	0.99
	(0.51)	
California Eastern	0.80*	0.02
	(0.39)	
Colorado	0.01	0.99
	(0.37)	
Illinois Southern	-0.64	0.56
	(1.11)	
Kentucky Western	-2.95*	0.01
	(1.11)	
New Jersey	0.45	0.35
	(0.48)	
New York Western	-0.28	0.56
	(0.48)	
Rhode Island	-0.09	0.92
	(0.90)	

continued . . .

*Indicates significant at the .05, two-tailed level; **Indicates significant at the .05, one-tailed level

continued . . .

Variable	**Coefficient** (Std. Error)	**p-value**
South Dakota	-1.15	0.26
	(1.01)	
Texas Western	-0.73*	0.03
	(0.33)	
West Virginia Southern	0.76	0.14
	(0.51)	
District Median Ideology	-1.91	0.11
	(1.21)	
Cutpoint 1		
Intercept	-6.16*	0.00
	(0.82)	
Cutpoint 2		
Intercept	-3.53*	0.00
	(0.72)	
Cutpoint 3		
Intercept	-2.57*	0.00
	(0.71)	
Cutpoint 4		
Intercept	-1.79*	0.01
	(0.70)	
Cutpoint 5		
Intercept	-1.10	0.12
	(0.70)	
Cutpoint 6		
Intercept	-0.18	0.80
	(0.70)	
Cutpoint 7		
Intercept	2.45*	0.00
	(0.75)	
Cutpoint 8		
Intercept	4.99*	0.00
	(1.00)	

*Indicates significant at the .05, two-tailed level; **Indicates significant at the .05, one-tailed level.

Table 13: Proportion Correctly Classified by Period

Period	Total	Broad	Specific
Pre-*Twombly*	.73	.71	.75
Post-*Twombly*	.79	.83	.76
Pre-*Iqbal*	.89	.93	.85
Post-*Iqbal*	.88	.92	.87

7.6 Classification Rates by Period

There are some differences by period. The overall proportions of classification are nearly identical for the pre-*Iqbal* and post-*Iqbal* periods. The rates are lower in the pre-*Twombly* and post-*Twombly* periods, with the greatest differences in the pre-*Twombly* period. This pattern is likely a result of noise in the data due to lower quality documents in the earlier periods. I am aware of no reason to believe that the differences in classification between broad and specific complaints by period are not random. If they are not, the results indicate that I may overall be underestimating hypothesized effects: more broad complaints are misclassified more often than specific complaints in the pre-*Twombly* period, whereas specific complaints are misclassified more often in the other periods. The differences for the post-*Twombly* and pre-*Iqbal* periods are a little more than for the post-*Iqbal* period, but the differences are relatively small, two to three percent: thus, any differences should not change the direction or significance between the post-*Iqbal* period and the post-*Twombly* and pre-*Iqbal* periods.

7.7 Alternative Specifications: Classified

Table 14: Binomial Logit: Fitted Values

Variable	**Coefficient** (Std. Error)	**p-value**
Pre-*Twombly* (Torts)	-0.34**	0.02
	(0.16)	
Post-*Twombly* (Torts)	-0.49**	0.00
	(0.17)	
Pre-*Iqbal* (Torts)	-0.44**	0.00
	(0.14)	
Civil Rights	-0.19	0.08
	(0.13)	
Pre-*Twombly* Civil Rights	0.25	0.88
	(0.21)	
Post-*Twombly* Civil Rights	0.45	0.98
	(0.21)	
Pre-*Iqbal* Civil Rights	0.38	0.98
	(0.18)	
California Eastern	0.65*	0.00
	(0.15)	
Colorado	0.43*	0.00
	(0.12)	
Illinois Southern	1.74*	0.00
	(0.42)	
Kentucky Western	0.48	0.20
	(0.37)	
New Jersey	0.09	0.62
	(0.18)	
New York Western	0.97*	0.00
	(0.18)	
Rhode Island	2.00*	0.00
	(0.38)	

continued . . .

*Indicates significant at the .05, two-tailed level; **Indicates significant at the .05, one-tailed level.

continued . . .

Variable	**Coefficient** (Std. Error)	**p-value**
South Dakota	0.41	0.30
	(0.39)	
Texas Western	0.27*	0.04
	(0.13)	
West Virginia Southern	-0.92*	0.00
	(0.21)	
District Median Ideology	1.00*	0.03
	(0.47)	
Intercept	-0.22	0.37
	(0.24)	

*Indicates significant at the .05, two-tailed level; **Indicates significant at the .05, one-tailed level.

Table 15: Regression: Word Count

Variable	**Coefficient** (Std. Error)	**p-value**
Pre-*Twombly* (Torts)	-785.25**	0.00
	(255.23)	
Post-*Twombly* (Torts)	-1009.94**	0.00
	(259.15)	
Pre-*Iqbal* (Torts)	-580.83**	0.01
	(249.80)	
Civil Rights	-884.15**	0.00
	(226.76)	
Pre-*Twombly* × Civil Rights	655.07	0.97
	(329.44)	
Post-*Twombly* × Civil Rights	775.98	0.99
	(314.47)	
Pre-*Iqbal* × Civil Rights	545.40	0.94
	(338.52)	
California Eastern	746.90*	0.00
	(238.42)	
Colorado	44.65	0.81
	(183.49)	
Illinois Southern	932.44	0.13
	(611.31)	
Kentucky Western	-497.97	0.35
	(531.83)	
New Jersey	932.43*	0.00
	(302.64)	
New York Western	309.83	0.26
	(274.67)	
Rhode Island	830.26*	0.09
	(491.15)	

continued . . .

*Indicates significant at the .05, two-tailed level; **Indicates significant at the .05, one-tailed level.

continued . . .

Variable	**Coefficient** (Std. Error)	**p-value**
South Dakota	-956.45*	0.08
	(550.98)	
Texas Western	168.95	0.46
	(226.94)	
West Virginia Southern	-1403.11*	0.00
	(269.56)	
District Median Ideology	-186.75	0.78
	(670.93)	
Intercept	2843.78*	0.00
	(361.09)	

*Indicates significant at the .05, two-tailed level; **Indicates significant at the .05, one-tailed level.

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