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THE DISCOVERY SOMBRERO, AND OTHER METAPHORS FOR LITIGATION

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Academics, judges, and policymakers know little about the timing, volume, and cost of discovery in our civil justice system. This information deficit is most severe with respect to the most salient discovery-related issue for practitioners today: preservation—the duty to preserve relevant data when litigation is reasonably anticipated. This collective ignorance feeds uncertainty at both the policy level and at the doctrinal level. In this paper, I present original, empirical research on the nature and costs of preservation and discovery. This research is the first, and to date only, systematic effort to measure the extent and costs of preservation activity. I describe key findings and propose three new stylized facts: the discovery sombrero, the preservation iceberg, and the long tail of litigation costs. I then provide examples of how these stylized facts help inform doctrinal and policy questions on preservation and discovery, including the choice between common law development and federal rule-making, the choice between reliance on legal reform or technological innovation to control costs, and the question of how to tailor the Federal Rules of Civil Procedure to heterogeneous cases without sacrificing the Rules’ commitment to transubstantivity.

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INTRODUCTION

The process of discovery in civil litigation is doubly shrouded in fog. Fundamentally, as the term “discovery” connotes, the discovery process involves parties who lack complete knowledge about their dispute attempting to use the litigation process to reveal information. Almost by definition, then, the parties and the court operate in a fog of uncertainty when they undertake discovery. There is nothing necessarily troubling about this uncertainty, of course; discovery exists precisely to dispel it.

But there is a second, more troubling layer of obscurity. We know very little about the timing, volume, and cost of discovery in our civil justice system. In what fraction of cases does the gathering of documents in anticipation of discovery begin before a lawsuit is even filed? How much data is gathered in the average case? Setting aside the fees paid to outside counsel, how much does discovery cost the parties themselves, in terms of time and money in any given case? It is scarcely an exaggeration to say no one knows.

While many practicing attorneys have rich and detailed knowledge of their own experiences, commentators have struggled to collect and organize this anecdotal information into a coherent empirical picture. To this day there is not even consensus on what litigation costs are for...
a typical case, with reputable sources providing numbers that may seem surprisingly low—say, $20,000 for a single party\(^1\)—or surprisingly high—to the tune of millions.\(^2\) As another example, there is anecdotal evidence that many companies fear spoliation sanctions arising out of unclear preservation obligations, yet there is also evidence that the imposition of sanctions is rare.\(^3\) As a recent report has noted, the “actual costs of discovery have rarely been quantified in empirical studies.”\(^4\)

This collective ignorance of judges, policymakers, and academics feeds uncertainty at both the policy level and at the doctrinal level. Policymaking, in the sense of rules design, is hamstrung by a lack of information about the activities that are the subject of the rules. While there is no shortage of anecdotes decrying excessive costs and burdens of discovery (usually from the defense bar) and raising alarm about stonewalling and evidence destruction (usually from the plaintiffs’ bar), it is hard to judge the extent of these problems or what, if anything, should be done.

Our ignorance of how discovery tends to play out in practice leads to confusion even at a doctrinal level. The federal courts appear am-

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\(^1\) An FJC study reports that the median defendant’s discovery costs for civil cases in federal court are $20,000. Emery G. Lee III and Thomas E. Willging, *National, Case-Based Civil Rules Survey* 35 (FJC 2009) (herein, “Civil Rules Survey”).

\(^2\) A study by the Institute for the Advancement of the American Legal System (IAALS) reports discovery costs of $3.5 million for a “midsize” case. IAALS, *Electronic Discovery: A View from the Front Lines* 5 (U. Denver 2008).


\(^4\) RAND Institute for Civil Justice, *Where the Money Goes: Understanding Litigant Expenditures for Producing Electronic Discovery* 4 (RAND 2012) (herein, “Where the Money Goes”). See also id. at 3 (“A repeated lament in the academic and legal literature is that there has been little or no research into the costs imposed on the larger judicial system by the discovery process.”) (internal quotation marks omitted). The reasons for this are manifold; see Part II.A for discussion. See also RAND, *Where the Money Goes* at 4 (listing reasons, including: “Information about pretrial expenditures is almost always in the exclusive control of litigants and their attorneys,” “Researchers must collect data from multiple sources,” “It may be time-consuming or costly for litigants and their attorneys to retrieve relevant data about discovery-related costs,” “Staff in corporate departments, such as those in legal and information technology (IT), are unlikely to track their own litigation-related time expenditures,” and “Most importantly, organizations may be reluctant to share information about their legal expenditures”).
bivalent about how to address perceived problems with discovery, despite discovery being the subject of an entire suite of rules in the Federal Rules of Civil Procedure (“Rules”). For example, the Supreme Court in *Bell Atlantic v. Twombly*, the seminal case in the paradigm of plausibility pleading, famously fretted about the costs of discovery in antitrust litigation, but did nothing with the Rules governing discovery.

Today, the most salient discovery-related issue among practitioners is “preservation”: the duty to preserve relevant documents and electronically stored information (“ESI”) when litigation is reasonably anticipated. Yet the Rules are not even clear that preservation is within the scope of discovery, or for that matter within the scope of federal procedural lawmaking power. The Rules assiduously avoid any mention of preservation of documents in anticipation of litigation, presumably to avoid concerns that such rules would tread upon state-created substantive law—causes of action for spoliation of evidence. Yet over the past decade the lower federal courts have treated the silence of the Rules as an invitation to create a federal common law of preservation and spoliation.

This common law of preservation and spoliation has addressed a need for judicial policing of spoliation of ESI, but not without engendering considerable dissention even among the courts themselves, let alone rancorous complaints from litigants about (they claim) the severe burdens of the legal obligations imposed by the case law on preservation.

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5 See FRCP 26–37.
6 Although if one takes the majority opinion at its word, the Court did nothing with the rules governing pleading, either.
7 Throughout this paper, I will use “data,” “documents,” and “information” interchangeably to refer both the paper records and ESI.
8 As a recent study has noted: “Examples of conflicting holdings across and within jurisdictions include issues related to whether failure to issue a written legal-hold notice constitutes gross negligence per se, what preservation-related duties exist regarding potentially relevant evidence in the hands of third parties, whether a proportionality standard should be applied in deciding what information to retain, whether spoliation sanctions require a showing of negligence or a more stringent bad-faith standard, or whether sanctions should be imposed for the failure to properly preserve data without any need to show that the lost information was relevant or helpful to the requesting party.” RAND, *Where the Money Goes*, at 93 (footnotes omitted).
9 See e.g., *Preservation—Moving the Paradigm* (Lawyers for Civil Justice Nov. 10, 2010, and accounts summarized in Richard Marcus, *Notes: Mini-Conference on Preservation and Sanctions, Dallas, Texas, Sept. 9, 2011*.)
The need for better information about preservation and discovery has never been greater, as the Federal Civil Rules Advisory Committee has recently responded to the doctrinal chaos with proposed amendments to the Rules addressing, among other things, preservation and discovery of documents and ESI in federal litigation. This activity comes amid widespread calls for rules reform arising out of frustration with the patchwork of case law that currently governs preservation and sanctions for spoliation in federal court litigation. While there has been considerable debate about the merits of various proposals to amend the Rules, there has been consensus on the need for further empirical research on the magnitude and nature of the costs associated with civil litigation, including the costs of discovery and, in particular, preservation.

The growing awareness of the need for empirical data on the benefits and burdens of procedural rules has led to increasingly ambitious efforts to empirically study certain aspects of the costs of civil litigation. These included the Civil Rules Survey by the Federal Judicial Center (FJC), the Member Survey on Civil Practice by the ABA Section of Litigation, and the Litigation Cost Survey of Major Companies. These studies provide essentially no discussion, however, of the costs of preservation—despite its centrality to debates about the costs of discovery and the need for Rules reform. The only prior, serious study of preservation costs was limited to in-depth, qualitative interviews with eight companies.

Prior to the work that I present herein, no research had ever gathered quantitative data on preservation costs from a large sample of litigants. In this paper, I seek to shed some light on the layers of un-

10 ABA Section of Litigation, Member Survey on Civil Practice: Detailed Report (ABA 2009) (herein, “ABA Study”).
12 One limitation of studies such as the ABA Study and the Civil Rules Survey is that they are essentially surveys of outside counsel. Consequently, they cannot quantify costs that are internal to the client or costs associated with legal disputes that never reach the point that outside counsel becomes involved. Yet preservation activities tend to involve personnel of the client, rather than outside counsel, and often begin before a lawsuit is filed.
13 Where the Money Goes at 15 (“Our approach here was qualitative in nature because it was clear that gauging the magnitude of preservation expenses in individual cases would present some daunting hurdles.”).
14 Where the Money Goes at 86 (“Despite the costs of preservation having become one of the most discussed topics in the legal press of late, we are not
certainty in and about the process of discovery. In the Parts that follow, I present new research results, propose new stylized facts about discovery, and tease out their implications for legal practice and Rules reform.

Part I briefly summarizes Rules and case law governing preservation obligations in federal civil litigation.

In Part II, I describe original, empirical research I conducted on the costs of preservation and discovery. This study, which I call the Preservation Costs Survey (“Survey”), is the first, and to date only, systematic effort to measure the extent and costs of preservation activity across a cross-section of companies. Although focused on preservation costs, this survey collected quantitative data on the volume, timing, and cost of other aspects of discovery, particularly those aspects of discovery farthest removed from court oversight (i.e., collection and processing, as opposed to review and production). It is also unique among quantitative studies in that it focuses on the costs of the client’s own discovery-related activities, rather than the costs incurred by outside counsel retained to litigate cases.

The Survey was supported by an industry organization called the Civil Justice Reform Group, whose members included large companies which were concerned with the costs of preservation but—tellingly—themselves could not quantify their own preservation costs.15 The Survey collected information from 128 companies and gathered detailed, case-level data on preservation activity in over 3,600 separate litigation matters. Surveyed companies ranged from small companies without in-house litigation counsel to Fortune 100 companies who have entire staffs of attorneys and other professionals devoted full-time to compliance with litigation-related preservation obligations.

In Part III, I present key findings from my research and propose three new stylized facts about preservation and discovery—complete with accompanying metaphors: the *discovery sombrero*, the *preservation iceberg*, and the *long tail of litigation costs*.

Part III.A introduces the “discovery sombrero.” The usual progression of discovery activities in a given case begins with the preservation of information that may be relevant to ongoing or threatened litigation. Next comes the collection of documents for processing and review. Processing refers to actions such as decryption, decompression, and de-duplication of documents to render them amenable to review.

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15 The Civil Justice Reform Group describes itself as an organization formed and directed by general counsel of Fortune 100 Companies concerned about America’s justice system.
and to reduce redundancies and other unnecessary costs further downstream. *Review* is the work of lawyers to determine relevance and privilege of the documents in discovery. *Production* turns over to the other side the relevant, non-privileged materials within the scope of discovery.

**FIGURE 1: THE STAGES OF DISCOVERY**

![Diagram of the Discovery Sombrero]

Obvious quantitative questions immediately arise: How much of what is preserved is collected? How much of what is collected is processed, and so on? One might imagine a winnowing process whereby the parties begin with a larger set of documents that are preserved, which they gradually trim down to the set of materials most relevant to settlement, summary judgment, or trial, as in Figure 1.

My study, however, indicates a very different relationship between the data volumes involved in preservation relative to the other stages. The progression is not so much a discovery pyramid as it is a discovery sombrero:
The immediate implication of this fact is that preservation, a stage of discovery that goes unmentioned in the Rules and is most remote from judicial oversight, has the potential to be a source of substantial costs for the civil justice system.

Part III.B introduces the “preservation iceberg,” which begins to unpack exactly how and where the huge data volumes being preserved for civil litigation impose costs of preserving parties. Debates about the costs of preservation and the need for Rules reform tend to be framed by anecdotes about what I will call the “fixed costs” of preservation: the million dollars a large company spends on a computer system to facilitate the preservation of ESI. Given the obvious self-interest of the parties offering such anecdotes, one might wonder whether such anecdotes exaggerate the costs of preservation.

So perhaps the most surprising finding of my research is that such anecdotes severely underestimate the total costs of preservation activity. While a Fortune 500 company might spend $4 million on computer systems, it is the “tip of the iceberg” of preservation costs—and, as with icebergs, the tip is a mere 10 percent of the whole. Anecdotes
about $4 million dollars in costs reflect real, but invisible, costs closer to $40 million.

Why had the true costs of preservation evaded observation? Some costs, like the invoice for a new computer application, are easy to observe. But my study reveals that the greatest cost of preservation activity is not the price tag of new technology, but the human cost in employee time diverted from business activities to litigation-related activities. This diversion of human effort costs constitutes over 90 percent of total preservation costs in the largest companies, and essentially 100 percent of total preservation costs in smaller companies.

Part III.C introduces the “long tail of costs,” a phenomenon that is able to make sense of the seemingly irreconcilable data and anecdotes that populate the rhetoric on procedural reform: on the one hand, documented accounts that preservation and discovery cost millions in cases that companies regularly litigate, and on the other hand, data showing that median costs are measured in the thousands, not millions, of dollars.

Both accounts are true: the distribution of preservation costs is such that most litigation matters involve moderate costs, but the distribution is highly skewed, with a long but thin tail of extremely expensive litigation matters. The skew is so great that even though cases with blockbuster costs are very rare—maybe 5 percent of all litigation matters—they account for the majority of all costs. Interestingly, the data I have collected on companies’ preservation costs is strikingly consistent with previous data collected on outside counsel’s litigation costs, which suggests that this “long tail of costs” reflects a deep phenomenon affecting all of litigation.

In Part IV, I discuss the relevance of the discovery sombrero, preservation iceberg, and the long tail of litigation costs to policymaking and legal doctrine governing discovery. While the primary objective of this paper is to introduce key, stylized facts on preservation and discovery, and I expect these facts to be relevant to many questions in this field, in this paper I focus on how these stylized facts help identify the way forward in addressing three specific cleavages in the law.

First, the discovery sombrero interacts in a surprising way with Erie and its progeny. Current federal efforts to regulate preservation through federal common law need to account for the fact that much of what is being regulated occurs outside the context of federal litigation. Federal rules governing the conduct of preservation direct the behavior of parties who ultimately will find themselves in state, not federal, court. This raises the specter of Erie, and I argue that although objections have been raised against a federal Rule on preservation because
of Rules Enabling Act concerns, this concern is precisely backwards: if anything, federal rulemaking solves, rather than raises, an *Erie* infirmity.

Second, the preservation iceberg interacts in an unexpected way with debates about the choice between reliance on legal reform and reliance on technological innovation to reduce costs associated with discovery. Big businesses have claimed that legal change is needed to control costs that have multiplied due to technological change, while their opponents have argued that technology can also lower preservation and discovery costs. My findings suggest that both of these arguments are misdirected. Preservation costs are very high—indeed, even higher than proponents of legal reform have recognized—but most of the costs are human costs, rather than costs of technology.

Further, technology is not a substitute for legal reform, if for no other reason than technological solutions are only practical for the largest companies, for which the economies of scale from high-tech solutions justify their high price tag. For smaller companies—and in my study, “smaller” includes companies with tens or hundreds of employees—technology plays a much smaller role in the preservation process. From this point of view, legal innovation, rather than technological innovation, may be the best hope for controlling the costs of individuals, small businesses, and virtually everyone other than the largest and most sophisticated litigants.

Third, the stark differences among cases involving different substantive fields—compare the typical scope of discovery in an antitrust case versus an employment discrimination case, or compare the information asymmetries in those cases with those in, say, contract cases—put constant pressure on the transubstantive design of the Rules. The long tail of costs, however, points the way to a Rules-based approach to controlling discovery that doesn’t require the Rules to abandon a commitment to transubstantive standards. Given that most preservation and discovery costs are concentrated in a small share of cases, one can structure the Rules to set presumptive limits on discovery that leave most cases unaffected, but which facilitate party bargaining and judicial oversight in the fraction of cases where the issue of cost control may deserve careful attention.

I. LAW GOVERNING PRESERVATION AND DISCOVERY

The Rules do not explicitly address preservation. The Rules do, however, provide the framework for addressing discovery generally. For example, Rule 1 dictates that the Rules “should be construed and administered to promote the just, speedy, and inexpensive determina-
tion of every action and proceeding.” Rule 26(b)(1) outlines the scope of
discovery: “Parties may obtain discovery regarding any nonprivileged
matter that is relevant to any party’s claim or defense.” And Rule
26(b)(2) sets out the limits of permissible discovery. In particular, Rule
26(b)(2)(C) outlines the bases for limiting discovery and imposes a
mandatory requirement on courts to limit discovery, even sua sponte,
if “the burden or expense of the proposed discovery outweighs its like-
ly benefit.” In this way, Rule 26(b)(2)(C) “cautions that all permissible
discovery must be measured against the yardstick of proportionali-
ty.”

One might take these Rules to present a set of guidelines for dis-
covery that includes preservation. Yet these Rules have been by all
accounts ineffective at providing meaningful guidance to courts and
litigants on questions of preservation. Federal case law on preserva-
tion has largely ignored the Rules and, in any event, has done little to
settle the question of what needs to be preserved and by what stand-
ards a failure to preserve will be judged. In fact, courts do not even
agree on “whether a proportionality standard should be applied in de-
ciding what information to retain.” In Pippins v. KPMG LLP, the
court found the proportionality standard too “amorphous” to be of use
and instead concluded that “[u]ntil a more precise definition is created
by rule,’ prudence favors retaining all relevant materials.”

Of course, a few principles governing preservation are fairly well-
settled. The duty to preserve relevant data attaches when a party rea-
sonably anticipates litigation. Failure to take appropriate steps to

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2010).
17 See Richard Marcus, Notes: Mini-Conference on Preservation and Sanctions,
Dallas, Texas, Sept. 9, 2011; Preservation—Moving the Paradigm
(Lawyers for Civil Justice Nov. 10, 2010) (noting that “only two courts have
considered the application of proportionality to the scope of preservation pur-
suant to FRCP Rule 26(b)(2)(C) although neither court specifically analyzed
its application”).
18 RAND, Where the Money Goes, at 93 (citing Orbit One Communications,
Inc. v. Numerex Corp., 271 F.R.D. 429 (S.D.N.Y. 2010), and Rimkus Consult-
ing Group, Inc. v. Cammarata, 688 F. Supp. 2d 598 (S.D. Tex. 2010)).
Orbit One Communications, Inc. v. Numerex Corp., 271 F.R.D. 429, 436
(S.D.N.Y. 2010)).
20 Pension Committee, 685 F. Supp. 2d at 466; Surowiec v. Capital Title Agen-
cy, Inc., 790 F. Supp. 2d 997, 1005 (D. Ariz. 2011) (“It is well established that
the duty to preserve arises when a party knows or should know that certain
evidence is relevant to pending or future litigation.”) (internal quotation
marks omitted).
preserve data subjects a party to sanctions, which a federal court may impose under its inherent power.\textsuperscript{21}

One key step—perhaps \textit{the} key step—in complying with the duty to preserve is the issuance of a litigation hold. A “litigation hold” is a set of actions taken by a company to comply with preservation obligations in a given litigation matter. A litigation hold will define the scope of documents and data that must be preserved. A “litigation hold notice” is an instruction from legal counsel to an employee that the employee must retain all documents and data in her custody that are within the scope of the litigation hold (for example, in a products liability case, the scope might be all documents relating to the safety of a particular product that the company produces). The usual practice is to send a litigation hold notice to the set of “key players” who are likely to have data relevant to the dispute in question. (As I describe below in Part II, one primary measure of preservation activity that I use is the number of litigation hold notices issued.)

But much remains unsettled. Courts have diverged on questions such as “whether failure to issue a written legal-hold notice constitutes gross negligence per se”\textsuperscript{22} and “what preservation-related duties exist regarding potentially relevant evidence in the hands of third parties.”\textsuperscript{23} Most notably, courts have not even converged on a standard for the two essential prerequisites for imposing spoliation sanctions: the alleged spoliator’s state of mind, and prejudice to the other party.

As to the former, most courts require bad faith, \textit{i.e.}, intentional destruction of data to prevent its use in litigation, before imposing serious sanctions, such as entering judgment against the offending party of giving an adverse inference instruction to the jury.\textsuperscript{24} But some cases explicitly disclaim any requirement of bad faith.\textsuperscript{25} Further, some courts are willing to infer negligence from the mere fact that \textit{any} data

\textsuperscript{21} See, e.g., \textit{id.} at 1008.
\textsuperscript{25} See, e.g., Zubulake, 220 F.R.D. at 220 n.26; Pension Committee \textit{v.} Banc of America, 685 F. Supp. 2d 456 (S.D.N.Y. 2010).
was lost.\textsuperscript{26} This split is complicated by the idiosyncratic terminology applied by some courts, which distinguish between “willfulness” and bad faith, such that a merely volitional act (such as good faith deletion of data, without awareness of its potential relevance to litigation) is “willful” spoliation.\textsuperscript{27}

As for the standard for finding prejudice, some courts will presume relevance and prejudice from gross negligence or bad faith,\textsuperscript{28} while others will make such an inference only from bad faith,\textsuperscript{29} or perhaps not at all.\textsuperscript{30}

II. THE PRESERVATION COSTS SURVEY

The Preservation Costs Survey is the first systematic, quantitative study of preservation costs across a spectrum of companies engaged in preservation activities. Below, Part II.A discusses the key constraints

\textsuperscript{26} See Zubulake v. UBS Warburg, 220 F.R.D. 212, 220 (S.D.N.Y. 2003) (“Once the duty to preserve attaches, any destruction of documents is, at a minimum, negligent.”). For example, in Pension Committee v. Banc of America Securities, LLC, 685 F. Supp. 2d 456 (S.D.N.Y. 2010), a party had failed to produce a number of emails that were later discovered in another production. The court stated, “This, alone, demonstrates that the [party’s] effort to find and produce all relevant documents was insufficient.” Id. at 489. For a detailed treatment of Pension Committee, see Michael W. Deyo, Deconstructing Pension Committee: The Evolving Rules of Evidence Spoliation and Sanctions in the Electronic Discovery Era, 75 ALBANY L. REV. 305 (2012). For an explicit rejection of this approach as “too inflexible,” see Surowiec, 790 F. Supp. 2d at 1007.


\textsuperscript{28} Pension Comm. of the Univ. of Montreal Pension Plan v. Banc of Am. Sec., LLC, 685 F. Supp 2d 456 (S.D.N.Y. 2010 (“Relevance and prejudice may be presumed when the spoliating party acted in bad faith or in a grossly negligent manner”).

\textsuperscript{29} D’Onofrio v. SFX Sports Group, Inc., 2010 WL 3324964, *10 (D.D.C. Aug. 24, 2010) (“When a party, for example, has acted negligently and lost evidence, [an adverse] inference does not flow naturally from the facts. When a person purposefully destroys evidence, it is reasonable to infer that he did so to keep it from being used against him. . . . [When the action was negligent or reckless,] a court cannot logically infer the intent of what a party did from its behavior because its behavior was unthinking.”); accord Victor Stanley Inc. v. Creative Pipe, Inc. (D. Md. 2010).

\textsuperscript{30} Orbit One Commun. v. Numerex Corp., 271 F.R.D. 429 (S.D.N.Y. 2010) (“a court considering a sanctions motion must make a threshold determination whether any material that has been destroyed was likely relevant even for purposes of discovery”).
that drove the design of the Survey. These factors have, prior to my study, combined to prevent any systematic collection of preservation costs. Part II.B describes the Survey methodology. Part II.C describes the sampled companies.31

A. Obstacles to Empirical Work on Preservation

In order to measure the costs associated with preservation obligations, this Survey had to overcome a number of challenges that prevented prior research from determining the nature and scale of preservation costs. Indeed, a prerequisite to gathering any quantitative data was identifying which costs of preservation are even susceptible to practical measurement. Consequently, the first phase of the survey design focused on in-depth interviews with personnel at a pilot group of companies. These interviews sought to identify which aspects of the costs of preservation are most amenable to study and which would be difficult, or as a practical matter impossible, to estimate. Not surprisingly, every company interviewed for the Survey expressed that estimating the costs of preservation is difficult.32

There are several reasons for this. First, identifying systems and their cost requires time-consuming, individualized investigation of each company. Each company has different computer systems, different internal business flow, and different technology needs. While an “off-the-shelf” solution from an outside vendor comes with an invoiced price, the full cost of that solution includes costs to company time and resources for bidding, implementation, and maintenance. Systems that are developed in-house are even harder to price.

Second, individualized investigation is required to ensure that the costs being measured are properly attributable to preservation obligations, rather than other motivations. To address this concern, I relied on detailed, in-depth interviews with companies to accurately identify specific systems whose sole purpose was compliance with preservation obligations. As a consequence of this approach, my data on these costs


32 This observation is consistent with the recent RAND study. See Where the Money Goes at xix ("Most interviewees did not hesitate to confess that their preservation costs had not been systematically tracked in any way and that they were unclear as to how such tracking might be accomplished.").
generates a conservative estimate of the total costs of technologies adopted in response to preservation burdens.

Third, the human cost of preservation-related activity in terms of lost work time has never before been measured. One cost of preservation obligations is the lost employee time spent complying with duties imposed through the issuance of litigation hold notices. Because the cost of compliance with litigation hold notices is dispersed throughout a company, and because the cost primarily takes the form of lost time rather than monetary payments, measuring the magnitude of this cost is difficult. The time and energy that employees must divert towards preservation is never recorded or compensated, unlike the time spent by dedicated lawyers, such as outside counsel.33

My strategy to measure these costs was to collect detailed information on the number of matters with litigation holds, and the number of employees subject to each litigation hold, at a sample of companies. I combined these counts of employees subject to litigation holds with estimates of time lost per employee, and the hourly cost of employee time, to quantify in dollar terms the value of employee time that is diverted from business purposes to compliance with preservation obligations.

Fourth, companies are unable or reluctant to share sensitive and confidential information about litigation-related costs.34 This is due in part to the fact that in many cases, the companies simply do not have the information, or cannot gather it at reasonable cost.35 But it is also due to an understandable fear that disclosing information about the company’s litigation experiences and expenses could be used strategically against the company in litigation. For this reason, all information collected for the Preservation Costs Survey was gathered subject to assurances of strict confidentiality and anonymity for each survey participant.36

33 Compare Where the Money Goes at 85 (“Part of the reason for a lack of existing information in this area appears to be that much of preservation involves expenditures incurred internally, such as the costs of IT staff time, law department attorney and paralegal time, other employees’ time (such as the effort required of custodians to comply with legal-hold notices), and purchases and licensing of applications and hardware to handle preservation.”).
34 Compare Where the Money Goes at 4.
35 The Preservation Costs Survey asked respondents whether they track the costs of litigation holds. Only 14 percent responded that they did.
36 These included the following: Several means of submitting survey responses anonymously were provided to participants, and all results reported herein are anonymous. In some cases, exact numbers are rounded or topcoded (e.g., employee counts larger than 100,000 are reported as “> 100,000”) as an addi-
Fifth, many costs associated with preservation are diffuse and cannot be directly measured. For example, while in principle the lost time of affected employees could be measured, other costs would remain unmeasured, such as delays in basic business processes like rolling out new computers to employees due to concerns about the preservation of data stored on due-to-be-retired hard drives. Thus, the preservation costs measured by the Survey do not exhaust the universe of costs imposed by preservation obligations.

B. Survey Methodology

I conducted the Survey in three phases, lasting from late 2011 through early 2014. The Survey was done with the support and assistance of the Civil Justice Reform Group ("CJRG"), a group of in-house counsel at large, U.S. corporations. CJRG convinced a number of large companies to participate in the Preservation Costs Survey and coordinated with other associations of businesses (including small- and medium-sized businesses) to request their members to participate in the survey. This gave me unprecedented access to information about the experiences of companies with preservation and discovery; as noted above, it is usually impossible to collect information on litigation-related costs from companies. Indeed, even with the aid of CJRG to convince companies to participate, a major component of survey design and promotion was to credibly provide detailed assurances of confidentiality and anonymity to respondents.

While the sponsorship of CJRG has been essential to the viability of this project, there is no question that CJRG is an advocacy organization, and I was compensated for my time and expenses associated with designing the survey, interviewing respondents, and processing.

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37 Compare Where the Money Goes at 86 ("[T]here may be economic impacts resulting from a decision not to adopt certain IT products (such as instant messaging or social-networking platforms) that might present significant difficulties when preserving information, from not implementing more-efficient data systems due to the need to maintain older legacy platforms and processes, from slower computer-system performance caused by halting the routine deletion of obsolete information in transactional databases, or from a reduced ability to recover lost but nevertheless important data due to a shift from a long-term data backup process to a short-term disaster-recovery system primarily because of preservation concerns.").
response data. Because of this, my methodology took steps to protect the independence of the research and insulate the survey results from (even unintentional) outside influence. The CJRG agreed not to participate in the design of the survey questions nor access the data collected in the course of the survey. Nor was CJRG involved in the analysis of the data. Further, CJRG retained no interest in the use or publication of results of the study. Thus—to be absolutely clear—CJRG has not reviewed (and thus can neither endorse nor disclaim) this paper, and all of the arguments and conclusion herein are mine alone.

Given the complexity of the topic, and the largely unprecedented nature of a study focused on preservation costs, I employed a three-phase study design. Phase I involved a set of four, in-depth case studies of large companies. These case studies involved both qualitative interviews and requests for quantitative data to be used for statistical analysis. One important aspect of Phase I was developing the survey instrument. I began with an extensive written survey coupled with follow-up interviews to obtain feedback on the clarity and practicability of each question. This information was used to draft the survey instruments used with larger samples of companies during Phases II and III.

Phase II broadened the sample of companies to thirteen and continued to employ an in-depth, case-study approach. A revised questionnaire was combined with interviews and the collection of matter-level datasets of preservation activity in order to create as complete as possible a picture of the sources and amounts of preservation costs for large companies. (By “matter-level,” I refer to datasets in which information on the number of litigation holds is provided for each individual litigation matter. I say “matter” rather than “case,” because litigation matters include both filed and anticipated lawsuits.) In addition to survey and interview responses, Phase II yielded six unique databases of matter- and employee-level preservation activity within specific companies. These databases of preservation activity were provided on a strictly confidential, anonymous basis. These datasets together provide information on over 3,600 separate litigation matters involving over 770,000 litigation hold notices issued to individual employees in individual matters. They are the first large samples of case-

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CJRG’s interest in sponsoring this research was to respond to calls for empirical data on preservation costs from members of the Advisory Committee on the Civil Rules, who were considering proposals to amend the Rules to address preservation. (The Preservation Costs Survey Final Report took no position on specific proposals, but did conclude that preservation costs were large enough to merit attention from the rulemakers.)
specific preservation activity data ever compiled for research purposes.

Phase III involved a shortened survey questionnaire and no interviews or requests for data. This Phase was deliberately designed to be distributed to a larger number of companies, which would be able to respond with a much smaller investment in human resources. The goal of Phase III was to obtain survey responses from a large sample of companies, including small and medium-sized businesses, in order to draw inferences about preservation activity in a broader cross-section of civil litigants. Phase III was publicized to companies through groups such as the National Association of Manufacturers, Lawyers for Civil Justice, and the Association of Corporate Counsel. The surveys could be completed on a printable form or by an online survey instrument hosted on research.net. The Phase III survey was open from October 2013 to January 2014. By the conclusion of Phase III, a total of 128 unique companies had completed survey questionnaires.

Although this study is by far the most rigorous survey of preservation costs ever conducted, I must note that this study’s methodology cannot guarantee a representative sample of all companies with preservation obligations. As with any survey, this study could include only those who were willing and able to respond. Nonetheless, the Survey results provide several indications that the sample may be representative of the larger population of companies.

First, the results from each phase of the Survey are remarkably consistent with each other, despite substantial differences in the process by which companies were solicited for participation and the degree of effort required by the companies to complete their participation. This suggests that the amount of effort required to participate is not strongly correlated with the characteristics of the company.

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39 Two surveys which were distributed before the close of the Survey period were returned in February 2014. They are included in the results reported below. (Excluding them has little effect on the reported results.)

40 The Phase III questionnaire is reproduced in the Appendix of the Preservation Costs Survey Final Report, supra note 31.

41 Compare Where the Money Goes at xiii–xiv (“We asked participants to choose a minimum of five cases in which they produced data and electronic documents to another party as part of an e-discovery request. . . . Because the participating companies and cases do not constitute a representative sample of corporations and litigation, we cannot draw generalizations from our findings that apply to all corporate litigants or all discovery productions.”).
Second, many of the patterns that one would predict to see in the data based on strong \textit{a priori} justifications do, in fact, appear in the data. For example, smaller companies have very few (often zero) litigation attorneys and report dramatically fewer active cases. This pattern might not emerge if only the most sophisticated (or most embroiled in litigation) smaller companies participated in the Survey.

Third, unlike prior studies which also depended on the willingness of companies to provide data on discovery costs (\textit{Litigation Cost Survey}) or to provide interview responses on preservation (\textit{Where the Money Goes}), the Preservation Costs Survey did not allow participating companies to select specific cases for inclusion in the sample. Rather, the questionnaire asked for information only about cases in the aggregate, and the requests for databases of preservation activity included all litigation matters with litigation holds (excluding asbestos cases). Thus, the Preservation Costs Survey provides analysis of the first \textit{truly representative} samples of the within-company distribution of litigation activity.

C. Sample Characteristics

The 128 survey respondents represent a broad cross-section of companies in the United States. The participating companies come from a wide variety of industries.\footnote{The categories are: Automobiles & Parts; Banks; Chemicals; Conglomerate; Financial Services; Food & Beverage; Health Care; Industrial Goods & Services; Insurance; Media; Oil & Gas; Other; Personal & Household Goods; Retail; Technology; Telecommunications; Travel & Leisure; Utilities.} The most heavily represented categories were health care, insurance, technology, and conglomerate, each with at least 10 respondents.

The number of people employed worldwide by each company ranges from 18 to over 100,000.\footnote{In order to protect the anonymity of some respondents, exact employee counts above 100,000 are not reported.} Importantly, although large companies were the focus of Phases I and II, smaller companies are well represented in the sample. About a quarter of all respondents (24%) have 1,000 or fewer employees worldwide; the same proportion have 500 or fewer U.S. employees, the threshold usually used to define a small or medium-sized enterprise (“SME”).\footnote{I refer to companies with 1,000 or fewer employees as “smaller companies.”} The largest companies, those with over 100,000 employees worldwide, make up about one-sixth (16%) of the sample.\footnote{Herein, I will occasionally refer to companies with close to or more than 100,000 employees worldwide as “large companies.” Companies with 1,001–}
TABLE 1: SURVEY DESCRIPTIVE STATISTICS

Panel A: Employees, Lawsuits, and Litigation Hold Matters

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total employees</td>
<td>43,454</td>
<td>8,000</td>
<td>18</td>
<td>&gt; 100,000</td>
</tr>
<tr>
<td>U.S. employees</td>
<td>21,678</td>
<td>6,100</td>
<td>0</td>
<td>&gt; 100,000</td>
</tr>
<tr>
<td>In-house litigation attorneys</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>&gt; 50</td>
</tr>
<tr>
<td>Active suits</td>
<td>1,399</td>
<td>33</td>
<td>0</td>
<td>&gt; 10,000</td>
</tr>
<tr>
<td>Open matters with holds</td>
<td>686</td>
<td>33</td>
<td>0</td>
<td>&gt; 10,000</td>
</tr>
</tbody>
</table>

Panel B: Share with Preservation Resources or Practices

<table>
<thead>
<tr>
<th>Issue</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issues litigation holds notices</td>
<td>100%</td>
</tr>
<tr>
<td>Has formal preservation policies</td>
<td>84%</td>
</tr>
<tr>
<td>Tracks litigation holds and notices</td>
<td>63%</td>
</tr>
<tr>
<td>Has e-discovery team</td>
<td>40%</td>
</tr>
<tr>
<td>Has legal IT group</td>
<td>31%</td>
</tr>
</tbody>
</table>

The volume of litigation varies widely across these companies; the number of suits currently active varies from 0 to over 10,000. Asbestos litigation was specifically excluded from the Survey. There is also great variation in the number of litigation holds that companies report.

10,000 employees were 29% of the sample; companies with 10,001–100,000 employees were 30% of the sample.

In order to protect the anonymity of some respondents, exact counts of lawsuits and litigation holds above 10,000 are not reported. Five companies did not report numbers of suits and seven companies did not report numbers of matters with holds.

While asbestos litigation remains an important part of the federal civil docket, it is *sui generis* with respect to preservation: at this point in the history of asbestos litigation, virtually every document in the possession of a company defendant that could possibly be relevant to asbestos claims has long ago been preserved and produced.
to have active. The number of in-house litigation attorneys ranges from 0 to over 50. Most in-house litigation teams are small—the median is 4, and 17 out of the 128 companies have no in-house litigation counsel. See Table 1.

Some basic Survey results are unsurprising. Consistent with the great weight of anecdotal evidence and prior qualitative studies, surveyed companies generally reported significant preservation burdens, although some reported little or no preservation burdens. Companies expressed in interviews that they are deliberately “overinclusive” or “overpreserve” to protect themselves against the great uncertainty associated with the current law of preservation. Government investigations, rather than private lawsuits, ranked first in terms of preservation-related problems. This is unsurprising, given the often sweeping scope and indefinite duration of government investigations, which may entail incredibly broad requests for information.

III. THREE STYLIZED FACTS ABOUT LITIGATION

A. The Discovery Sombrero

Perhaps the most basic finding of the Survey was that most respondents in the survey simply did not know the extent of their preservation activity or what fraction of data that is put on litigation

48 As the duty to preserve may arise before a lawsuit is filed, the number of matters subject to litigation holds may be greater than the number of lawsuits. Conversely, a single litigation hold may suffice for a number of related lawsuits, and thus a company may have fewer litigation holds than lawsuits.
49 In order to protect the anonymity of some respondents, exact counts of litigation attorneys above 50 are not reported. Three companies did not report number of litigation attorneys.
50 For Total Employees and U.S. Employees, N = 126. Median numbers of employees are rounded by up to 1 percent to protect respondent anonymity.
51 In addition to the details noted here, the Preservation Costs Survey Final Report, supra note 31, provides many additional results.
52 Over 79 percent (102 of 128) of respondents reported a “great extent” or “moderate extent” of burdens from preservation activity. Preservation Costs Survey, at 20–21. Compare Where the Money Goes at xix (“All interviewees reported that preservation had evolved into a significant portion of their companies’ total e-discovery expenditures.”).
53 Compare Where the Money Goes, at 92 (“If there was one consistent theme in what we heard, it revolved around complaints of a lack of understandable legal authority and guidance that could be comfortably relied on when making preservation decisions.”).
hold is ever is collected, let alone reviewed or used, in the course of discovery. Those that did reported on average that perhaps half (51%) of all data that is preserved is never processed and reviewed. This result is consistent with a recent survey by an e-discovery vendor, which found that for most companies, legal holds proceed to collection less than half the time.

For larger companies, the drop-off from preservation to collection, processing, and review is even steeper. Figure 3 presents data from a large company on the number of custodians involved in three stages of discovery: preservation, collection, and processing. Out of over 5,000 custodians placed on litigation hold, and thus subject to preservation obligations, fewer than 10 percent ultimately see their data collected, let alone processed.

Figure 4 presents a similar picture with non-anonymous data provided in public testimony on behalf of Microsoft. In Figure 4, the unit of measurement is the quantity of data preserved, collected, and processed rather than the number of custodians subject to those activities. The Microsoft data also illustrates how little data, relative to the quantity preserved, is ever used in litigation. From this, the shape of the discovery sombrero, illustrated above in Figure 2, is apparent: a wide “brim” of preservation, and a much narrower, tapering set of documents subject to collection, processing, and so on.

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54 Preservation Costs Survey, Table 13.
55 Legal Hold and Data Preservation Benchmark Survey 2013 16 (Legal Hold Pro) (finding that for 64 percent of respondents, legal holds progress to collection less than half the time).
57 From Figure 4, we see that Figure 2 is not to scale. If this were drawn to scale, the brim would be even wider, and the top would be very narrow!
FIGURE 3: NUMBER OF CUSTODIANS SUBJECT TO PRESERVATION, COLLECTION, AND PROCESSING, ANONYMOUS LARGE COMPANY

FIGURE 4: NUMBER OF PAGES OR DATA EQUIVALENT (IN 1000S) PRE-SERVED, COLLECTED, AND PROCESSED, MICROSOFT CORPORATION
When we see the disproportionate bulk associated with preservation, we begin to understand the sense of urgency in some quarters for new Rules governing preservation. But why is the “discovery sombrero” a sombrero? Why such a wide base?

**FIGURE 5: THE DISCOVERY SOMBRERO, WITH LOCUS OF DISPUTE**

The answer requires one to approach the question of discovery from the perspective of the preserving party. This is an *ex ante* perspective, in which the preserving party must make decisions before any uncertainty about the legal claim is resolved. From this perspective, preservation is not part of litigation at all, and at this point in time the preserving party is not dealing with “lawsuits,” but with “disputes,” and these disputes may or may not turn into lawsuits, let alone federal lawsuits. To illustrate this idea, Figure 5 divides the dis-
covery sombrero by *where the dispute ends up*, rather than by stage of discovery.\(^{58}\)

Survey respondents generally confirmed that a substantial portion of preservation activity is conducted in the absence of a filed lawsuit.\(^{59}\) In contrast, collection, processing, review, and production will usually occur in the context of litigation. This is the crucial difference between stages of discovery that that federal courts have long regulated under the Rules—and, in the mine run of cases, with success\(^{60}\)—and preservation, a phase of discovery that currently vexes and courts and litigants alike today.

**B. The Preservation Iceberg**

I now turn from the scope of preservation relative to other stages of discovery to focus on the costs associated with preservation specifically. The costs of preservation fall into two broad categories, which I will call *fixed costs* and *variable costs*.

*Fixed costs* are costs that do not depend on the volume of preservation activity or the number of cases a company faces. These costs are “fixed” because they do not arise in the context of individual litigation matters, but represent ongoing expenses of a company. For example, the costs of developing a repository for emails being preserved in anticipation of litigation will exist whether the company faces 100 lawsuits or 1000 lawsuits; the specific scope of preservation rules or the number of holds that will have to be issued will have little effect on this cost.\(^{61}\) Fixed costs include the costs of maintaining a staff of attorneys, IT specialists, and other professionals devoted to preservation activity, as well as the costs of automated systems to manage litiga-

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\(^{58}\) Note that the dashed line indicates that, among matters that end up in state or federal court, some preservation occurs before the matter becomes a filed lawsuit, and some preservation occurs after. The remaining stages all occur after filing, of course. Note, too, that as before, the sections of the sombrero are not to scale.

\(^{59}\) Most companies do not track these numbers, but a few companies did provided such data. These reports ranged from 44 to 77 percent of holds not being associated with active litigation. *Preservation Costs Survey*, at 43.

\(^{60}\) Emery G. Lee III and Thomas E. Willging, *National, Case-Based Civil Rules Survey* (FJC 2009).

\(^{61}\) See RAND, *Where the Money Goes*, at 86 (“*[P]reservation responsibilities can sometimes involve enterprise-level costs, such as would be incurred with the implementation of an automatic legal-hold tool. Such applications are certainly costly and have an observable price tag, but the expenditures are spread across all of the company’s present and future preservation needs.*”)
tion holds and preserve data. Virtually all prior reported information on the costs of preservation reflect only the fixed costs of preservation-related technology.

**Variable costs** of preservation are those costs that arise in the context of individual litigation matters, and thus vary with the volume of preservation activity. The primary variable cost is the time that non-legal employees who are subject to litigation hold obligations must divert from business activities to compliance with a litigation hold. This lost time is a variable cost, because the time spent by the employee on litigation holds increases as the number of holds rises or as the complexity of each hold rises.

The Preservation Costs Survey sought to quantify both fixed costs and variable costs of preservation. While collecting specific, quantitative estimates of fixed costs was infeasible for Phase III of the Survey, I collected information on fixed costs in interviews with a number of large companies in Phases I and II. From these interviews, I gleaned detailed information on several categories of fixed costs.

With respect to fixed costs associated with personnel, these companies all had legal IT or e-discovery groups with attorneys and paralegals devoted full- or part-time to preservation activity. On average, the companies had 2 attorneys and 4 paralegals or other legal professionals working full-time in a dedicated legal IT or e-discovery group.

With respect to the fixed costs of technology, these companies also provided estimates of the costs of automated preservation systems that ranged from hundreds of thousands to tens of millions of dollars *per system*. One important type of system in this area is the automated litigation hold management system. These systems automate the process of distributing, tracking, and monitoring litigation hold notices that are created by in-house counsel. The largest fixed costs, however, are associated with the preservation of data itself. Every large company surveyed has a diverse set of systems used to address preservation obligations. Such an array of systems is necessary due to the large variety of types of ESI, many of which have distinct business purposes and are used and stored in different ways on a company's computer systems.

These reports suggest that for large companies, the per-year fixed costs associated with preservation activity run into the millions of dollars. Table 2 presents a rough but conservative calculation based on Survey results. The total (measurable) fixed costs of preservation for a single, large company exceed $2.5 million per year. For smaller companies, though, fixed costs could be essentially zero. Most smaller companies do not report having a dedicated e-discovery team, legal IT function, or automated litigation hold system. See Figure 6.
### Table 2: Approximate Fixed Costs of Preservation for a Hypothetical Large Company

<table>
<thead>
<tr>
<th>Preservation Solution</th>
<th>Per Year Fixed Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>A legal IT and/or e-discovery team</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Litigation hold management system (implementation cost amortized over a 5 year expected life)</td>
<td>$160,000</td>
</tr>
<tr>
<td>Maintenance of litigation hold management system</td>
<td>$150,000</td>
</tr>
<tr>
<td>Automated data preservation system (implementation cost amortized over a 5 year expected life)</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Maintenance of automated data preservation system</td>
<td>$200,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,510,000</strong></td>
</tr>
</tbody>
</table>

**Figure 6: Share Reporting Preservation Practices, by Company Size**

[Graph showing the share reporting preservation practices by company size]
This striking difference is likely due to the simple fact that smaller companies face fewer lawsuits. The fixed investments of many large companies benefit from large economies of scale. By leveraging legal and technical expertise and automation, investment in these fixed costs lowers the per-matter (variable) cost of preservation activities, but the high up-front investment is only justified by a large volume of litigation. As Figure 6 shows, while the very largest companies almost uniformly use in-house preservation experts for managing litigation holds, virtually none of the smallest companies have separate legal IT or e-discovery staff. Similarly, automated litigation hold tracking software is virtually standard practice among large companies but is uncommon among smaller companies.

As high as the fixed costs of preservation may be, the largest share of preservation costs are variable costs: the costs in human time and effort to address preservation obligations on a case-by-case basis. Individual employees who are placed on hold or otherwise asked to engage in preservation activities must divert time and attention away from normal business activities. In this respect, a day spent responding to litigation hold notices is just as significant a drain on worker productivity as a sick day.

Prior to this Survey, however, the magnitude of this aspect of preservation costs was completely unknown. To determine this magnitude, I used Survey estimates to make the following calculation: I multiplied the number of litigation matters per year, times the number of employees on litigation hold per matter, times the number of

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62 Companies with 1–1,000 employees reported an average of 27 active lawsuits at the time of the survey. Reported active lawsuits scaled proportionally to company size. Companies with 1,001–10,000 employees reported an average of 228 lawsuits; companies with 10,001–100,000 employees reported an average of 2,563; and companies with more than 100,000 employees reported an average of 3,404.

63 For example, one interviewed company spent around $1 million to implement and maintain software to assist in indexing and searching preserved data, but the interviewee saw this cost as a fraction of the savings it has generated.

64 This number was taken directly from data reported in responses to Phase III of the Survey.

65 This figure was derived from Phase I and Phase II companies that provided detailed data based on litigation hold tracking software. (Most companies were not able to provide such data.) Based on the companies for which I had data for this calculation, I found that about 0.12 percent of employees on average are subject to a hold for each litigation matter. I applied this estimate to all companies, with a minimum of 5 employees per hold for smaller companies. As a check on this latter figure, I conducted an analysis of employ-
hours per year a worker will spend on the litigation hold,\textsuperscript{66} times the average salary per hour for employees in management occupations.\textsuperscript{67} See Expression (1).

\[
\left(\frac{\$}{\text{Hr.}}\right) \left(\frac{\text{Hours}}{\text{Worker}}\right) \left(\frac{\text{Wkrs.}}{\text{Hold}}\right) \left(\frac{\text{Holds}}{\text{Yr.}}\right) = \frac{\$}{\text{Yr.}}. \tag{1}
\]

The estimates, broken down by company size, appear in Table 3. For companies of all sizes, the costs in lost employee time are significant. For the smallest companies in the Survey, the costs average over $12,000 per company per year. The estimate of costs for the largest companies exceeds $38.6 million per company per year. In short, the two or three million dollars that a large company might spend in a year on preservation-related systems is no more than the tip of the preservation iceberg.

\textsuperscript{66} This time includes time spent reading, confirming receipt, and asking questions about a litigation hold notice; time spent changing personal device settings and other work practices to comply with the litigation hold notice; and time spent reviewing electronic and paper files to mark, copy, or set aside files for preservation. I use an estimate of 3 hours per employee per year spent on each litigation hold based on estimates reported by interviewed companies. (No surveyed company had a precise estimate, however. As the \textit{Preservation Costs Survey Final Report} found, few companies track this type of cost.)

\textsuperscript{67} This figure, $52.20/hour, is the average hourly wage of workers in management occupations (across all sectors and all business sizes) provided by the latest data from the Bureau of Labor Statistics. See Bureau of Labor Statistics, \textit{May 2012 National Occupational Employment and Wage Estimates}, available online at http://www.bls.gov/oes/current/oes_nat.htm. This is a conservative estimate of the cost of employee time, because this figure includes only wages and not benefits (nor does it include the lost value of equipment and capital associated with the lost employee time).
TABLE 3: ESTIMATED PER-COMPANY COSTS OF EMPLOYEE TIME LOST TO LITIGATION HOLDS, BY COMPANY SIZE

<table>
<thead>
<tr>
<th>(1) Total Employees</th>
<th>(2) Matters with Holds</th>
<th>(3) Employees per Matter</th>
<th>(4) Employee Hours per Year</th>
<th>(5) Time Cost per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–1,000</td>
<td>16</td>
<td>5</td>
<td>240</td>
<td>$12,528</td>
</tr>
<tr>
<td>1,001–10,000</td>
<td>249</td>
<td>11</td>
<td>8,217</td>
<td>$428,927</td>
</tr>
<tr>
<td>10,001–100,000</td>
<td>1,245</td>
<td>71</td>
<td>265,185</td>
<td>$13,842,657</td>
</tr>
<tr>
<td>&gt; 100,000</td>
<td>1,333</td>
<td>185</td>
<td>739,815</td>
<td>$38,618,343</td>
</tr>
</tbody>
</table>

C. The Long Tail of Costs

One question that existing evidence, which is entirely anecdotal, cannot answer is whether the cases that have high preservation costs are typical or atypical. There have been many anecdotes suggesting that preservation burdens are large, and many anecdotes suggesting that they are not large. What my research has revealed is that these conflicting anecdotes do not pose a credibility contest between two contrary accounts. Instead, these divergent anecdotes on cost reflect different aspects of the same phenomenon—an enormous amount of preservation activity that is very unevenly distributed across litigation matters. This is the context in which individual experiences with the costs of preservation must be understood.

I collected detailed, case-by-case data on litigation holds from six companies. These data sets together include information on over 3,600 separate litigation matters and over 770,000 individual litigation hold notices. The data from a representative company appears in Figure 7; histograms for the remaining five companies look essentially the

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68 Columns (2) and (3) are averages within the company size categories in Column (1). Column (4) is the product of column (2) and column (3) times 3 hours per employee-hold. Column (5) is column (4) times $52.20 per hour.
same. This company's dataset covers 390 distinct matters representing actual or anticipated civil litigation and for each matter provides the number of individuals subject to a litigation hold. Figure 6 shows the frequency with which litigation matters involve a given number of employees subject to holds. For example, the left-most vertical bar in Figure 6 shows the number of matters with 20 employees or fewer on hold, the next bar indicates the number of matters with 21 to 40 employees on hold, and so on.69

**Figure 7: Distribution of Employees on Hold per Matter, Representative Large Company, Topcoded at 500**

![Graph showing the distribution of employees on hold per matter.](image)

As Figure 7 shows, most litigation matters involve litigation holds affecting relatively few employees—well over half of the matters had twenty holds or fewer. Yet, the distribution of litigation holds across matters is highly skewed, and there is a "long tail" of matters in which huge numbers of employees are placed on hold in each case. This means that a small percentage of litigation matters can account for the bulk of all litigation hold activity. Indeed, across sampled compa-

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69 For graphical clarity, the distribution of the number of employees on hold per matter in Figure 7 is topcoded at 500. Matters with more than 500 employees subject to hold are included in the right-most vertical bar.
nies, 5 percent of matters account for more than 62 percent of litigation hold notices issued.\textsuperscript{70}

Notably, the patterns that appear in the Preservation Costs Survey data resemble the patterns that other researchers have found in the context of outside counsel's litigation costs. In their \textit{Civil Rules Survey}, Lee and Willging found that while the median case had relatively low litigation costs ($15,000 for plaintiffs and $20,000 for defendants), the 95th percentile case involved costs of approximately $300,000 for each party.\textsuperscript{71} Figure 8 presents the distribution of litigation costs from the \textit{Civil Rules Survey}. Strikingly, even though Figure 7 describes preservation costs borne by the client and includes matters not filed in court, while Figure 8 assesses litigation costs incurred by outside counsel for filed lawsuits, the patterns are virtually identical! Also parallel is the fact that in the \textit{Civil Rules Survey} data, the top 5 percent of cases accounted for about 60 percent of all litigation costs. Notably, this long tail of litigation costs is the product of discovery costs, not trials or motion practice or the like. Federal Judicial research indicates that while most cases have little or no spending on discovery, in the fraction of cases that do actively involve discovery, discovery accounts for the vast majority of all costs.\textsuperscript{72} This suggests that the long tail of costs is a phenomenon that broadly describes all phases of preservation and discovery.

In sum, these results reveal that preservation costs may not be high in most cases. But the distribution is highly skewed, with a long tail in which a relatively small number of highly complex and burdensome cases account for a large share of the total costs. Thus, the “typical” case is no cause for concern, but the “average” case may have a very high level of preservation activity associated with it—only be-

\textsuperscript{70} This pattern also holds for employment litigation specifically. Across companies for which the data is available, the top 5 percent of employment-related matters account for almost exactly half (49.5\%) of all employment-related litigation holds. \textit{Preservation Costs Survey Final Report}, Table 12. See note 65 for discussion of the use of employment litigation to extrapolate from large-company data to smaller companies.

\textsuperscript{71} \textit{Civil Rules Survey} at 35–37.

\textsuperscript{72} Paul Stancil, \textit{Balancing the Pleading Equation}, 61 BAYLOR L. REV. 90, 100 (2009) (“According to one recent study, discovery consumes approximately 50\% of all federal litigation expenditures; moreover, that study noted that discovery can account for ‘as much as 90\% of the litigation costs in the cases where discovery is actively employed.’”) (citing Memorandum from Paul V. Niemeyer, Chair, Advisory Committee on Civil Rules, to Hon. Anthony J. Scirica, Chair, Committee on Rules of Practice and Procedure (May 11, 1999), 192 F.R.D. 340, 357).
cause a small but important number of cases substantially drive up the total costs of preservation.

**FIGURE 8: DISTRIBUTION OF LITIGATION COSTS PER PARTY, FJC CIVIL RULES SURVEY DATA**

IV. THREE IMPLICATIONS FOR LAW AND RULEMAKING

A. The Sombrero and the *Erie/Hanna* Boundary

As noted above, the Federal Rules have never mentioned the duty to preserve or placed any requirements on what data litigants retain—only what they produce. Nonetheless, current federal case law has created rules governing preservation, and these rules impose preservation obligations that apply to parties even before suit is filed. Further, this case law is almost exclusively the product of the district courts, as discovery-related orders, even most orders awarding sanctions for failures to preserve, are interlocutory and therefore not appealable.

This state of the law governing preservation and discovery raises the doctrinal question whether a wholly judge-made federal common law of preservation is consistent with the *Erie* doctrine. As every first-year law student learns, the so-called *Erie* doctrine states (more or less) that federal courts cannot create rules of decision through federal
common law, but must decide cases by interpreting and applying state substantive law or codified federal law.

What does this have to do with preservation? The notion that a federal common law of preservation might trample upon the domain of state substantive law is hardly obvious. Preservation seems procedural in nature, and every court has inherent power to ensure the integrity of its proceedings and judgments. From the federal judge's perspective, if a given case is before a federal court, then of course the judge can invoke judge-made federal law to regulate this case's pre-filing preservation activity. It would seem almost tautological that if a federal judge is being asked to enforce preservation law, then the subjects of that law are parties in federal court whose actions are subject to federal procedures for conduct in court. Figure 9 illustrates this view of the scope of the federal law on preservation.

**Figure 9: The Perceived Scope of the Duty to Preserve**

![Diagram](image)

The problem is that preservation decisions are made *ex ante*, often before a lawsuit is ever filed, let alone filed in *federal* court, and hence
if federal rules governing preservation apply to pre-filing conduct, the federal rules govern the conduct of parties in *every* dispute that *could* end up in federal court, including disputes that are never litigated at all—and even disputes that end up in state court, so long as removal to, or re-filing in, federal court remains a possibility. See Figure 10.\footnote{The possibility that federal preservation obligations may operate even in cases filed in state court is indicated by the partial shading in the figure.}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure10}
\caption{The Effective Scope of the Duty to Preserve}
\end{figure}

The conduct of companies and individuals outside of federal court is regulated by federal law all the time, of course. There are laws governing all sorts of behavior, including behavior that affects preservation and discovery, such as laws defining what happens when you murder a witness or exactly how long and on what kind of media one must store certain emails, and so on.\footnote{See 18 U.S.C. §1513 (murder of a witness); SEC Rule 17a-4, 17 CFR 240.17a-4 (retention obligations for securities exchange members, brokers,
address actions that affect the availability of evidence in court proceedings, we call this “substantive law,” and it is enacted by Congress. In contrast, here we have federal law of preservation that is entirely a creature of common law, yet governs the conduct of parties outside of federal court and even in the absence of any litigation, state or federal. Also relevant is that a number of states have created independent causes of action for the tort of spoliation of evidence.75

Taking the ex ante perspective further reveals the extent of the Erie problem. Preservation decisions are, by and large, made prior to litigation, when a potential defendant faces great uncertainty about where, if at all, it will be sued. Consequently, plaintiffs can exploit this legal variation to their advantage, choosing the forum with the “most demanding requirements of the toughest court to have spoken.”76 Nor can the process of appellate review iron out these stark and seemingly arbitrary variations in preservation standards, as these standards are the product of non-appealable interlocutory rulings by district courts. To use the idiom of Erie (Hanna, actually) these variations across courts invite “forum shopping” and the arbitrary and uncertain application of these conflicting precedents leads to “inequitable administration of the laws.”77

Still, preservation in some sense really is procedure, and it would seem absurd to deny federal courts any say in the preservation activity of litigants. But now that we have a clearer picture of the reach of current preservation law beyond the federal courtroom, we can see two, complementary ways forward that restrict federal court’s inherent, common law powers to their proper domain without requiring more restraint than necessary when policing spoliation.

The first is through the federal rulemaking process. Federal judicial power under the Rules stems from the Rules Enabling Act, which authorizes the federal courts to enact rules of “practice and procedure” that do “not abridge, enlarge or modify any substantive right.”78 Importantly, because the Rules Enabling Act and the Rules promulgated thereunder are codified federal law, Erie by its terms does not apply.79


75 See Margaret Koesel, et al., SPOLIATION OF EVIDENCE: SANCTIONS AND REMEDIES FOR DESTRUCTION OF EVIDENCE IN CIVIL LITIGATION at 50 (ABA 2000).


Rather, the Supreme Court has treated the Rules Enabling Act as creating a more forgiving standard for legitimate judicial lawmaking through the Rules. *Sibbach* and *Hanna* merely ask whether the Federal Rule “really regulates procedure,” regardless of whether it also affects substantive rights.80 And I take as self-evident that the preservation law “really regulates procedure.”

The second is to limit the scope of federal-court regulation of pre-litigation preservation activity to pre-litigation activity that is directed toward the court. It would be hard to question that the deployment of the inherent power to punish litigants who, in anticipation of a lawsuit, deliberately act to undermine the integrity of the court proceedings. This is exactly the sort of the behavior to which the Supreme Court permitted the deployment of inherent power in *Chambers v. NASCO*.81 While the misconduct in *Chambers* occurred out of court and prior to the filing of a federal lawsuit, the Court emphasized the bad faith, intentional character of conduct whose purpose was to frustrate the anticipated federal proceedings.

As applied to preservation, this is the approach taken by the Southern District of Texas in *Rimkus v. Cammarata*,82 which held that bad faith was required for the court to issue sanctions for a pre-litigation failure to preserve. But the law is sharply divided on this point, and importantly, this is not the prevailing view under current law. A more widely cited case from the Southern District of New York, *Pension Committee v. Banc of America Securities, LLC*,83 imposed sanctions for pre-litigation failure to preserve based on negligence.

B. The Iceberg and the Law/Technology Boundary

The preservation iceberg, if nothing else, reveals that preservation is a much more expensive, higher-stakes stage of discovery than previously understood. But it also places a damper on the promise of technology to reduce the costs and burdens of discovery generally and preservation in particular. An irony of the debate on preservation costs is that the most-often-cited costs of preservation—technology costs—are only a small part of the problem, and for large companies, reducing the burdens of preservation will probably involve further increasing technology costs. Total burdens will fall as human costs are

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80 This rules was followed *Shady Grove*, albeit only by a plurality of the court. See *Shady Grove Orthopedics Assocs. v. Allstate Ins. Co.*, 559 U.S. 393 (2010).
82 688 F.Supp.2d 598 (S.D. Tex. 2010).
reduced, even as (and precisely because) the most salient costs of preservation—big ticket technology spending—will rise. But that is the good news.

The bad news is that the iceberg is primarily a large-company phenomenon. For smaller companies, there is no “tip of the iceberg”—all, or nearly all, of their preservation costs are human costs. Without the scale of litigation activity that justifies the fixed costs associated with litigation hold management systems, data vaults, and legal IT staff, the costs borne by smaller businesses (and presumably individuals) are not technology costs at all, but human costs.

Now consider that fact in light of the result that in the Survey, smaller companies reported similar burdens when compared to larger companies. This suggests that many smaller companies, despite having lower preservation costs, are in crucial respects more vulnerable than larger companies. Precisely because they are smaller and face fewer lawsuits, it is not generally cost effective for smaller companies to make expensive, but beneficial, investments in sophisticated automated systems or in-house expertise. Thus, although preservation disputes or spoliation allegations are rarer for smaller companies, these companies are also far less equipped to handle these controversies.

This is true even for companies in the technology field itself; one respondent, a tech company with about 100 employees, explained:

> We are a small company, but we are in a space where we need to protect our IP and also to prevent customers from eluding payment. We manage most of the process in house, but it is a huge burden on our IT. We are looking at vaulting solutions for e-mail, which should be a big help. But the costs are enormous, and vendors are unwilling to give us a good demo or trial vault.84

Instead, smaller companies may have to rely on ad hoc, outside assistance, which may be less efficient and more expensive on a per-case basis. One respondent, an industrial company with about 200 employees, explained:

> Our company along with every other company in our industry is involved in several suits concerning one toxic tort-related issue. We are a very small player in this field. Yet, we have to produce the same documents as the big guys. In our case, our IT employee, our President, our Accountant, our Attorney, etc. has to devote all of their time to answer discovery. We also em-

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ploy an outside law firm at an hourly rate to help us. It is very costly.\textsuperscript{85}

Thus, technology is not a substitute for legal reform, if for no other reason than technological solutions are only practical for the largest companies, for which the economies of scale from high-tech solutions justify their high price tag. For smaller companies—and in my study, “smaller” includes companies with hundreds of employees—technology plays a much smaller role in the preservation process. From this point of view, legal innovation, rather than technological innovation, may be the best hope for controlling the costs of individuals, small businesses, and NGOs—virtually everyone other than the largest and most sophisticated litigants.

C. The Long Tail and Transubstantivity/Tailoring Boundary

That most of the costs of preservation are generated by a small fraction of cases suggests that it may be productive to devise Rules to control preservation costs, and focus those Rules on particular categories of large, information-intensive cases. This may seem to require steps away from a commitment to transsubstantivity to which the Rules generally adhere. But there are ways to design discovery rules to address costs in a way that does not sort cases into substantive categories, nor require judges to do so, and the long tail gives us a way to do this. Because the costs of preservation and discovery are highly skewed, the Federal Rules can set presumptive, quantitative limits on the scale of preservation and discovery such that the “typical” case is unaffected, but which provides the court—and more importantly the parties—with levers for controlling the costs of litigation in particularly large or complex cases.

I emphasize the need to give parties tools to reduce the costs of discovery because active judicial oversight of discovery, although widely praised as highly effective, almost never occurs.\textsuperscript{86} Close judicial oversight of preservation is even less feasible, given that the duty to preserve may trigger before a suit is even filed. Further, the fog of litigation is greatest at the very outset of a case, but this is precisely when judicial supervision of preservation would be required.\textsuperscript{87}

\textsuperscript{85} Id. Note that this companies refers to its “IT employee” in the singular.
\textsuperscript{86} Which was noted long ago noted in Frank H. Easterbrook, \textit{Discovery as Abuse}, 69 BOSTON U. L. REV. 635 (1989), and confirmed in recent studies such as the \textit{Civil Rules Survey}.
\textsuperscript{87} Judges may also have little incentive to monitor preservation and discovery costs: if high discovery costs induce settlement, as many models of litigation
Thus, it is essential that the parties have tools for negotiating the scope of preservation and discovery. Nor is it not enough to rely on negotiations to arise organically, or to require negotiations by rule. In those cases where negotiating is productive, the parties have an incentive to negotiate regardless of any requirement to do so, and in those cases where it is not, requiring negotiations to occur will not make it so. So how can the Rules get parties to sit down and address preservation in a cost-effective way? To some extent, there is little that the Rules can do, given that for most disputes the duty to preserve attaches before a lawsuit is filed, and in many cases before a specific counterparty contacts the preserving party. At least initially, then, in these disputes the scope (and therefore costs) of preservation are set without any opportunity for parties to work together to control costs.88

But to the extent that it is feasible for the parties to work together to control preservation costs, the Rules can give the parties incentives to negotiate a scope of preservation that prioritizes important data while attending to cost concerns as well. Under the current Rules, though, they don’t have any incentive to do so: because courts lack the information to conduct a careful balancing of costs and benefits envisioned by Rule 26, the default rule under current law is usually to place no firm limits on preservation or discovery. Indeed, some courts explicitly say “keep everything.”89

How does this affect incentives? Consider the case of an individual plaintiff (or putative class action representative) suing a large company. The plaintiff has essentially no data relevant to the case, but the company has vast quantities of data, some of which may be relevant to the case and some of which may not. Against a backdrop of “keep everything,” what incentive does the plaintiff’s attorney have to make any concessions? The problem is that the parties don’t have anything over which to negotiate.90

88 As one in-house counsel put it, “I can’t talk to opposing counsel because there is no opposing counsel.” Marcus, Notes at 4.
90 There is a qualification to this: The defendant and the plaintiff could negotiate over how much the defendant has to pay the plaintiff in order to avoid the unconfined duty to preserve. But this sort of negotiation—usually re-
Even compared to other stages of discovery in “asymmetrical” litigation, we would expect preservation to be problematic. A plaintiff with no information of his own will still have an incentive to limit discovery requests for production, because larger production increases the plaintiff’s own costs of review. But a broad demand for preservation has no such self-correcting feature; the costs are borne entirely by the defendant.

Of course, if both sides to a dispute have similar preservation burdens, then there certainly is something to negotiate over: each party can agree that each will preserve only the documents most likely to be relevant and not preserve the rest. Each then saves a lot of time, money, and aggravation at the cost of a small potential loss in the number of relevant documents. This is exactly the sort of sound cost-benefit analysis that the Rules anticipate. The agreed-upon scope of preservation may be over- or under-inclusive, but the costs and benefits are symmetrical and, more importantly, agreed upon—and therefore settled and insulated from wasteful second-guessing down the road.

If this analysis is correct, then we would expect to see the majority of preservation headaches arising in the context of “asymmetrical” litigation—where one side has little or nothing to preserve, and the other has large quantities of data. Using individual-versus-company (as opposed to company-versus-company) litigation as a proxy for asymmetrical litigation, my findings confirm this prediction. Respondents reported higher levels of preservation-related problems in litigation against individuals than in litigation against other businesses, differences that were highly statistically significant.91

The key, therefore, is to structure the Rules so that in cases where costs are likely to be large, both parties have something to lose and something to gain in preservation negotiations. The Rules governing production in discovery already do this. Rule 30 sets presumptive limits on the number and length of depositions.92 Rule 33 sets presumptive limits on the number of written interrogatories.93 To avoid obvious injustices, Rule 26(b)(2)(A) permits the court to issue an order altering these presumptive limits, but in practice, most exceptions to

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ferred to as a “nuisance settlement” (or worse)—is definitely not the kind of negotiation that I suspect the Rules aspire to encourage.

91 Preservation Costs Survey, at 23 (reporting differences for both large, complex litigation and small, routine litigation types that were significant at the 1 percent level).

92 Under Rule 30, each party may take no more than 10 depositions, each of which may be no longer than 7 hours.

93 Under Rule 33, each party may serve no more than 25 written interrogatories upon another party.
these presumptions are negotiated by the parties, not determined by judicial order.94 We see meaningful negotiation in this context because the Rules, by construction, ensure that both sides of any discovery dispute have some bargaining chips—you can agree to more depositions, or fewer.

Thus, in the preservation and document discovery context, a similar approach should be effective. Establishing a presumptive limit of, say, fifteen or twenty custodians to be subject to litigation holds ensures that every party to a preservation dispute has bargaining chips. In most cases, this presumptive limit will be uncontroversial and will not be disturbed. In the cases where it is controversial, even a party with no preservation obligations itself will have incentive to make meaningful rather than outlandish preservation demands because the other party now has a bargaining chip—it can offer to preserve more in exchange for cost-justified concessions with respect to other aspects of discovery (or in exchange for cost-sharing between the parties).

Now we can return to the long tail of litigation costs. The long tail indicates that Rules based on presumptive limits can be calibrated to leave untouched the large numbers of cases with modest costs and few discovery disputes, while directing parties’ efforts (and potentially courts’ attention) to the smaller set of cases with high costs a greater need for party-driven negotiations to define the scope of preservation and discovery and control costs. Presumptive limits can be set relatively low, but still impose no binding constraints on parties in most disputes. Existing Rules addressing depositions appear to do this already; For example, data collected by Emery Lee and Thomas Willging indicates that in more than 90 percent of cases, surveyed attorneys deposed 5 or fewer non-expert witnesses, well below the limit of 10 set by Rule 30.95

CONCLUSION

Until now, our knowledge of the costs of preservation and discovery depended on anecdote and speculation. My research on preservation costs has made a first step toward a more rigorous, quantitative understanding of how preservation activity is distributed across cases and how their costs stack up. The discovery sombrero, the preservation iceberg, and the long tail of litigation costs serve as basic, stylized facts in this regard.

94 This claim is admittedly based on anecdotal evidence and personal experience.
95 Analysis of data from Lee & Willging, Civil Rules Survey.
As I have shown, they also serve to inform legal and policy debate—including, most immediately, currently pending amendments to the Federal Rules, which, if adopted, would have the Rules expressly address preservation for the first time. As the discussion of the discovery sombrero and *Erie* should make clear, moving the locus of federal lawmaking in this area from federal common law to rulemaking under the Rules Enabling Act is a welcome development. And, as the discussion of the preservation iceberg should make clear, the decision of the rulemaking committees to act now rather than wait for technological solutions, is good news for the vast majority of parties, who simply cannot afford to use the high fixed costs of technology to control the costs of preservation.

Of course, the merits of exactly how the Rules address preservation is up for debate. In my discussion of the long tail of litigation costs, I advocate for an approach that would create clear, presumptive limits to the scope of preservation and discovery in order to encourage mutually beneficial bargaining to define the proper scope of preservation and discovery in cost-intensive cases. Such an approach is admittedly far from perfect—it does little to address the costs of preservation that arise before the parties join issue in court, and in any case this remains a path not taken by the rulemakers.

More importantly, though, any meaningful assessment of the merits of standards governing preservation must take into account both the costs and benefits of preservation. While my research has begun to quantify the costs, quantifying the benefits of preservation is as elusive today as quantifying costs had been.
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